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August 30, 2018

VIA ELECTRONIC FILING

Ms. M. Lynn Jarvis, Chief Clerk
North Carolina Utilities Commission
Dobbs Building
430 North Salisbury Street
Raleigh, North Carolina 27603

Re: Docket No. E-22, Sub 558
Dominion Energy North Carolina's 2018 Fuel Charge Adjustment
Proceeding

Dear Ms. Jarvis:

Enclosed for filing is the *Application for a Change in Fuel Component of Electric Rates* ("Application") of Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina ("Dominion Energy North Carolina" or the "Company"), in compliance with North Carolina General Statute ("N.C.G.S.") § 62-133.2 and North Carolina Utilities Commission ("Commission") Rule R8-55. In support of its Application, the Company is filing the Direct Testimony and Exhibits of Bruce E. Petrie, Ronnie T. Campbell, Gregory A. Workman, Tom A. Brookmire, and George G. Beasley, as well as Commission Rule R8-55 Information and Workpapers.

Pursuant to Commission Rule R1-28(e)(2), the Company will deliver fifteen (15) paper copies of the Application to the Clerk's Office by August 31, 2018.

Thank you for your assistance with this matter. Please call me if additional information is required.

Very truly yours,

/s/Mary Lynne Grigg

MLG:kma

Enclosures

cc: Lucy E. Edmondson – NC Utilities Commission Public Staff



**Dominion
Energy[®]**

**Application, Testimony, and
Exhibits of Virginia Electric and
Power Company, d/b/a
Dominion Energy North
Carolina**

**Before the North Carolina Utilities
Commission**

**In the Matter of
Application by Virginia Electric and
Power Company, d/b/a Dominion
Energy North Carolina, for Authority
to Adjust its Electric Rates and
Charges and Revise its Fuel Factor
Pursuant to N.C.G.S. § 62-133.2 and
NCUC Rule R8-55**

Docket No. E-22, Sub 558

Filed: August 30, 2018

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-22, SUB 558

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Application by Virginia Electric and Power)
Company, d/b/a Dominion Energy North) APPLICATION FOR A CHANGE
Carolina, for Authority to Adjust its Electric) IN FUEL COMPONENT OF
Rates and Charges and Revise its Fuel) ELECTRIC RATES
Factor Pursuant to N.C.G.S. § 62-133.2 and)
NCUC Rule R8-55)

Pursuant to North Carolina General Statutes (“N.C.G.S”) § 62-133.2 and Rule R8-55 of the Rules and Regulations of the North Carolina Utilities Commission (“Commission”), Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina (“DENC” or the “Company”), by counsel, hereby applies to the Commission to adjust the fuel component of its electric rates to become effective February 1, 2019, and remain in effect through January 31, 2020. In support thereof, the Company respectfully demonstrates as follows:

1. The Company is a public utility operating in the State of North Carolina as Dominion Energy North Carolina and is engaged in the business of generating, transmitting, distributing, and selling electric power and energy to the public for compensation. As such, the Company’s operations in the State are subject to the jurisdiction of the Commission. The Company is also a public utility under the Federal Power Act, and certain of its operations are subject to the jurisdiction of the Federal Energy Regulatory Commission. The Company is a wholly-owned operating subsidiary of Dominion Energy, Inc. DENC serves approximately 120,000 customers in North Carolina, with a service territory of about 2,600 square miles in northeastern North

Carolina, including Roanoke Rapids, Albemarle, Ahoskie, Williamston, Elizabeth City, and the Outer Banks. The Company serves major industrial facilities like Nucor Steel, Kapstone, Enviva, and Hospira, as well as commercial and residential customers. The Company's headquarters are located at 120 Tredegar Street, Richmond, Virginia 23219. The post office address of DENC is P.O. Box 26666, Richmond, Virginia 23261.

2. The attorneys for the Company are:

Lisa S. Booth
Horace P. Payne, Jr.
Dominion Energy Services, Inc.
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Copies of all pleadings, testimony, orders, and correspondence in this proceeding should be served upon the attorneys listed above.

3. Pursuant to Rule R8-55(f), the Company is to file its direct testimony, exhibits, and workpapers supporting its fuel adjustment 75 days prior to the hearing. Accordingly, DENC hereby files the direct testimony, exhibits, and workpapers of the following witnesses in support of its proposed fuel adjustment: Bruce E. Petrie, Ronnie T. Campbell, Gregory A. Workman, Tom A. Brookmire, and George G. Beasley.

4. Pursuant to Rule R8-55(c), DENC's test period for this proceeding is the 12-month period ending June 30, 2018 ("Test Period").

5. Updated Rider A and Rider B will be in effect for the twelve-month period from February 1, 2019, through January 31, 2020, the proposed "Rate Period." As discussed in Company Witness Bruce E. Petrie's direct testimony, in previous years, the Company has proposed Rider A and Rider B rates to be effective for a calendar year rate period. Based on discussions with the Public Staff following the conclusion of the Company's 2017 rider proceedings, the Company is proposing for its updated fuel riders to be effective for a February 1, 2019 through January 31, 2020 Rate Period. The Company is requesting this adjustment to the annual rate period in order to extend the time for the Commission to issue orders in the Company's three annual rider proceedings filed pursuant to Commission Rules R8-55, R8-67, and R8-69, respectively, and to then allow the Company additional time to finalize rates and customer notices (including allowing reasonable time for Public Staff review) prior to the updated annual riders' effective date. The Company intends to continue to use a February 1 through January 31 rate period in future rider cases. As discussed in the direct testimony of Company Witness George G. Beasley, since the existing tariffs approved in Docket No. E-22, Sub 546 will expire on December 31, 2018, the Company is proposing interim tariffs for use during January 2019 showing Riders A and B both set to zero, and Rate Period tariffs for use during February 2019 through January 2020 with updated rates.

6. The last general rate case order for the Company was issued by the Commission on December 22, 2016, in Docket No. E-22, Sub 532 ("2016 Base Rate Case Order"). In the 2016 Base Rate Case Order, the Commission reset the Company's

system average base fuel factor applicable to the North Carolina jurisdiction to \$0.02073/kWh, including regulatory fee (\$0.02070/kWh without the fee). The Commission's last fuel adjustment proceeding order for the Company was issued on January 25, 2018, in Docket No. E-22, Sub 546 ("2017 Fuel Order"), which approved the current Rider A and Experience Modification Factor ("EMF") Rider B. The 2016 Base Rate Case Order and the Commission's order in the Company's 2016 fuel clause adjustment proceeding (Docket No. E-22, Sub 534) also set the marketer's percentage at 78% effective January 1, 2017 (to be reviewed during this proceeding or during the Company's next general rate case).

7. As explained by the direct testimony of Company Witness Petrie, consistent with the methodology applied in the Company's fuel adjustment proceedings dating back to 2008, the Company's cost of fuel calculations are based on the 12-month historical average for fuel prices incurred during the Test Period. As Company Witness Petrie explains, this methodology is a fair representation of the expected expense rates during the February 1, 2019 through January 31, 2020 Rate Period.

8. For the Test Period, the normalized system fuel expense is \$1,824,035,658, which is then divided by system sales of 85,266,747,633 kWh, which reflect the normalization adjustments for change in usage, weather, and customer growth. The result is a normalized system average fuel factor of 2.142¢/kWh, which is an increase of 0.065¢/kWh, applicable to the North Carolina jurisdiction.

9. Dominion Energy North Carolina has under-recovered its fuel costs for the Test Period by \$16,162,154. The total under-recovered fuel expense as of June 30, 2018, based on the current 78% marketer percentage, is provided in the direct testimony and

exhibits of Company Witness Ronnie T. Campbell. This fuel under-recovery was primarily driven by cold winter weather and higher commodity prices. The fuel expense created by the extended period of cold weather in January 2018 was a major factor in the amount of the EMF. The Company offset the higher market fuel prices by optimizing its diverse fleet of generating assets to reduce system fuel expense.

10. The deferral balance of \$16,162,154 is substantial. If the entire prior period recovery amount is to be recovered in the February 1, 2019 – January 31, 2020 rate period, the average prior period EMF will be \$0.00388/kWh, which results in a total full recovery fuel factor of \$0.02530/kWh. This is an increase of \$0.00582/kWh, when compared to the average total fuel factor presently in effect of \$0.01948/kWh for the North Carolina jurisdiction.

11. The Company recognizes the impact on its customers of such an increase in fuel rates. Therefore, the Company is proposing, as an alternative to a rate reflecting full recovery and should the Commission find it in the public interest, to mitigate the increase such that the Company would waive its right to recover the full deferral balance over the upcoming Rate Period in favor of recovering the deferral balance on a dollar-for-dollar basis over the next two rate periods, with a final true-up to be recovered or refunded during the rate period commencing February 1, 2022. That is, as an alternative to full recovery of the deferral during the upcoming Rate Period, the Company proposes to establish rates in this proceeding to recover 50% of the deferral balance in the upcoming Rate Period and establish rates in the 2019 fuel proceeding to recover the other 50% of the deferral balance in the February 1, 2020 – January 31, 2021 rate period. Lastly, in the 2021 fuel proceeding, the Company will establish rates to recover or refund

during the February 1, 2022 – January 31, 2023 rate period any final over or under recovery of this original deferred balance.

12. The Company is requesting that the Commission approve and implement the full recovery rates, which schedule recovery of 100% of the June 30, 2018, fuel deferral account balance of \$16,162,154 over the February 1, 2019 – January 31, 2020 Rate Period. However, should the Commission decline to approve full recovery, the Company requests that the Commission approve the mitigation alternative. If the Commission does approve the mitigation alternative, the Company will agree to ensure that its customers will see no incremental cost associated with financing the deferral balance over this extended period.

13. For both the full recovery request and the mitigation alternative, the Company calculated the EMF Rider B, applicable to the North Carolina jurisdiction and for each customer class consistent with the methodology approved in the 2017 Fuel Order. All of these calculations are addressed in the direct testimony and schedules of Company Witness Beasley.

14. The Company proposes that the total fuel rate (base fuel factor, Rider A, and EMF Rider B) for each class be set as follows, depending on the Commission's determination to approve full recovery or the mitigation alternative, effective February 1, 2019:

<u>Customer Class</u>	<u>Full Recovery</u>	<u>Mitigation Alternative</u>
Residential	\$0.02558	\$0.02363
SGS & PA	\$0.02556	\$0.02361
LGS	\$0.02536	\$0.02342
Schedule NS	\$0.02459	\$0.02271
6VP	\$0.02495	\$0.02304
Outdoor Lighting	\$0.02558	\$0.02363
Traffic	\$0.02558	\$0.02363

15. For the North Carolina jurisdiction, if full recovery is approved, the recovery increase for the February 1, 2019 through January 31, 2020 Rate Period will be \$24,301,249. If the mitigation alternative is approved, the total fuel recovery increase during the Rate Period will be \$16,200,832.

WHEREFORE, Dominion Energy North Carolina respectfully requests that the Commission: approve the proposed total fuel factor of 2.530 ¢/kWh, effective on February 1, 2019, which shall be allocated based on voltage differentiated adjustments, including the base fuel factor, Rider A, and EMF Rider B, as follows:

- (a) 2.558 ¢/kWh for the Residential class of customers,
- (b) 2.556 ¢/kWh for the Small General Service and Public Authority classes of customers,
- (c) 2.536 ¢/kWh for the Large General Service class of customers,
- (d) 2.459 ¢/kWh for the Schedule NS class of customers,
- (e) 2.495 ¢/kWh for the Schedule 6VP class of customers, and
- (f) 2.558 ¢/kWh for the Outdoor Lighting and Traffic classes of customers;

and grant any other relief the Commission deems appropriate. If the Commission does not approve the Company's full recovery request, the Company requests that the Commission approve the fuel factor rates associated with the mitigation alternative as presented in the testimony of Company Witness Beasley.

Respectfully submitted, this the 30th day of August, 2018.

DOMINION ENERGY NORTH CAROLINA

By: /s/Mary Lynne Grigg

Counsel

Counsel for Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina

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VERIFICATION

E-22, Sub 558

I, Thomas P. Wohlfarth, Senior Vice President, Regulatory Affairs, for Virginia Electric and Power Company, do solemnly swear that the facts stated in the foregoing *Application for a Change in Fuel Component of Electric Rates*, insofar as they relate to Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina, are true and correct to the best of my knowledge and belief.

Thomas P. Wohlfarth
Thomas P. Wohlfarth

COMMONWEALTH OF VIRGINIA)
) to wit:
City of Richmond)

The foregoing instrument was sworn to and acknowledged before me this 27th day of August, 2018.

Denise Ann Tunstall
Notary Public

My registration number is 7707756 and my commission expires:
April 30, 2020



**DIRECT TESTIMONY
OF
BRUCE E. PETRIE
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 558**

1 **Q. Please state your name, business address, and position of employment.**

2 A. My name is Bruce E. Petrie, and my business address is 5000 Dominion
3 Boulevard, Glen Allen, Virginia 23060. I am Manager of Generation System
4 Planning for Virginia Electric and Power Company, which operates in North
5 Carolina as Dominion Energy North Carolina (the “Company”). I am
6 responsible for forecasting the Company’s system energy supply mix, and
7 total system fuel and purchased power expenses. A statement of my
8 background and qualifications is attached as Appendix A.

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

10 A. The purpose of my testimony is to present the Company’s nuclear and major
11 coal-fired generating unit actual performance, the Company’s level of power
12 purchases, and the generation mix for the Company’s 12-month test period
13 ended June 30, 2018 (“Test Period”). My testimony describes drivers that
14 affected system fuel expense and the normalization adjustments that impact
15 the expected system fuel expense. I will present the system fuel expenses for
16 the Test Period, and the normalized system fuel expense projected for the rate
17 period February 2019 through January 2020.

1 **Q. Why is the Company proposing to use a different rate period than in**
2 **previous fuel rider proceedings?**

3 A. In previous years, the Company has proposed Rider A and Rider B rates to be
4 effective for a calendar year rate period. Based on discussions with the Public
5 Staff following the conclusion of the Company's 2017 rider proceedings, the
6 Company is proposing for its updated fuel riders to be effective for a February
7 1, 2019 through January 31, 2020 Rate Period. The Company is requesting
8 this adjustment to the annual Rate Period in order to extend the time for the
9 Commission to issue orders in the Company's three annual rider proceedings
10 filed pursuant to NCUC Rules R8-55, R8-67, and R8-69, respectively, and to
11 then allow the Company additional time to finalize rates and customer notices
12 (including allowing reasonable time for Public Staff review) prior to the
13 updated annual riders' effective date. The Company intends to continue to
14 use a February 1 through January 31 rate period in future rider cases.

15 **Q. During the course of your testimony, will you introduce an exhibit?**

16 A. Yes. Company Exhibit BEP-1, which consists of four schedules, has been
17 prepared under my supervision and is accurate and complete to the best of my
18 knowledge.

19 **Q. Please review the performance of the Company's major generating units**
20 **for the Test Period.**

21 A. Schedules 1 and 2 of Company Exhibit BEP-1 show the actual monthly and
22 12-month period ending June 30, 2018 average Equivalent Availability

1 (“EA”) and Capacity Factors (“CF”) for the Company’s nuclear units and
2 large coal-fired units during the Test Period.

3 During the Test Period, the Company’s coal units generated 13,544 GWh of
4 energy. Mt. Storm Units 1-3 performed at EA factors of 73.2%, 69.8%, and
5 72.8%, respectively. Chesterfield Units 5 – 6 had EA factors of 61.4% and
6 47.2%, respectively. Virginia City Hybrid Energy Center (“VCHEC”) had an
7 EA of 66.0% during the Test Period.

8 In regards to what constitutes reasonable nuclear unit performance,
9 Commission Rule R8-55(k) requires that the Company’s actual system-wide
10 nuclear capacity factor in the Test Period must exceed the national average
11 capacity factor for nuclear production facilities based on the most recent five-
12 year period available as reflected by the North American Electric Reliability
13 Corporation (“NERC”), appropriately weighted for size and type of plant.
14 The NERC 2012-2016 five-year industry average net capacity factor for
15 Pressurized Water Reactors, which is the most recent available NERC
16 average, is 89.8% for 800-999 MW units. The net capacity factors during the
17 historic Test Period for the Company’s nuclear units are shown below.

18	N. Anna 1	91.4%
19	N. Anna 2	92.7%
20	Surry 1	90.3%
21	Surry 2	102.7%

1 The aggregate capacity factor was 94.2% for the Company's nuclear units for
2 the Test Period. This is based on the weighted average of the four units at
3 100% of capacity. Based on these figures, the Company's nuclear fleet
4 performance during the Test Period was clearly better than the industry five-
5 year average for comparable units.

6 In addition, for the same five-year period, the Company's net capacity factor
7 was 93.5% compared to the national average of 89.8%. Nuclear net capacity
8 factor is the best measure for reliable baseload performance and related
9 operating efficiency and is the predominant standard recognized in the energy
10 arena when evaluating nuclear power plant performance. A high net capacity
11 factor reflects an excellent level of reliable baseload operations, which
12 translates to many customer benefits in terms of reduced system fuel cost and
13 consistency in availability. Maximizing generation from this baseload
14 resource reflects good operating efficiency and results in overall lower energy
15 costs to customers.

16 **Q. What is the expected performance of the Company's nuclear generating**
17 **units for the 12-month rate period ending January 31, 2020?**

18 A. The projected capacity factors for both North Anna and Surry are expected to
19 be above the most recent NERC five-year average capacity factors of 89.8%.

20 The projected capacity factors are shown below.

21 N. Anna 1 93.9%

22 N. Anna 2 90.3%

1	Surry 1	91.8%
2	Surry 2	100.2%

3 **Q. What was the Company's generation mix during the Test Period?**

4 A. The generation mix during the Test Period is shown on Schedule 3 of
5 Company Exhibit BEP-1. Nuclear generation supplied 30.9%; coal-fired
6 generation supplied 15.1%; combined cycle and combustion turbine
7 generation supplied 32.9%; and power transactions (net) supplied 19.1%.
8 These four energy sources accounted for 98.0% of the total energy supply.
9 Natural gas-steam, oil, biomass, solar, and hydro generation provided the
10 remaining 2.0% (net) of the energy supplied.

11 **Q. Please describe the major drivers that affected the \$/MWh average fuel**
12 **expense during the Test Period.**

13 A. As stated by Company Witness Ronnie T. Campbell, the Company
14 experienced an under-recovery of fuel expenses during the test year. This fuel
15 under-recovery was primarily driven by cold winter weather and higher
16 commodity prices. The energy use in January reached a peak of 21,232 MW,
17 which is close to the all-time peak experienced in the winter of 2015. The fuel
18 expense created by the extended period of cold weather in January was a
19 major factor in the amount of the Experience Modification Factor. The
20 Company offset the higher market fuel prices by optimizing its diverse fleet of
21 generating assets to reduce system fuel expense.

1 **Q. Does the Company propose to normalize nuclear capacity factor levels in**
2 **determining an appropriate fuel factor in this proceeding?**

3 A. Yes. Since the Company's projected nuclear generation during the upcoming
4 rate year is expected to be slightly lower than the actual generation during the
5 Test Period, we have normalized expected nuclear generation and fuel
6 expenses using the expected nuclear capacity factors shown above for the 12-
7 month period ending January 31, 2020, in developing the proposed fuel cost
8 rider in this proceeding.

9 **Q. Please describe the Company's normalization of system fuel expenses.**

10 A. Schedule 4 of Company Exhibit BEP-1 illustrates an expense normalization
11 methodology that has been used by the Company and approved in previous
12 North Carolina annual fuel factor proceedings. The first step in computing
13 normalized system fuel expenses is to calculate nuclear generation based on
14 the expected future operating parameters for each unit. The expected
15 generation from the nuclear units was calculated for the 12-month period
16 ending January 2020. Other sources of generation were then normalized for
17 the Test Period. The total of coal, heavy oil, combustion turbine and
18 combined cycle, non-utility generation ("NUG"), and purchased energy
19 during the Test Period was then calculated. A percentage of this total was
20 then calculated for each of the above resources. Normalized generation was
21 computed by applying these percentages to a new total, which includes an
22 adjustment for weather, customer growth, increased usage, and the net change
23 in nuclear generation. This methodology for normalizing the Test Period

1 generation resulted in adjusted annual system energy requirements of
2 88,445,965 MWh, a decrease of 1,138,692 MWhs from the actual energy
3 requirements for the 12 months ended June 30, 2018.

4 **Q. Please describe any major changes to the generation fleet or regulatory**
5 **changes that will impact the system fuel expense.**

6 A. The addition of the 1,588 MW Greenville County natural gas-fired combined
7 cycle power station in December 2018 will provide a benefit to the system
8 fuel expense. For this case, the system fuel expense was adjusted to reflect
9 the expected fuel benefits related to the Greenville County power station.
10 The system fuel savings, calculated using the PROMOD production cost
11 model, are forecasted to be approximately \$90.7 million in 2019.

12 The Company also continues to evaluate the customer benefits versus
13 expenses of the units in the Company's generation fleet. As part of this effort,
14 the Company will place 10 generating units into "cold reserve" in 2018.
15 "Cold reserve" does not mean permanent retirement. These units, which are a
16 combination of older, less efficient coal, biomass, and natural gas units
17 totaling 1,292 MW of generation, can be reactivated in approximately six
18 months if system needs and market conditions dictate. These units are
19 currently planned to remain in cold reserve until 2021. The Company does
20 not anticipate a significant impact to system fuel expense from these changes.

21 In addition, due to the enactment of North Carolina House Bill 589 on July 27,
22 2017, and House Bill 374 on June 27, 2018, the Company can now recover

1 the total delivered costs, including capacity and non-capacity costs, associated
2 with certain purchases of power from qualifying facilities (“QFs”) under
3 PURPA that are not subject to economic dispatch or curtailment. Reflecting
4 these costs will increase system fuel expense by approximately \$29.4 million.

5 **Q. Please describe the other fuel expense normalization items.**

6 A. The following normalization adjustments were made in Schedule 4.

7 (1) The \$/MWh expense rates for nuclear, coal, oil, purchases, and NUGs are
8 based on the actual 12-month average expense rates incurred during the Test
9 Period. Using the 12-month average rate for these commodities is consistent
10 with the methodology used in the 2008 – 2017 fuel cases, and is a fair
11 representation of the expected expense rates during the February 2019 –
12 January 2020 rate period.

13 (2) The NUG expense is adjusted higher to account for the new legislation.

14 (3) The natural gas expense rate is lower to account for a return to normal
15 weather during the rate period.

16 **Q. Please comment on the changes in the expenses included for PJM market
17 purchases, NUG energy purchases, and off-system sales.**

18 A. Schedule 4 shows the PJM market purchases during the Test Period including
19 the firm transmission right (“FTR”) net revenues, as well as off-system sales
20 and NUG purchases made with the marketer percentage applied to these

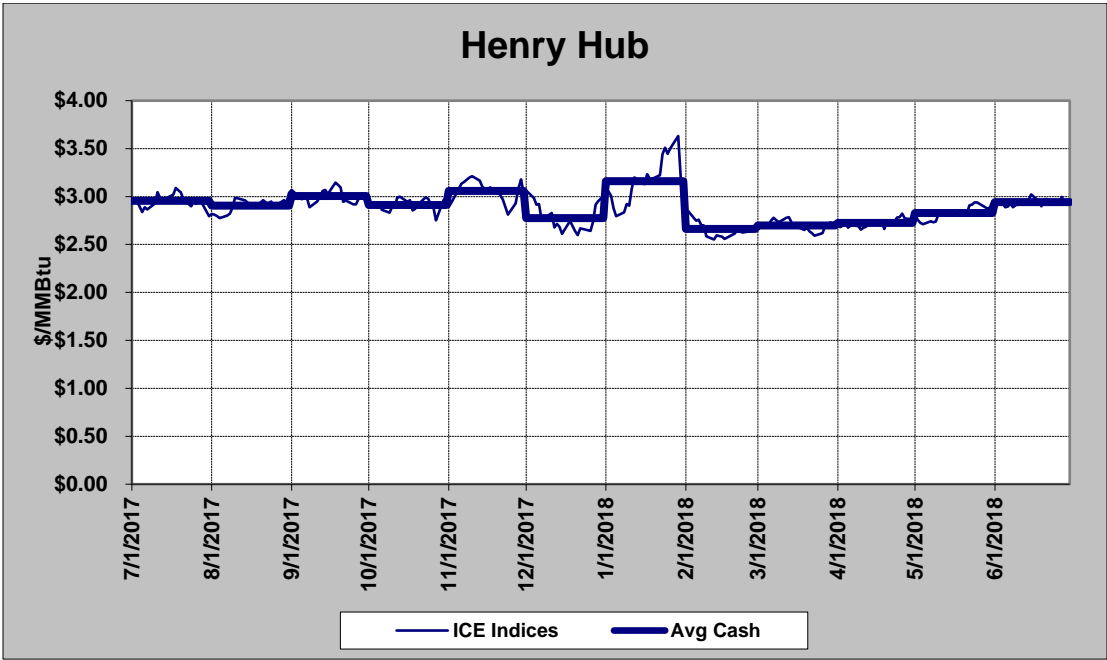
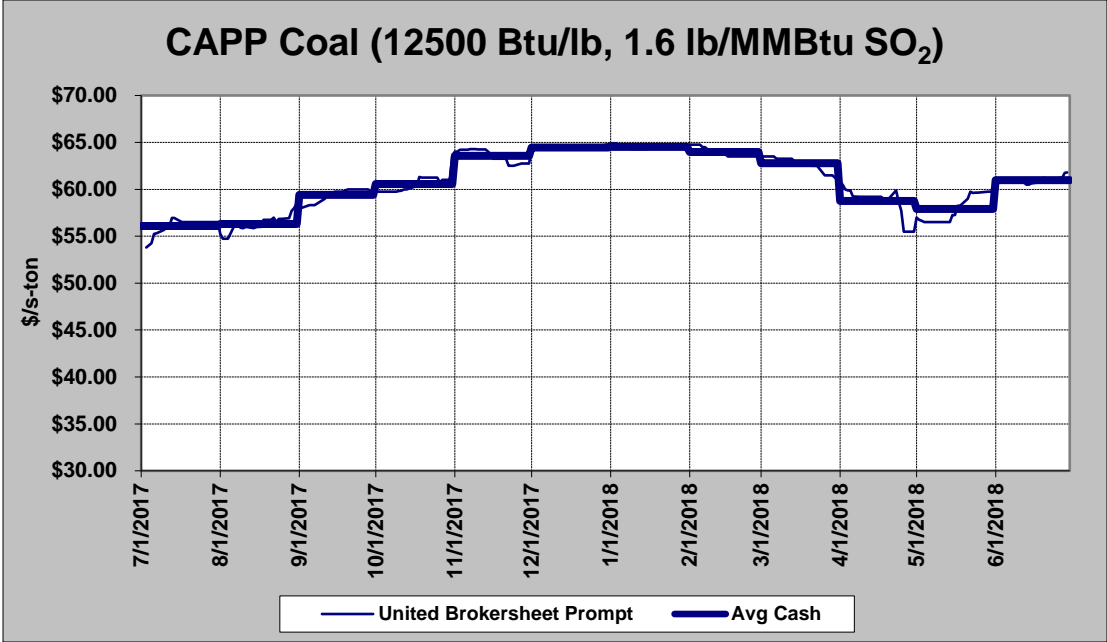
1 expenses at the appropriate level. The Company believes that this percentage
2 is reasonable and does not propose a change at this time.

3 **Q. What is the resulting normalized system fuel expense?**

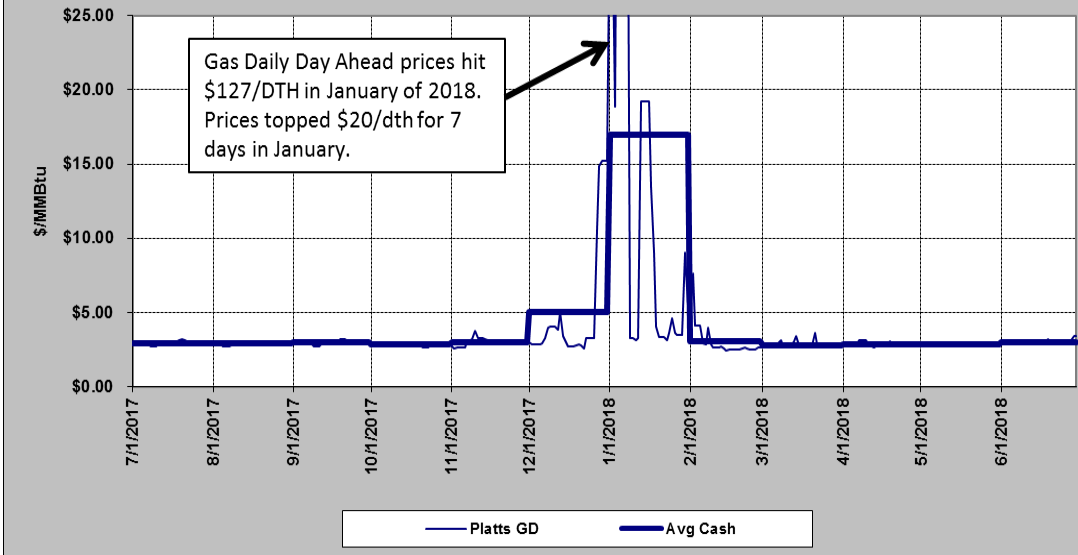
4 A. As shown by Schedule 4, which also presents the detailed calculations in
5 support, the resulting normalized system fuel expense is approximately \$1.82
6 billion.

7 **Q. Please summarize how commodity prices varied over the Test Period.**

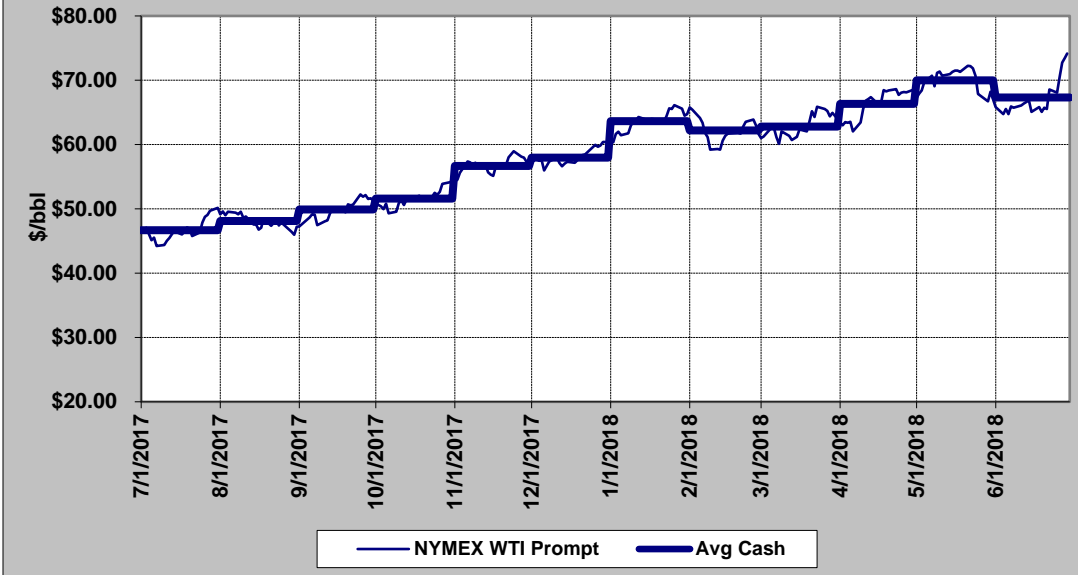
8 A. The graphs below show the actual spot commodity prices during the Test
9 Period. Spot coal prices trended upward during the Test Period. Natural gas
10 spot prices trended upward slightly during the Test Period with volatility
11 during January 2018 with the cold weather that was experienced. Company
12 Witness Gregory A. Workman describes the Company's coal and natural gas
13 buying practices, which determine the actual coal and natural gas expenses.
14 Spot power prices showed relatively moderate prices and volatility during the
15 Test Period, with the exception of January 2018.

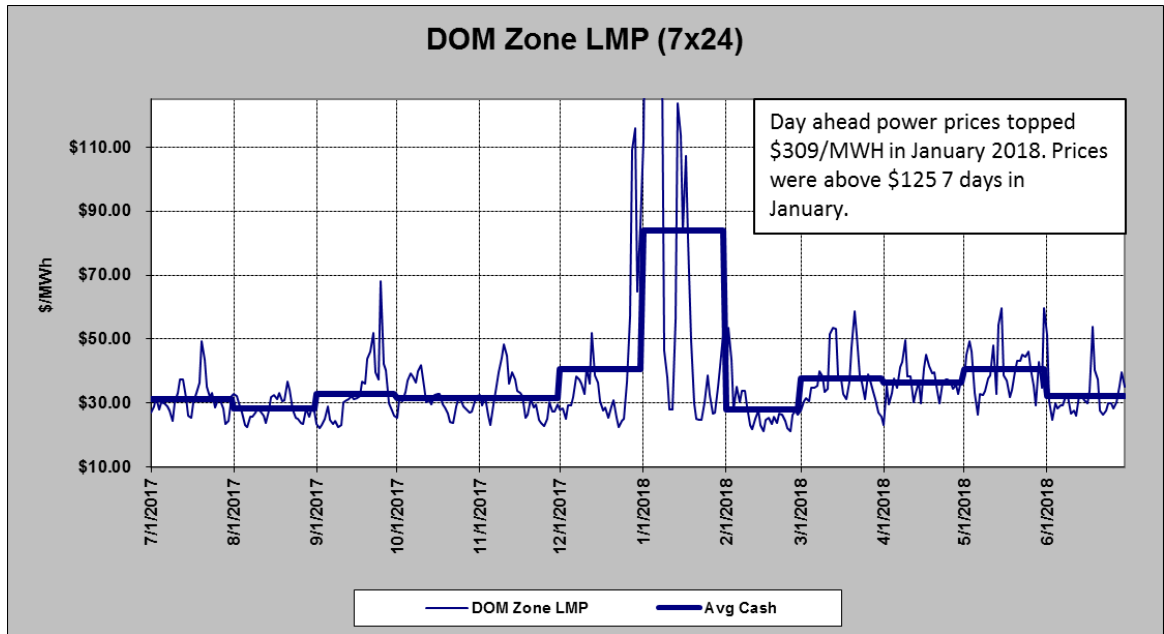


Transco Zone 5 Delivered



Crude Oil (WTI)





- 1 **Q.** Mr. Petrie, does this conclude your direct testimony?
- 2 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
BRUCE E. PETRIE**

Bruce E. Petrie graduated from Clarkson University in 1983 with a Bachelor of Science degree in Mechanical Engineering. From 1983 to 1986 he worked for Babcock and Wilcox designing tools for nuclear power plant maintenance. In 1988 he earned a Master of Business Administration degree from Virginia Tech.

Mr. Petrie worked for Niagara Mohawk Power Corporation from 1988 through 1998 in generation planning, fuel procurement, and wholesale power marketing, and then at Old Dominion Electric Cooperative from 1998 until 2001 as a power supply analyst. He joined the Company in April 2001 as an electric pricing and structuring analyst. His responsibilities included the pricing and structuring of wholesale electric transactions, project financial analysis, and analytical support to the Energy Supply group.

In October 2007, Mr. Petrie was promoted to Manager of Generation System Planning. He is currently responsible for the Company's mid-term operational forecast (PROMOD model).

**DOMINION ENERGY NORTH CAROLINA
DOCKET NO. E-22, SUB 558
EQUIVALENT AVAILABILITY FACTORS (%)
NUCLEAR AND LARGE COAL UNITS**

July 2017-June 2018

	Nuclear Units				Large Coal Units					
	North Unit 1	Anna Unit 2	Surry Unit 1	Surry Unit 2	Mt. Storm Unit 1	Mt. Storm Unit 2	Unit 3	Chesterfield Unit 5	Chesterfield Unit 6	VaCity Unit 1
Jul-17	99.8%	100.0%	100.0%	100.0%	83.5%	85.6%	98.4%	99.9%	67.8%	85.5%
Aug-17	99.9%	100.0%	91.0%	100.0%	88.5%	80.0%	30.1%	99.5%	96.9%	100.0%
Sep-17	100.0%	30.1%	100.0%	100.0%	94.0%	92.5%	73.9%	13.3%	33.3%	20.0%
Oct-17	100.0%	67.8%	100.0%	100.0%	77.9%	75.9%	76.3%	15.6%	0.0%	0.0%
Nov-17	100.0%	100.0%	100.0%	100.0%	77.5%	83.1%	74.9%	40.4%	63.6%	88.3%
Dec-17	100.0%	89.0%	100.0%	100.0%	99.8%	99.7%	71.8%	35.4%	100.0%	79.0%
Jan-18	100.0%	100.0%	100.0%	98.8%	92.2%	80.1%	85.3%	98.8%	98.4%	85.6%
Feb-18	100.0%	99.4%	100.0%	100.0%	100.0%	98.1%	26.9%	100.0%	8.9%	50.9%
Mar-18	31.1%	100.0%	100.0%	100.0%	74.2%	29.0%	81.2%	77.3%	0.0%	84.5%
Apr-18	48.6%	100.0%	63.7%	100.0%	0.0%	0.0%	91.7%	0.0%	0.0%	74.4%
May-18	100.0%	100.0%	1.6%	100.0%	0.0%	21.9%	80.4%	64.7%	17.9%	70.2%
Jun-18	100.0%	100.0%	98.7%	100.0%	90.8%	91.1%	82.1%	92.4%	79.3%	53.7%
12-Month Average	89.9%	90.5%	87.9%	99.9%	73.2%	69.8%	72.8%	61.4%	47.2%	66.0%

DOMINION ENERGY NORTH CAROLINA
DOCKET NO E-22, SUB 558
NET CAPACITY FACTORS (%)
NUCLEAR AND LARGE COAL UNITS

July 2017-June 2018

	Nuclear Units				Large Coal Units					
	North Unit 1	Anna Unit 2	Surry Unit 1	Surry Unit 2	Mt. Storm Unit 1	Mt. Storm Unit 2	Unit 3	Chesterfield Unit 5	Chesterfield Unit 6	VaCity Unit 1
Jul-17	100.0%	100.4%	100.6%	100.4%	67.9%	69.6%	80.4%	81.8%	56.9%	62.4%
Aug-17	100.2%	100.9%	91.8%	100.9%	50.2%	54.4%	10.5%	66.1%	60.1%	82.0%
Sep-17	101.6%	29.9%	102.3%	102.1%	45.5%	52.1%	33.6%	0.0%	0.0%	13.5%
Oct-17	102.1%	67.1%	103.1%	102.7%	69.2%	68.1%	63.5%	12.5%	0.0%	0.0%
Nov-17	103.2%	103.6%	104.4%	103.8%	28.3%	40.8%	0.0%	27.4%	23.8%	75.2%
Dec-17	103.1%	93.4%	104.6%	104.3%	50.3%	61.2%	6.9%	13.3%	37.0%	73.0%
Jan-18	103.4%	103.7%	104.8%	102.7%	77.3%	65.0%	59.3%	53.9%	68.4%	81.8%
Feb-18	103.1%	102.1%	104.4%	104.2%	23.1%	19.9%	2.6%	5.9%	6.6%	46.7%
Mar-18	31.2%	104.0%	104.4%	104.3%	53.8%	12.1%	59.7%	31.0%	0.0%	74.8%
Apr-18	46.3%	103.8%	64.1%	103.2%	0.0%	0.0%	71.2%	0.0%	0.0%	67.8%
May-18	102.0%	102.6%	0.8%	102.5%	0.0%	16.4%	67.7%	52.1%	15.2%	61.3%
Jun-18	100.7%	101.1%	100.5%	101.1%	37.4%	65.8%	32.2%	35.4%	19.0%	45.3%
12-Month Average	91.4%	92.7%	90.3%	102.7%	41.9%	43.8%	40.6%	31.6%	23.9%	57.0%

**DOMINION ENERGY NORTH CAROLINA
DOCKET NO. E-22, SUB 558
SYSTEM ENERGY SUPPLY**

Actual 12-Month Ended June 2018

	<u>Generation (MWhs)</u>	<u>% of Energy Supply</u>
Nuclear	27,650,942	30.9%
Coal	13,543,704	15.1%
Heavy Oil	357,813	0.4%
Wood and Natural Gas Steam	1,374,673	1.5%
Combined Cycle and Combustion Turbine	29,436,131	32.9%
Solar and Hydro - Conventional and Pumped Storage	3,437,770	3.8%
Net Power Transactions	17,153,828	19.1%
Less Energy for Pumping	(3,370,203)	-3.8%
Total System	89,584,657	100.0%
Nuclear, Natural Gas, Coal and Net Power Transactions		98.0%

DOMINION ENERGY NORTH CAROLINA
DOCKET NO. E-22, SUB 558
ENERGY AND FUEL EXPENSES

Company Exhibit BEP-1
Schedule 4
Page 1 of 1

Normalized and Adjusted Energy and Fuel Expense based on Actual 12-Months Ended June 2018
(Company Ownership Only)

(1)	(2) (3) (4) (5) 12-Months Ended June 2018				(6)	(7)	(8)	(9) (10) (11) June 2018			(12)	
	Expense (\$)	Generation (MWh)	Rate (\$/MWh)	Supply (%)				Ratio of Coal Oil, CT & CC NUG & Other MWh To Total Sum	Coal, Oil, CT & CC, NUG, Other, Nuclear Adj. and Growth MWh	Adjusted Generation (MWh)		Expense (\$)
Coal (1)	471,290,374	14,918,376	31.59	16.7	0.2402	61,149,808	14,686,411	39,177,455	1,186,626	31.59	(5)	463,943,723
Nuclear												
Surry	92,861,852	14,166,909	6.55	15.8			14,089,231	7,679,153	1,216,094			
North Anna	89,900,546	13,484,033	6.67	15.1			13,489,188	7,827,546	1,214,887			
Total Nuclear	182,762,398 (4)	27,650,942	6.61	30.9			27,578,419	15,506,699	2,430,980	6.61	(5)	182,293,353
Heavy Oil	21,254,912	357,813	59.40	0.4	0.0058	61,149,808	352,223	6,716,689	138,525	59.40	(5)	20,922,046
CC & CT (2)	1,004,343,099	29,436,131	34.12	32.9	0.4739	61,149,808	28,978,466	69,750,846	2,912,060	28.97	(5)	839,541,311
Hydro	0	3,337,366		3.7			3,337,366	0	378,644			0
Solar		100,404		0.1			100,404		7,585			
Power Transactions												
NUG Fuel	(6) 45,053,070	4,145,080	10.87	4.6	0.0667	61,149,808	4,080,649	7,998,059	367,450	10.87	(5)	44,352,767
NUG Statute Adjustment												29,426,701
Greensville Adjustment												(90,736,791)
PJM Purchases	381,349,975	13,258,175	28.76	14.8	0.2134	61,149,808	13,052,060	21,462,163	223,702	28.76	(7)	375,421,410
Adjustments												
Sales for Resale	(41,128,862)	(249,427)		-0.3			(249,427)	0	(33,308)			(41,128,862) (3)
Net	385,274,183	17,153,828	22.46	19.1			16,883,282	29,460,222	557,844			317,335,224
Pumping	0	(3,370,203)		-3.8			(3,370,203)	0	(383,829)			0
Energy Supply	2,064,924,966	89,584,657	23.05	100.0			88,445,965	160,611,912	7,228,434	20.62		1,824,035,658

NOTE: ALL VALUES REFLECT COMPANY'S OWNERSHIP OF NORTH ANNA, CLOVER AND BATH COUNTY

- (1) Coal includes wood and natural gas steam generator
- (2) CC & CT includes jet oil, light oil and natural gas generation
- (3) Fuel expense is equal to 12 months ended June 2018
- (4) Nuclear expense excludes interim storage
- (5) Fuel expense rate based on weather normalized fuel expens
- (6) NUG fuel includes expenses related to dispatchable NUGs at 78% for those units subject to the marketer percentag
- (7) Purchases include 78% of the fuel expense and the impact of the FTR:

**DIRECT TESTIMONY
OF
RONNIE T. CAMPBELL
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 558**

1 **Q. Please state your name, business address, and position of employment.**

2 A. My name is Ronnie T. Campbell, and my business address is 120 Tredegar
3 Street, Richmond, Virginia 23219. I am a Supervisor of Accounting for the
4 Power Generation and Power Delivery Groups, which includes responsibility
5 for Virginia Electric and Power Company, which operates in North Carolina
6 as Dominion Energy North Carolina (“Company”). My responsibilities
7 include overseeing personnel responsible for recording the Company’s actual
8 fuel and purchased power expenses, as well as any under-/over-recovery of
9 such expenses through the fuel deferral mechanism, operation and
10 maintenance accounting activities, reserve analysis, and joint owner billings.
11 A statement of my background and qualifications is attached as Appendix A.

12 **Q. Mr. Campbell, what is the purpose of your testimony in this proceeding?**

13 A. My testimony presents: 1) the Company’s actual system fuel expenses for the
14 twelve months ended June 30, 2018 (“test period”); 2) the Company’s North
15 Carolina recovery experience as of June 30, 2018; and 3) the accounting
16 treatment for non-utility generators (“NUGs”).

1 **Q. In the course of your testimony will you introduce any exhibits?**

2 A. Yes. Company Exhibit RTC-1 has been prepared under my direction and
3 supervision and is accurate and complete to the best of my knowledge and
4 belief. Exhibit RTC-1 consists of the following five schedules, as prescribed
5 by North Carolina Utilities Commission (“Commission”) Rule R8-55:
6 Schedule 1: Actual System Fuel and Purchased Power Expenses
7 Schedule 2: North Carolina Recovery Experience
8 Schedule 3: Actual Kilowatt-hour Sales
9 Schedule 4: Actual Fuel-Related Revenues
10 Schedule 5: Inventories of Fuel Burned

11 **Q. Please provide the Company’s actual fuel expenses incurred for the test**
12 **period and the Company’s North Carolina recovery position as of June**
13 **30, 2018.**

14 A. Based on the North Carolina jurisdictional fuel factor methodology approved
15 by the Commission, the actual system fuel expenses incurred by the Company
16 during the test period totaled \$2,106,053,828. The Company was in a fuel
17 cost under-recovery position of \$16,162,154 on a North Carolina
18 jurisdictional basis as of June 30, 2018. Details regarding fuel expenses and
19 the calculation of this under-recovery position, also referred to as the
20 Experience Modification Factor (“EMF”), are provided in Exhibit RTC-1 and
21 are discussed later in my testimony.

1 **Q. How did the Company account for NUG energy costs?**

2 A. The Company continues to include in the EMF calculation the actual fuel
3 costs provided by dispatchable NUGs (Birchwood and Spruance Genco,
4 LLC). The contract with Spruance Genco, LLC expired July 31, 2017. For
5 dispatchable NUGs that do not provide actual fuel costs (ROVA I and ROVA
6 II), the Company continued to include 78% of the reasonable and prudent
7 energy costs in the EMF calculation. Additionally, to the extent a
8 dispatchable NUG provides market-based energy rather than dispatching its
9 facility, the Company included 78% of the reasonable and prudent energy
10 costs for such market-based energy in the EMF calculation. Use of the 78%
11 “marketer’s percentage” was agreed to between the Company and the Public
12 Staff and approved by the Commission in the Company’s 2016 fuel factor
13 proceeding, Docket No. E-22, Sub 534.

14 **Q. Please provide an explanation of the six schedules presented in Company**
15 **Exhibit RTC-1.**

16 A. Schedule 1, Column 1 presents the system fuel and purchased power expenses
17 incurred by the Company during the test period totaling \$2,550,628,864. Of
18 that amount, \$2,106,053,828 was included in the EMF calculation based on
19 the North Carolina jurisdictional fuel factor methodology approved by the
20 Commission, as shown by month in Column 2.

1 **Q. Please explain the adjustments that cause the amounts in Schedule 1,**
2 **Column 1 to differ from those in Schedule 1, Column 2.**

3 A. The following adjustments are necessary to comply with Commission Rule
4 R8-55 and its orders pertaining to fuel expenses.

5 1. Nuclear (page 1 of Schedule 1)

6 Column 2 excludes costs related to the interim storage of spent nuclear
7 fuel.

8 2. Purchased Power (page 2 of Schedule 1)

9 Column 2 excludes (1) capacity costs; (2) the non-fuel portion of
10 purchases from dispatchable NUGs; (3) actual energy costs for non-
11 dispatchable NUGs; and (4) the non-fuel portion of purchases from
12 PJM.

13 **Q. Schedule 2 shows that the EMF calculation resulted in an under-recovery**
14 **of \$16,162,154. Please provide further explanation of this schedule.**

15 A. Schedule 2 presents the North Carolina jurisdictional recovery experience by
16 month for the test period. Schedule 2 is presented in three parts. Part I shows
17 the total North Carolina system fuel and purchased power costs excluding the
18 system allowance for funds used during construction (“AFUDC”). Part II
19 shows the North Carolina jurisdictional fuel and purchased power costs
20 including credit adjustments for the fuel cost from non-requirements sales and
21 PJM off-system sales, and other fuel-related adjustments. Part III presents, by

1 month, the North Carolina jurisdictional fuel revenues and the North Carolina
2 jurisdictional monthly and cumulative recovery experience.

3 **Q. What were the total fuel costs and fuel revenues for North Carolina**
4 **jurisdictional customers?**

5 A. The fuel costs allocated to North Carolina jurisdictional customers totaled
6 \$104,925,682. The Company received fuel revenues totaling \$88,763,528.
7 The difference between the fuel costs and the fuel revenues resulted in an
8 under-recovery of \$16,162,154 for the test period.

9 **Q. Please describe the information contained in Schedules 3 - 5 presented in**
10 **Company Exhibit RTC-1.**

11 A. Schedule 3 provides the actual kilowatt-hour sales at a system level and at the
12 North Carolina jurisdictional customer level for the test period. Schedule 4
13 provides actual fuel revenues recorded for the test period. Column 1 of
14 Schedule 4 provides the system fuel revenue, Column 2 provides the revenue
15 received from North Carolina jurisdictional customers for the current fuel test
16 period, and Column 3 provides the revenue received from North Carolina
17 jurisdictional customers for Rider B. Schedule 5 provides inventory values of
18 fuels burned in the production of electricity. Inventory values are recorded on
19 the books of Virginia Electric and Power Company and its subsidiary,
20 Virginia Power Services Energy Corp, Inc.

1 Q. Mr. Campbell, does this conclude your direct testimony?

2 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
RONNIE T. CAMPBELL, CPA**

Ronnie T. Campbell graduated from Virginia Tech with a Bachelor of Science degree in Accounting. Mr. Campbell received his Certified Public Accountant license in 1998. He was controller at World Access Service Corporation (Allianz Global Assistance) prior to joining Dominion Energy Services, Inc. in 2007. His accounting experience includes retail, non-utility generation, petroleum and insurance industries. He has held several supervisor positions within the Dominion Energy Services, Inc. accounting organization, including merchant and non-fuel accounting. He transitioned into his current role in 2009. His current responsibilities include overseeing personnel responsible for the Company's regulated fuel and operation and maintenance accounting activities, purchased power expenses, deferred fuel mechanism, reserve analysis and joint owner billings.

Mr. Campbell has previously presented testimony before the North Carolina Utilities Commission.

Dominion Energy North Carolina
Docket No. E-22, Sub 558
Actual System Fuel and Purchased Power Expenses
July 2017 - June 2018

	<u>System Expenses As Booked</u>	<u>North Carolina System Expenses As Booked</u>
	(1)	(2)
<u>Steam Generation Fuel Cost</u>		
July 2017	\$ 67,115,319	\$ 67,115,319
August	50,215,935	50,215,935
September	23,042,122	23,042,122
October	34,425,170	34,425,170
November	27,279,712	27,279,712
December	40,795,083	40,795,083
January 2018	87,280,535	87,280,535
February	15,855,764	15,855,764
March	38,249,161	38,205,887
April	23,731,950	23,731,950
May	38,703,665	38,703,665
June	45,894,144	45,894,144
FERC Account 501 - Steam Fuel Cost	<u>\$ 492,588,560</u>	<u>\$ 492,545,286</u>
<u>Nuclear Generation Fuel Cost</u>		
July 2017	\$ 17,844,027	\$ 16,566,943
August	17,855,559	16,245,237
September	14,155,916	13,071,451
October	16,436,693	15,375,559
November	17,460,187	16,489,173
December	17,308,600	16,251,320
January 2018	17,961,296	16,955,317
February	16,414,777	15,328,972
March	15,166,770	13,879,236
April	13,985,158	12,884,157
May	15,452,805	14,195,986
June	16,883,574	15,519,050
FERC Account 518 - Nuclear Fuel Cost	<u>\$ 196,925,363</u>	<u>\$ 182,762,398</u>

Dominion Energy North Carolina
Docket No. E-22, Sub 558
Actual System Fuel and Purchased Power Expenses
July 2017 - June 2018

	<u>System Expenses As Booked</u>	<u>North Carolina System Expenses As Booked</u>
	(1)	(2)
<u>Other Generation Fuel Cost</u>		
July 2017	\$ 71,746,215	\$ 71,746,215
August	64,132,468	64,132,468
September	59,064,934	59,064,934
October	39,547,052	39,547,052
November	60,399,219	60,399,219
December	80,530,996	80,530,996
January 2018	299,117,962	299,117,962
February	94,275,568	94,275,568
March	67,252,680	67,252,680
April	37,810,897	37,810,897
May	60,710,764	60,710,764
June	69,754,344	69,754,344
FERC Account 547 - Other Fuel Cost	<u>\$ 1,004,343,099</u>	<u>\$ 1,004,343,099</u>
Total Cost of Fuel Used in Current Generation	<u>\$ 1,693,857,022</u>	<u>\$ 1,679,650,783</u>
<u>Purchased Power</u>		
July 2017	48,929,418	\$ 21,656,508
August	41,198,557	18,357,861
September	62,623,685	33,514,785
October	54,029,120	26,908,051
November	48,369,302	21,313,011
December	82,263,233	45,166,899
January 2018	159,698,837	73,837,396
February	43,387,620	21,004,331
March	76,562,385	38,030,729
April	92,988,246	54,558,913
May	92,621,271	42,594,338
June	54,100,166	29,460,222
FERC Account 555 - Purchased Power Cost	<u>\$ 856,771,842</u>	<u>\$ 426,403,045</u>

Dominion Energy North Carolina
Docket No. E-22, Sub 558
Actual System Fuel and Purchased Power Expenses
July 2017 - June 2018

	<u>System Expenses As Booked</u> (1)	<u>North Carolina System Expenses As Booked</u> (2)
<u>Total Fuel and Purchased Power Cost</u>		
July 2017	\$ 205,634,980	\$ 177,084,985
August	173,402,518	148,951,500
September	158,886,657	128,693,292
October	144,438,035	116,255,832
November	153,508,421	125,481,115
December	220,897,913	182,744,298
January 2018	564,058,630	477,191,210
February	169,933,730	146,464,635
March	197,230,996	157,368,532
April	168,516,250	128,985,917
May	207,488,506	156,204,753
June	186,632,227	160,627,759
Total Fuel and Purchased Power Cos	<u>\$ 2,550,628,864</u>	<u>\$ 2,106,053,828</u>

**Dominion Energy North Carolina
Docket No. E-22, Sub 558
North Carolina Recovery Experience
Twelve Months Ended June 2018**

PART I	July-17	August-17	September-17	October-17	November-17	December-17	January-18	February-18	March-18	April-18	May-18	June-18	Total
FERC Account 501 - Steam Fuel Cost	\$ 67,115,319	\$ 50,215,935	\$ 23,042,122	\$ 34,425,170	\$ 27,279,712	\$ 40,795,083	\$ 87,280,535	\$ 15,855,764	\$ 38,205,887	\$ 23,731,950	\$ 38,703,665	\$ 45,894,144	\$ 492,545,286
FERC Account 518 - Nuclear Fuel Cost	\$ 16,566,943	\$ 16,245,237	\$ 13,071,451	\$ 15,375,559	\$ 16,489,173	\$ 16,251,320	\$ 16,955,317	\$ 15,328,972	\$ 13,879,236	\$ 12,884,157	\$ 14,195,986	\$ 15,519,050	\$ 182,762,398
FERC Account 547 - Other Fuel Cost	\$ 71,746,215	\$ 64,132,468	\$ 59,064,934	\$ 39,547,052	\$ 60,399,219	\$ 80,530,996	\$ 299,117,962	\$ 94,275,568	\$ 67,252,680	\$ 37,810,897	\$ 60,710,764	\$ 69,754,344	\$ 1,004,343,099
FERC Account 555 - Purchased Power Cost	\$ 21,656,508	\$ 18,357,861	\$ 33,514,785	\$ 26,908,051	\$ 21,313,011	\$ 45,166,899	\$ 73,837,396	\$ 21,004,331	\$ 38,030,729	\$ 54,558,913	\$ 42,594,338	\$ 29,460,222	\$ 426,403,045
Total NC System Fuel and Purchased Power Cost	\$ 177,084,985	\$ 148,951,500	\$ 128,693,292	\$ 116,255,832	\$ 125,481,115	\$ 182,744,298	\$ 477,191,210	\$ 146,464,635	\$ 157,368,532	\$ 128,985,917	\$ 156,204,753	\$ 160,627,759	\$ 2,106,053,828
Exclude System AFUDC	(13,836)	(13,716)	(9,974)	(13,371)	(15,235)	(15,106)	(15,724)	(14,126)	(11,854)	(12,968)	(14,868)	(15,848)	(166,625)
Total NC System Fuel and Purchased Power Cost w/o AFUDC	\$ 177,071,150	\$ 148,937,785	\$ 128,683,318	\$ 116,242,461	\$ 125,465,880	\$ 182,729,191	\$ 477,175,485	\$ 146,450,509	\$ 157,356,677	\$ 128,972,949	\$ 156,189,885	\$ 160,611,912	\$ 2,105,887,203
PART II													
NC Jurisdictional Fuel and Purchased Power Cost w/o AFUDC	\$ 9,087,298	\$ 6,577,492	\$ 7,583,047	\$ 4,678,979	\$ 7,285,936	\$ 8,646,974	\$ 24,941,738	\$ 7,358,676	\$ 7,336,135	\$ 6,753,090	\$ 7,082,866	\$ 7,857,331	\$ 105,189,561
Credit for the fuel cost from Non-Requirement Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Credit for the fuel cost from PJM Off-system Sales	\$ (97,081)	\$ (23,558)	\$ -	\$ (3,879)	\$ (31,059)	\$ (665)	\$ (74,870)	\$ (27,218)	\$ (46,593)	\$ -	\$ (3,518)	\$ (73,819)	\$ (382,260)
Other Fuel Related Adjustments ⁽¹⁾	9,712	9,909	7,246	9,855	10,631	10,446	10,952	10,131	8,445	9,370	10,623	11,060	118,382
Adjusted NC Jurisdiction Fuel and Purchased Power Cost	\$ 8,999,929	\$ 6,563,843	\$ 7,590,293	\$ 4,684,955	\$ 7,265,507	\$ 8,656,756	\$ 24,877,819	\$ 7,341,589	\$ 7,297,987	\$ 6,762,460	\$ 7,089,971	\$ 7,794,572	\$ 104,925,682
PART III													
Adjusted NC Jurisdiction Fuel and Purchased Power Cost	\$ 8,999,929	\$ 6,563,843	\$ 7,590,293	\$ 4,684,955	\$ 7,265,507	\$ 8,656,756	\$ 24,877,819	\$ 7,341,589	\$ 7,297,987	\$ 6,762,460	\$ 7,089,971	\$ 7,794,572	\$ 104,925,682
NC Jurisdictional Revenue	(9,003,598)	(7,199,889)	(8,146,413)	(5,163,692)	(7,738,512)	(7,516,566)	(9,363,528)	(6,755,100)	(6,839,077)	(6,650,037)	(6,644,497)	(7,742,619)	(88,763,528)
(Over)/Under Recovery	\$ (3,669)	\$ (636,047)	\$ (556,121)	\$ (478,738)	\$ (473,004)	\$ 1,140,190	\$ 15,514,292	\$ 586,489	\$ 458,910	\$ 112,423	\$ 445,475	\$ 51,954	\$ 16,162,154
Cumulative (Over)/Under Recovery	\$ (3,669)	\$ (639,716)	\$ (1,195,836)	\$ (1,674,574)	\$ (2,147,578)	\$ (1,007,388)	\$ 14,506,903	\$ 15,093,392	\$ 15,552,302	\$ 15,664,726	\$ 16,110,200	\$ 16,162,154	

⁽¹⁾ Includes jurisdictional AFUDC and AFUDC tax credits.

**Dominion Energy North Carolina
Docket No. E-22, Sub 558
Actual Kilowatt-hour (kWh) Sales
Twelve Months Ended June 2018**

(In Thousands)

	<u>System kWh Sales*</u> (1)	<u>North Carolina Retail kWh Sales*</u> (2)
July 2017	8,465,679	434,252
August	7,835,233	345,829
September	6,697,556	394,403
October	6,148,549	247,299
November	6,476,452	375,854
December	7,664,201	362,476
January 2018	8,633,491	451,039
February	6,466,360	324,728
March	7,074,112	329,584
April	6,128,331	320,645
May	7,056,665	319,795
June	7,613,720	372,303
Total kWh Sales	<u>86,260,349</u>	<u>4,278,206</u>

*Including unbilled kWh sales.

Dominion Energy North Carolina
Docket No. E-22, Sub 558
Actual Fuel Related Revenues
Twelve Months Ended June 2018

	System Fuel Related Revenues As Booked*	North Carolina Retail Fuel Factor Related Revenues*	
	<u>(1)</u>	<u>Current Period</u>	<u>EMF Rider B</u>
	(1)	(2)	(3)
July 2017	\$194,862,417	\$ 9,003,598	(2,031,447)
August	181,755,626	7,199,889	(1,624,617)
September	154,214,816	8,146,413	(1,837,771)
October	142,152,752	5,163,692	(1,165,179)
November	149,203,809	7,738,512	(1,745,602)
December	177,566,099	7,516,566	(1,695,903)
January 2018	199,963,401	9,363,528	(2,112,839)
February	150,893,642	6,755,100	(337,129)
March	164,635,381	6,839,077	(424,690)
April	142,684,462	6,650,037	(412,977)
May	164,854,557	6,644,497	(412,489)
June	<u>178,611,076</u>	<u>7,742,619</u>	<u>(480,679)</u>
Total Fuel Related Revenues	<u>\$ 2,001,398,037</u>	<u>\$ 88,763,528</u>	<u>\$ (14,281,321)</u>

*Including unbilled kWh revenues.

Dominion Energy North Carolina
Docket No. E-22, Sub 558
Inventories of Fuel Burned
As of June 30, 2018

<u>Fuel</u> (1)	<u>Inventory Measure</u> (2)		<u>Inventory Volume</u> (3)	<u>Inventory Value</u> (4)
Coal ^(b)	Tons	Coal Rec	1,203,190	\$ 76,000,974
Wood ^(b)	Tons	Wood & Jet Fuel Rec	74,148	2,253,447
Light Oil ^(a)	Gallons	Oil Rec	56,236,787	112,129,980
Heavy Oil ^(a)	Barrels	Oil Rec	1,543,855	74,062,671
Jet Fuel ^(a)	Gallons	Wood & Jet Fuel Rec	47,399	134,429
Natural Gas ^(a)	Dth	Power Gen. Summary	2,252,374	5,070,222
Nuclear Fuel Stock ^(b)	N/A			406,684,149
Total				<u>\$ 676,335,871</u>

(a) Inventories are held by Virginia Power Services Energy Corp, Inc.

(b) Inventories are held by Virginia Electric & Power Company.

**DIRECT TESTIMONY
OF
GREGORY A. WORKMAN
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 558**

1 **Q. Please state your name, business address, and position of employment.**

2 A. My name is Gregory A. Workman, and my business address is 120 Tredegar
3 Street, Richmond, Virginia 23219. I am the Director-Fuels and have the
4 responsibility of fossil fuel procurement for Virginia Electric and Power
5 Company, which operates in North Carolina as Dominion Energy North
6 Carolina (the “Company”). The Dominion Energy Fuels group handles the
7 procurement, scheduling, transportation, and inventory management for
8 natural gas, coal, biomass, and oil consumed at the Company’s power stations.
9 A statement of my background and qualifications is attached as Appendix A.

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

11 A. I will discuss the Company’s fossil fuel procurement practices, including any
12 recent changes to those practices, for the delivery of fuels to the Company’s
13 fossil generation fleet during the test period of July 1, 2017 to June 30, 2018
14 (“Test Period”), in compliance with Rule 8-55(e)(5).

15 **Q. Are you sponsoring any exhibits?**

16 A. Yes. Company Exhibit GAW-1, consisting of one schedule, was prepared
17 under my direction and is accurate and complete to the best of my knowledge.

1 Exhibit GAW-1 is the Dominion Energy North Carolina Summary Report of
2 Fuel Transactions with Affiliates during the Test Period.

3 **SECTION I**
4 **FUEL COMMODITY MARKETS**

5 **Q. Please discuss the trends that affected fuel commodity markets during the**
6 **period of July 2017 through June 2018.**

7 A. During the Test Period of July 2017 through June 2018, domestic natural gas
8 production increased, a result of rising global oil prices, natural gas exports,
9 and an increase in domestic natural gas demand, particularly in the residential
10 and industrial sectors. This increasing demand for natural gas, combined with
11 waves of sustained, colder-than-normal winter weather in most parts of the
12 eastern United States, led to short-term spikes in prices at Henry Hub and
13 other locations. For example, on January 5, 2018, the price of Transco Z5
14 natural gas was over \$120/million British thermal units (“MMBtu”).

15 While this daily data point illustrates the volatility in the natural gas market,
16 the January 2018 average monthly price was still quite high at about
17 \$17/MMBtu. Coal prices rose due to thermal coal exports and the continued
18 rise of global coking coal prices. Oil prices also rose, with an average West
19 Texas Intermediate (“WTI”) price of around \$59/barrel.

1
2

SECTION II
FUEL PROCUREMENT STRATEGY

3 **Q. Please briefly describe the Company's fuel procurement policy.**

4 A. The Company continues to follow the same procurement policy as it has in the
5 past in accordance with the Company's Fuel Procurement Practices Report
6 ("Dominion Fuel Policy"), a copy of which was filed with the Commission on
7 December 30, 2013, in Docket No. E-100, Sub 47A. The Dominion Fuel
8 Policy addresses the physical procurement of fossil and nuclear fuels.

9 **Q. Does the Company currently have a price hedging program?**

10 A. Yes, the Company has a price hedging program under which the Company
11 price hedges commodities needed for power generation using a range of
12 volume targets, which gradually decrease over a three-year period. The
13 Company's fuel price hedging program is discussed in greater detail in the
14 Fuel Procurement Strategy Report filed with the State Corporation
15 Commission of Virginia on January 31, 2018, in Case No. PUR-2017-00058
16 (the "Report"). In summary, as that Report describes, through competitive
17 fuel supply solicitations and other market purchases, the Company maintains a
18 reliable supply of fuel specifically designed for combustion in the Company's
19 generation stations. The duration of these physical procurement agreements is
20 staggered (*i.e.*, different contract lengths) and can also include a fixed price
21 component, the inclusion of which creates a price hedge. Managing price
22 volatility is an important aspect of the Company's price hedging program and
23 can be further supported, as needed, by the use of financial transactions.

1
2

SECTION III
NATURAL GAS PROCUREMENT

3 **Q. Please discuss the Company's gas procurement practices.**

4 A. The Company employs a disciplined natural gas procurement plan to ensure a
5 reliable supply of natural gas at competitive prices. Through periodic
6 solicitations and the open market, the Company serves its gas-fired fleet using
7 a combination of day-ahead, monthly, seasonal, and multiyear physical gas
8 supply purchases.

9 In addition to managing its natural gas supply portfolio, the Company
10 evaluates the diverse portfolio of pipeline and storage contracts to determine
11 the most reliable and economical delivered fuel options for each power
12 station. This portfolio of natural gas transportation contracts provides access
13 to multiple natural gas supply and trading points from the Marcellus shale
14 region to the southeast region. Further, the Company actively participates in
15 the interstate pipeline capacity release and physical supply markets, as well as
16 longer-term, pipeline expansion projects that will augment its transportation
17 portfolio and enhance reliability at a reasonable cost.

18 **Q. Please discuss any changes to the Company's gas-fired fleet.**

19 A. The Company continues to utilize more natural gas to serve the electricity
20 needs of its customers. In fact, during the Test Period, energy production at
21 the Company's gas-fired power stations accounted for about 33% of the
22 electricity generated for the Company's customers.

1 In late 2018, the Company will add the Greenville County Power Station
2 (“Greenville”) to its regulated fleet. Greenville will be a gas-fired combined
3 cycle power station with a generating capacity of 1,588 MW.

4 **SECTION IV**
5 **COAL PROCUREMENT**

6 **Q. Please discuss the Company’s coal procurement practices.**

7 A. The Company employs a multiyear physical procurement plan to ensure a
8 reliable supply of coal, delivered to its generating stations by truck or rail, at
9 competitive prices. This is accomplished by procuring the Company’s long-
10 term coal requirements primarily through periodic solicitations and
11 secondarily on the open market for short-term or spot needs. The effect of
12 procuring both long- and short-term coal supplies provides a layering-in of
13 contracts with staggered terms and blended prices. This ensures a reliable
14 supply of fuel with limited exposure to potential dramatic market price
15 swings. This blend of contract terms creates a diverse coal fuel portfolio and
16 allows the Company to proactively manage its fuel procurement strategy,
17 contingency plans and any risk of supplier non-performance.

18 **SECTION V**
19 **BIOMASS PROCUREMENT**

20 **Q. Please discuss the Company’s biomass procurement practices.**

21 A. The Company has a varied procurement strategy for its biomass stations
22 depending on the geographical region of the power station. Hopewell and
23 Southampton Power Stations continue to be served by multiple suppliers
24 under long-term agreements, enabling the Company to increase the reliability

1 of its biomass supply by diversifying its supplier base. The Company
2 continues to purchase long-term fuel supply through one primary supplier at
3 its Altavista Power Station. Procurement for the Company's biomass needs at
4 its co-fired Virginia City Hybrid Energy Center facility continues to be
5 conducted via short-term contracts with various suppliers. All four biomass-
6 consuming plants receive wood deliveries via truck.

7 **SECTION VI**
8 **OIL PROCUREMENT**

- 9 **Q. Please discuss the Company's oil procurement practices.**
- 10 A. The Company purchases its No. 2 fuel oil and No. 6 fuel oil requirements on
11 the spot market and optimizes its inventory, storage, and transportation to
12 ensure reliable supply to its power generating facilities. Trucks, vessels,
13 barges, and pipelines are employed to transport oil to the Company's stations
14 and third-party storage locations, ensuring a reliable supply of oil and
15 mitigating the price risk associated with potentially volatile prices for these
16 products.
- 17 **Q. Does this conclude your pre-filed direct testimony?**
- 18 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
GREGORY A. WORKMAN**

Gregory A. Workman graduated from Fairmont State College with a Bachelor of Science degree in Business Administration and received a Master of Business Administration degree from West Virginia University. He became an employee of Dominion Energy in 2001 and has held various positions within the following departments: Business Development and Acquisitions, Fossil and Hydro Merchant Operations, and Technical Services. In October 2007, Mr. Workman assumed his current role as Director-Fuels. He currently serves as the Vice-Chairman of the National Coal Council, a federal advisory committee to the U.S. Secretary of Energy.

Prior to joining Dominion Energy, Mr. Workman worked for Norfolk Southern Corporation from 1990 to 2001. He served in various capacities at Norfolk Southern including Finance, Operations, Coal Marketing, and Strategic Planning. Prior to Norfolk Southern, he worked as a Financial Consultant for American Express.

Mr. Workman has previously presented testimony before the State Corporation Commission of Virginia, the North Carolina Utilities Commission, and the Federal Energy Regulatory Commission.

DOMINION ENERGY NORTH CAROLINA
SUMMARY REPORT OF FUEL TRANSACTIONS WITH AFFILIATES
FOR THE PERIOD JULY 2017 - JUNE 2018
(IN THOUSANDS)

Dominion Energy North Carolina Receiving from Affiliate:

Docket No. E-22, Sub 558

VP Services Energy Corp., Inc.

Sale Of Natural Gas And Oil Inventory

<u>Month</u>	<u>Amount</u>
July-17	\$74,351
August-17	\$66,600
September-17	\$60,354
October-17	\$41,663
November-17	\$61,354
December-17	\$86,048
January-18	\$323,527
February-18	\$94,636
March-18	\$71,431
April-18	\$40,894
May-18	\$66,732
June-18	\$81,782
Total Charged to FERC Account 151	\$1,069,372

DOMINION ENERGY NORTH CAROLINA
SUMMARY REPORT OF FUEL TRANSACTIONS WITH AFFILIATES
FOR THE PERIOD JULY 2017 - JUNE 2018

Dominion Energy Fuel Services, Inc. and Virginia Power Services Energy Corp., Inc.
Natural Gas Transaction Summary

Docket No. E-22, Sub 558

	Volume			Dollars			
	<u>Purchase</u>	<u>Sale</u>	<u>Difference</u>	<u>Purchase</u>	<u>Sale</u>	<u>Difference</u>	<u>Purchase</u>
Jul-17	24,998,352	24,999,444	(1,092)	\$ 67,064,875.33	\$ 67,068,344.15	\$ (3,468.82)	\$ 2.683
Aug-17	24,597,224	24,593,573	3,651	\$ 63,591,721.01	\$ 63,586,251.83	\$ 5,469.18	\$ 2.585
Sep-17	22,358,859	22,361,071	(2,212)	\$ 56,078,570.52	\$ 56,087,499.65	\$ (8,929.13)	\$ 2.508
Oct-17	22,607,193	22,608,408	(1,215)	\$ 49,124,506.54	\$ 49,127,264.00	\$ (2,757.46)	\$ 2.173
Nov-17	19,564,085	19,564,390	(305)	\$ 55,745,404.03	\$ 55,746,222.58	\$ (818.55)	\$ 2.849
Dec-17	18,702,098	18,703,544	(1,446)	\$ 77,958,654.43	\$ 77,963,895.83	\$ (5,241.40)	\$ 4.168
Jan-18	23,933,413	23,954,517	(21,104)	\$ 281,876,748.48	\$ 281,856,048.29	\$ 20,700.19	\$ 11.778
Feb-18	18,609,825	18,608,038	1,787	\$ 77,026,246.84	\$ 77,029,820.87	\$ (3,574.03)	\$ 4.139
Mar-18	21,456,979	21,456,979	-	\$ 64,053,699.84	\$ 64,053,903.69	\$ (203.85)	\$ 2.985
Apr-18	24,021,400	24,022,470	(1,070)	\$ 61,844,519.10	\$ 61,846,025.87	\$ (1,506.77)	\$ 2.575
May-18	24,703,807	24,708,490	(4,683)	\$ 60,581,336.88	\$ 60,594,159.86	\$ (12,822.98)	\$ 2.452
Jun-18	26,334,562	26,342,263	(7,701)	\$ 70,747,096.81	\$ 70,768,598.51	\$ (21,501.70)	\$ 2.686
Total	271,887,797	271,923,187	(35,390)	\$ 985,693,379.81	\$ 985,728,035.13	\$ (34,655.32)	

DOMINION ENERGY NORTH CAROLINA
SUMMARY REPORT OF FUEL TRANSACTIONS WITH AFFILIATES
FOR THE PERIOD JULY 2017 - JUNE 2018

Dominion Energy North Carolina Power Receiving and Providing to Dominion
Energy Fuel Services, Inc.:

Docket No. E-22, Sub 558

July 2017 - June 2018 Contracted Affiliated Fuel Transactions

WACOG		
	<u>Sale</u>	<u>Difference</u>
\$	2.683	(0.000)
\$	2.585	(0.000)
\$	2.508	(0.000)
\$	2.173	(0.000)
\$	2.849	0.000
\$	4.168	0.000
\$	11.766	0.011
\$	4.140	(0.001)
\$	2.985	(0.000)
\$	2.575	0.000
\$	2.452	(0.000)
\$	2.687	(0.000)

There were no affiliate transactions of Fuel from July 2017 through June 2018.

**DIRECT TESTIMONY
OF
TOM A. BROOKMIRE
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 558**

1 **Q. Please state your name, position, business address, and responsibilities.**

2 A. My name is Tom A. Brookmire, and I am the Manager of Nuclear Fuel
3 Procurement. My business address is Innsbrook Technical Center, 5000
4 Dominion Boulevard, Glen Allen, Virginia 23060. I am responsible for
5 nuclear fuel procurement, fuel-related project management, long-term nuclear
6 spent fuel disposal, and nuclear fuel price forecasting and budgeting used by
7 Virginia Electric and Power Company, which operates in North Carolina as
8 Dominion Energy North Carolina (the “Company”). A statement of my
9 background and qualifications is attached hereto as Appendix A.

10 **Q. What is the purpose of your testimony?**

11 A. The purpose of my testimony is to discuss the nuclear fuel market and any
12 significant impact of the market on nuclear fuel costs during the test period of
13 July 1, 2017, through June 30, 2018 (“Test Period”), in compliance with Rule
14 8-55(e)(5). Section I of my testimony will discuss the market and components
15 of the Company’s nuclear fuel costs. Section II will discuss how the
16 Company’s nuclear fuel expense rates are calculated.

1 **Q. Please briefly describe the Company’s nuclear fuel procurement policy.**

2 A. The Company continues to follow the same procurement practices as it has in
3 the past in accordance with its procedures, a copy of which has been
4 previously provided to this Commission in Docket No. E-100, Sub 47A.
5 These procedures not only cover nuclear fuel procurement, but also the
6 procurement of natural gas, coal, biomass, and oil.

7 **SECTION I**
8 **NUCLEAR FUEL MARKET AND COMPONENTS**

9 **Q. What are the major components of nuclear fuel expenses?**

10 A. Nuclear fuel expenses include the amortized value of the cost for uranium,
11 along with required conversion, enrichment, and fabrication services
12 (collectively the “front-end components”). In addition, there is the
13 amortization of the Allowance for Funds Used During Construction
14 (“AFUDC”) and the federal government’s fee for the disposal of spent nuclear
15 fuel. I will discuss the current status of the disposal fee in Section II of my
16 testimony.

17 **Q. Please describe any changes in the market conditions for the front-end**
18 **components since the last fuel proceeding.**

19 A. The nuclear fuel market has softened considerably in the past six to seven
20 years with uranium, conversion, and enrichment markets all showing varying
21 levels of decreased prices. This is largely due to the devastating Japanese
22 earthquake and tsunami of March 2011, which has been discussed in prior
23 North Carolina fuel cases. But there have been other factors influencing this

1 trend as well such as clear reductions in demand (*e.g.*, Germany’s decision to
2 permanently shut down eight reactors, a pause in the pace of Chinese reactor
3 builds, and the closing and announced closings of several U.S. reactors).
4 There have also been reductions in supply (*e.g.*, postponement and deferral of
5 new mines and mine capacity expansions, shutdowns and reduction in
6 production at some existing mines (most notably Cameco’s Rabbit Lake and
7 McArthur River/Key Lake operations), the idling of a U.S.-based uranium
8 conversion plant, along with delays in planned increases in uranium
9 enrichment capacity) which have, in part, offset some of the downward trend
10 in demand. However, secondary sources of production (especially using
11 excess enrichment capacity to conserve uranium and re-enrichment of tails)
12 and high global inventory levels continue to mitigate some of these
13 reductions. The uranium market prices have continued to be depressed though
14 they were relatively stable during the current period.

15 The price for conversion services has also dropped significantly on the spot
16 market due to reduced near-term demand, while long-term prices have
17 remained higher due to concern over the lack of investment in new conversion
18 production facilities, and the possibility for shortfalls in capacity longer-term.
19 For example, the operator of the sole U.S. uranium conversion facility
20 announced in January 2017 its intention to scale back its capacity to be in
21 better alignment with a projected decrease in future demand. However, in
22 December 2017 the same facility announced a full shutdown of production
23 that will depend upon the market to improve before a restart is likely.

1 The cost for enrichment services has declined slightly after appearing to have
2 stabilized during the last fuel factor period. The decline is due to reduced
3 demand and the addition of new centrifuge capacity in Europe in recent years.

4 The price trend in the U.S. domestic nuclear fuel fabrication industry
5 continues to be difficult to measure because there is no active spot market, but
6 the general consensus is that costs will continue to increase due to regulatory
7 requirements, reduced competition, and new reactor demand both in the U.S.
8 and abroad. Additionally, the parent companies for both U.S. nuclear fuel
9 fabricators (Westinghouse Electric Corporation (“Westinghouse”) and former
10 Areva (now Framatome after restructuring)) have experienced financial
11 distress, which is likely to put upward pressure on fabrication costs and
12 nuclear fuel engineering services.

13 Calendar year 2018 may mark the restart of several more reactors in Japan,
14 which may have some short-term price lift on front-end components. Five
15 reactors have met new standards and have been restarted, and an additional 19
16 have submitted applications to restart. The timing and extent of other reactor
17 restarts in Japan remains uncertain at this time. China continues to have an
18 aggressive nuclear energy program. It currently has 39 reactors in operation,
19 18 plants under construction, and others in planning, with a planned doubling
20 of nuclear generating capacity by the early 2020s.

1 **Q. Have these changes in market costs impacted the Company's projected**
2 **near-term costs?**

3 A. Yes, but not significantly. The Company's current mix of longer-term front-
4 end component contracts has reduced its exposure to market volatility that has
5 occurred over the past several years. In addition, because the Company's
6 nuclear plants replace about one-third of their fuel on an 18-month schedule,
7 there is a delay before the full effect of any significant changes in a
8 component price is seen in the plant operating costs. Finally, the Company
9 has been active in the market and has executed some market-based and fixed
10 price contracts, allowing us to take advantage of current lower prices for the
11 benefit of customers.

12 **Q. Westinghouse filed for Chapter 11 bankruptcy protection in March 2017.**
13 **How will this potentially affect the Company's nuclear fuel supply?**

14 A. At this point, the Company does not anticipate any significant effect. Our
15 principal business relationship with Westinghouse pertains to its fuel analyses
16 and fuel and core component manufacturing businesses. We communicate
17 with the Westinghouse fuel fabrication and nuclear services organizations on a
18 frequent basis. To date there has been no interruption in their fuel fabrication
19 activities stemming from Westinghouse's bankruptcy, and the Company has
20 no indication that there will be any such interruption. Westinghouse's public
21 communications, as well as their comments to the Company, have indicated
22 that Westinghouse intends to maintain these profitable business activities
23 moving forward.

1 **Q. Two U.S. miners filed a “Section 232” petition in January 2018. What**
2 **does this mean and how will this potentially affect the Company’s fuel**
3 **supply?**

4 A. As explained by the U.S. Department of Commerce,¹ Section 232 of the Trade
5 Expansion Act of 1962, as amended, gives the executive branch the ability to
6 conduct investigations to “determine the effects on the national security of
7 imports.” Within 270 days of initiating any investigation, the Commerce
8 Department issues a report to the President with the investigation’s findings,
9 including whether certain imports threaten to impair America’s national
10 security. The President has 90 days to determine whether he concurs with the
11 findings and, if so, to use his statutory authority under Section 232 “to adjust
12 the imports” as necessary, including through tariffs or quotas.

13 At this point, the outcome of this petition is uncertain. The petition is asking
14 the federal government, specifically, the Department of Commerce, for relief
15 for the domestic uranium mining sector as a matter of national security. The
16 petition was signed by the two U.S. miners in January 2018 and on July 18,
17 2018, the Department of Commerce officially opened an investigation into the
18 matter. We expect to hear the results of this investigation by this time next
19 year. While there are some proposed remedies in the petition, it is difficult to
20 predict what steps will be taken resulting from the Department of Commerce’s
21 investigation. Steps taken that would restrict access or impose tariffs on

¹ See <https://www.commerce.gov/news/blog/2018/03/what-you-need-know-about-section-232-investigations-and-tariffs>.

1 global supply sources could increase nuclear fuel costs, but the degree of any
2 such impacts is uncertain at this time.

3 **SECTION II**
4 **NUCLEAR FUEL EXPENSE RATES**

5 **Q. Would you please describe how the Company’s nuclear fuel expense rates**
6 **are developed?**

7 A. The calculation of nuclear fuel expense rates, expressed in mills per kilowatt-
8 hour (“mills/kWh”), is based on expected plant operating cycles and the
9 overall cost of nuclear fuel. As I stated above, front-end component costs
10 include uranium, conversion, enrichment, and fabrication services. These
11 costs, along with AFUDC, are amortized over the energy production life of
12 the nuclear fuel. The federal government’s fee, applied to net nuclear
13 generation sold, would also typically be included in the expense rate. This
14 cost, applied to all U.S. nuclear generation companies, is intended to cover the
15 eventual disposal cost of spent nuclear fuel in a federal repository. However,
16 the fee, which historically has been one mill/kWh of net nuclear generation, is
17 currently set to zero mills/kWh and is not collected.

18 **Q. You stated earlier in your testimony that you would discuss the status of**
19 **the fee charged by the federal government for spent nuclear fuel disposal.**
20 **Please provide an update regarding the status of this fee.**

21 A. As discussed in my direct testimony in the Company’s 2017 fuel factor
22 adjustment proceeding, in 2014, following a federal court decision, the U.S.
23 Department of Energy (“DOE”) submitted a proposal to Congress to change

1 this one mill/kWh fee to zero. This relief is industry-wide and applies to all
2 operating reactors, including the Company's operating reactors at Surry and
3 North Anna. The processes specified in the Nuclear Waste Policy Act for
4 adjustment of the fee have now been completed, and as of May 16, 2014, the
5 Company is no longer required to pay the waste fee.

6 **Q. Can the waste fee collected by the federal government be reinstated?**

7 A. Yes, it can. As I explained in my direct testimony in the Company's 2017
8 fuel factor adjustment proceeding, the Nuclear Waste Policy Act allows the
9 Secretary of Energy to review fee adequacy on an annual basis. It is likely
10 that at some point in the future when a viable waste disposal program is
11 established by DOE, the Secretary will develop an adjustment to the waste fee
12 that ensures full cost recovery for the life cycle of such a program. Any
13 proposed adjustment to the fee will again need to be submitted to Congress for
14 review. If and when a fee adjustment becomes effective, the Company will
15 again become obligated to make the fee payment, and will again seek to
16 recover payments for the assessed fee in its fuel factor.

17 **Q. What was the fuel expense rate for the Test Period?**

18 A. The fuel expense rate is provided in Company Exhibit BEP-1 to the Direct
19 Testimony of Company Witness Bruce E. Petrie.

20 **Q. Does this conclude your direct testimony?**

21 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
TOM A. BROOKMIRE**

Tom A. Brookmire is a graduate of Virginia Tech with a Bachelor of Science degree in Nuclear Science (1983), and a Master's degree in Engineering in Nuclear Engineering from the University of Virginia (1988). He is a registered professional engineer in the Commonwealth of Virginia.

Mr. Brookmire joined with Virginia Electric and Power Company in 1983, and has worked since then in staff and management positions involving nuclear fuel. His current responsibilities include procurement of nuclear fuel and related services, nuclear fuel-related project management, long-term disposal of spent nuclear fuel, and the projection of nuclear prices and related capital costs and expense rates.

**DIRECT TESTIMONY
OF
GEORGE G. BEASLEY
ON BEHALF OF
DOMINION ENERGY NORTH CAROLINA
BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-22, SUB 558**

1 **Q. Please state your name, business address, and position of employment.**

2 A. My name is George G. Beasley. My business address is 701 East Cary Street,
3 Richmond, Virginia 23219. My title is Regulatory Specialist for Virginia
4 Electric and Power Company, which operates in North Carolina as Dominion
5 Energy North Carolina (“the Company”). A statement of my background and
6 qualifications is attached as Appendix A.

7 **Q. Mr. Beasley, what is the purpose of your testimony in this proceeding?**

8 A. The purpose of my testimony is to present the Company’s derivation of the
9 proposed Fuel Cost Rider A and the proposed Experience Modification Factor
10 (“EMF”) Rider B, for the North Carolina jurisdiction and for each customer
11 class based on the twelve months ended June 30, 2018 (the “Test Period”), to
12 become effective on February 1, 2019. I will then describe an alternative
13 proposal by the Company and present calculations to mitigate the impact of
14 the increase in the total fuel factor through an alternative voluntary agreement
15 to recover the accumulated fuel deferral balance over two rate periods, rather
16 than one, with a true-up, without incremental costs to customers (“mitigation
17 alternative”). I am also sponsoring the calculation of the adjustment to total

1 system sales (kWh) for the twelve months ended June 30, 2018, due to change
2 in usage, weather normalization, and customer growth.

3 **Q. In the course of your testimony will you introduce an exhibit?**

4 A. Yes. Company Exhibit GGB-1, consisting of eleven schedules, was prepared
5 under my direction and is accurate and complete to the best of my knowledge
6 and belief.

7 **Q. Mr. Beasley, are you proposing any changes to the methodology of rate
8 design in this case?**

9 A. Yes. The Company is proposing to adjust by one month the implementation
10 of new rates for the proposed Fuel Charge Rider A and EMF Rider B. In
11 previous years, the Company has proposed Rider A and Rider B rates to be
12 effective for a calendar year Rate Period. Based on discussions with the
13 Public Staff following the conclusion of the Company's 2017 rider
14 proceedings, the Company is proposing for its updated fuel riders to be
15 effective for a February 1, 2019 through January 31, 2020 Rate Period. The
16 Company is requesting this adjustment to the annual Rate Period in order to
17 extend the time for the Commission to issue orders in the Company's three
18 annual rider proceedings filed pursuant to NCUC Rules R8-55, R8-67, and
19 R8-69, respectively, and to then allow the Company additional time to finalize
20 rates and customer notices (including allowing reasonable time for Public
21 Staff review) prior to the updated annual riders' effective date. The Company

1 intends to continue to use a February 1 through January 31 rate period in
2 future rider cases.

3 In this case, the Company therefore is seeking for its Rider A and Rider B
4 tariffs to become effective on February 1, 2019. Since the existing tariffs
5 approved in Docket No. E-22, Sub 546 will expire on December 31, 2018, the
6 Company is proposing interim tariffs for January 2019 showing Riders A and
7 B both set to zero, and Rate Period tariffs for February 2019 through January
8 2020 with updated rates.

9 **Q. What is the total fuel factor that the Company is requesting in this case to**
10 **become effective February 1, 2019?**

11 A. I have calculated the average fuel factor equal to the combined base fuel and
12 Fuel Cost Rider A, excluding Rider B (the Experience Modification Factor)
13 (“EMF”), applicable to the North Carolina jurisdiction for the Test Period to
14 be \$0.02142/kWh.

15 The deferral balance for the Test Period applicable to the North Carolina
16 jurisdiction is \$16,162,154, presented by Company Witness Ronnie T.
17 Campbell. This substantial under-recovery is largely due to cold winter
18 weather and higher commodity prices, specifically for an extended period in
19 January as discussed by Company Witness Bruce E. Petrie. If the entire
20 under-recovery amount is to be recovered during the upcoming Rate Period,
21 the average prior period EMF will be \$0.00388/kWh, which then results in a

1 total full recovery fuel factor of \$0.02530 kWh. This is an increase of
2 \$0.00582/kWh, when compared to the average total fuel factor presently in
3 effect of \$0.01948/kWh for the North Carolina jurisdiction.

4 The Company requests the Commission approve and implement the full
5 recovery rates scheduling recovery of 100% of the June 30, 2018, fuel deferral
6 account balance of \$16,162,154 over the February 1, 2019 – January 31, 2020,
7 Rate Period.

8 However, while North Carolina General Statutes § 62-133 allows prompt
9 recovery of these expenses, we also recognize the impact of such an increase
10 in fuel rates on the Company's customers. Therefore, as an alternative to the
11 full recovery rate, the Company is voluntarily proposing a mitigation
12 alternative that would help mitigate the increase, should the Commission find
13 it to be in the public interest and so approve. Under the mitigation alternative,
14 the Company would waive its right to recovery of the full deferral balance
15 over the upcoming Rate Period in favor of recovering the deferral balance on
16 a dollar-for-dollar basis over the next two rate periods, with a final true-up to
17 be recovered or refunded during the rate period commencing on February 1,
18 2022. That is, under the mitigation alternative, the Company proposes to
19 establish rates in this proceeding to recover 50% of the deferral balance in
20 upcoming Rate Period and establish rates in the 2019 fuel proceeding to
21 recover the other 50% of the deferral balance in the February 1, 2020
22 – January 31, 2021 rate period. Lastly, in the 2021 fuel proceeding,
the

1 Company will establish rates to recover or refund during the February 1, 2022
2 – January 31, 2023 rate period any final over or under recovery of this original
3 deferred balance.

4 If the Commission declines to approve the Company's full recovery request
5 and to approve the mitigation alternative, the Company will further agree to
6 ensure that its customers will see no incremental cost associated with
7 financing the deferral balance over this extended period.

8 Implementing the mitigation alternative would result in a prior period EMF of
9 \$0.00194/kWh, and an average total fuel factor of \$0.02336/kWh for the
10 jurisdiction. This is an increase of \$0.00398/kWh, when compared to the
11 average total fuel factor presently in effect of \$0.01938/kWh for the
12 jurisdiction, \$0.00194/kWh less than the full recovery rate.

13 The fuel factor calculations and typical bill impacts for both the full recovery
14 and mitigation alternative are presented later in my testimony.

15 **Q. Mr. Beasley, please explain Schedule 1.**

16 A. Schedule 1 of Company Exhibit GGB-1 provides a summary of jurisdictional
17 and total system kWh sales for the twelve months ended June 30, 2018,
18 adjusted for change in usage, weather normalization, and customer growth.
19 Line 1 of Schedule 1 shows the adjustment to sales for the North Carolina
20 Jurisdiction of (102,723,711) kWh. The adjustment to total system kWh at
21 sales level is (993,601,325) kWh. This adjustment is consistent with the

1 methodology used in the Company's last general rate case (Docket No. E-22,
2 Sub 532) and the last fuel charge adjustment case (Docket No. E-22, Sub
3 546). The workpapers supporting the change in usage, weather normalization,
4 and customer growth calculation are provided in response to Rule
5 R8-55(e)(2).

6 **Q. Have you calculated the proposed Fuel Cost Rider A for the North**
7 **Carolina jurisdiction and each customer class?**

8 A. Yes. Schedule 2 of Company Exhibit GGB-1 presents the calculation of the
9 proposed System Average Fuel Factor for the North Carolina jurisdiction and
10 for each customer class. On Schedule 2, Page 1, a system fuel expense level
11 of \$1,824,035,658 (as provided in Schedule 4 of Exhibit BEP-1) is divided by
12 system sales of 85,266,747,633 kWh that reflect the normalization
13 adjustments for change in usage, weather, and customer growth, and adjusted
14 for the North Carolina regulatory fee. The result is a normalized system
15 average fuel factor of \$0.02142/kWh, applicable to the North Carolina
16 jurisdiction. The calculations used to differentiate the jurisdictional Base Fuel
17 Component by voltage to determine the class fuel factors are shown on
18 Schedule 2, Page 2. They are consistent with the methodology used in the
19 Company's most recent fuel case (Docket No. E-22, Sub 546). The Base Fuel
20 Component for each class determined in Docket No. E-22, Sub 532 is shown
21 in Column 8 of Schedule 2, Page 2. Fuel Cost Rider A is calculated in
22 Column 9 of Schedule 2, Page 2.

1 **Q. Please describe the Experience Modification Factor, Rider B, applicable**
2 **to the North Carolina jurisdiction, for the full recovery scenario.**

3 A. Schedule 3 of Company Exhibit GGB-1 presents the calculation of the
4 proposed EMF Rider B applicable to the North Carolina jurisdiction and the
5 resulting factors for each customer class based upon full recovery of the
6 deferred fuel balance. Schedule 3, Page 1, shows the calculation of the
7 proposed uniform EMF applicable to the North Carolina jurisdiction. The
8 total under recovered fuel expense, for the period July 1, 2017 through June
9 30, 2018, was \$16,162,154 as provided in Schedule 2 of Company Exhibit
10 RTC-1. This total balance was then divided by North Carolina test year sales
11 of 4,175,472,287 kWh, which have been adjusted for change in usage,
12 weather, and customer growth. After being adjusted for the North Carolina
13 regulatory fee, the result is a uniform EMF of \$0.00388/kWh, applicable to
14 the North Carolina jurisdiction. The calculations used to differentiate the
15 uniform factor by voltage to determine the class factors are shown on
16 Schedule 3, Page 2. The resulting EMF for each class is shown in Column 7
17 of Schedule 3, Page 2.

18 **Q. Please describe the Experience Modification Factor, Rider B, applicable**
19 **to the North Carolina jurisdiction, for the mitigation alternative.**

20 A. Schedule 4 of Company Exhibit GGB-1 presents the calculation of the
21 proposed EMF Rider B applicable to the North Carolina jurisdiction and the
22 resulting factors for each customer class under the mitigation alternative.
23 Schedule 4, Page 1, shows the calculation of the proposed uniform EMF

1 applicable to the North Carolina jurisdiction. The total under recovered fuel
2 expense, for the period July 1, 2017, through June 30, 2018, is \$16,162,154 as
3 provided in Schedule 2 of Company Exhibit RTC-1. Multiplying this amount
4 by 50% equals a net balance of \$8,081,077. This net balance was then
5 divided by North Carolina test year sales of 4,175,472,287 kWh, which have
6 been adjusted for change in usage, weather, and customer growth. After being
7 adjusted for the North Carolina regulatory fee, the result is a uniform EMF of
8 \$0.00194/kWh, applicable to the North Carolina jurisdiction. The calculations
9 used to differentiate the uniform factor by voltage to determine the class
10 factors are shown on Schedule 4, Page 2. The resulting EMF for each class is
11 shown in Column 7 of Schedule 4, Page 2.

12 **Q. Please provide a summary of the total fuel factors that the Company is**
13 **requesting in this case for each class to become effective February 1,**
14 **2019.**

15 A. As explained earlier in my testimony, the Company requests Commission
16 approval of the full recovery proposal. However, should the Commission not
17 approve the full recovery proposal, the Company requests that the
18 Commission approve and implement the mitigation alternative, and permit the
19 Company to (1) recover 50% of the deferral balance in the February 1, 2019 –
20 January 31, 2020 Rate Period, (2) establish rates in the 2019 fuel proceeding
21 to recover the other 50% of the deferral balance in the following rate period,
22 and (3) in the 2021 fuel proceeding, establish rates to recover or refund during

1 the rate period commencing on February 1, 2022 any final over or under
2 recovery of this original deferred balance.

3 The total proposed fuel rates (\$/kWh) for each class, depending on the
4 Commission's determination to approve full recovery or the mitigation
5 alternative, are as follows:

<u>Customer Class</u>	<u>Full Recovery</u>	<u>Mitigation Alternative</u>
Residential	\$0.02558	\$0.02363
SGS & PA	\$0.02556	\$0.02361
LGS	\$0.02536	\$0.02342
Schedule NS	\$0.02459	\$0.02271
6VP	\$0.02495	\$0.02304
Outdoor Lighting	\$0.02558	\$0.02363
Traffic	\$0.02558	\$0.02363

6 A comparison of the present and proposed total rates for each class is shown
7 on my Company Exhibit GGB-1, Schedule 5 for full recovery and Schedule 6
8 for the mitigation alternative.

9 **Q. Do you have a schedule that shows the total fuel revenue recovery by**
10 **class and for the North Carolina jurisdiction for the upcoming Rate**
11 **Period if the full recovery rates are approved?**

12 A. Yes. Schedule 7 of Company Exhibit GGB-1 shows the total fuel revenue
13 recovery by class and for the North Carolina jurisdiction for the upcoming
14 Rate Period if the full recovery rates are approved. For the North Carolina
15 jurisdiction, the proposed jurisdictional fuel cost levels result in a total fuel
16 recovery increase of \$24,301,249.

1 **Q. Do you have a schedule that shows the total fuel revenue recovery by**
2 **class and for the North Carolina jurisdiction for the upcoming Rate**
3 **Period if the mitigation alternative is approved?**

4 A. Yes. Schedule 8 of Exhibit GGB-1 shows the total fuel revenue recovery by
5 class and for the North Carolina jurisdiction for the upcoming Rate Period if
6 the mitigation alternative is approved. For the North Carolina jurisdiction, the
7 proposed jurisdictional fuel cost levels result in a total fuel recovery increase
8 of \$16,200,832.

9 **Q. Mr. Beasley, would you explain how these proposed changes in the fuel**
10 **factor assuming full recovery of the deferral balance in the upcoming**
11 **Rate Period will affect customers' bills? Use bill amounts as of August 1,**
12 **2018 as a point of reference.**

13 A. For Rate Schedule 1 (residential), for a customer using 1,000 kWh per month,
14 the weighted monthly residential bill (4 summer months and 8 base months)
15 would increase by \$5.87 from \$108.96 to \$114.83, or by 5.4%. For Rate
16 Schedule 5 (small general service), for a customer using 12,500 kWh per
17 month and 50 kW of demand, the weighted monthly bill (4 summer months
18 and 8 base months) would increase by \$73.38 from \$1,066.62 to \$1,140.00, or
19 by 6.9%. For Rate Schedule 6P (large general service), for a customer using
20 576,000 kWh (259,200 kWh on-peak and 316,800 kWh off-peak) per month
21 and 1,000 kW of demand, the monthly bill would increase by \$3,363.84 from
22 \$37,323.05 to \$40,686.89, or by 9.0%.

- 1 **Q. Mr. Beasley, would you explain how these proposed changes in the fuel**
2 **factor under the mitigation alternative will affect customers' bills? Use**
3 **bill amounts as of August 1, 2018, as a point of reference.**
- 4 A. For Rate Schedule 1 (residential), for a customer using 1,000 kWh per month,
5 the weighted monthly residential bill (4 summer months and 8 base months)
6 would increase by \$3.92 from \$108.96 to \$112.88, or by 3.6%. For Rate
7 Schedule 5 (small general service), for a customer using 12,500 kWh per
8 month and 50 kW of demand, the weighted monthly bill (4 summer months
9 and 8 base months) would increase by \$49.00 from \$1,066.62 to \$1,115.62, or
10 by 4.6%. For Rate Schedule 6P (large general service), for a customer using
11 576,000 kWh (259,200 kWh on-peak and 316,800 kWh off-peak) per month
12 and 1,000 kW of demand, the monthly bill would increase by \$2,246.40 from
13 \$37,323.05 to \$39,569.45, or by 6.0%.
- 14 **Q. Have you included in your exhibit a revision to the Fuel Cost Rider A and**
15 **EMF Rider B to reflect the Company's proposed total fuel factors, to be**
16 **effective January 1, 2019?**
- 17 A. Yes. Schedule 9, Pages 1 and 2 provide the revised fuel charge Rider A and
18 EMF Rider B that the Company proposes to become effective on and after
19 January 1, 2019 for one month only.

- 1 **Q. Have you included in your exhibit a revision to the Fuel Cost Rider A and**
2 **EMF Rider B which will reflect the Company's proposed total fuel**
3 **factors to be effective February 1, 2019, based upon full recovery of the**
4 **deferred fuel balance of \$16,162,154 and based on the mitigation**
5 **alternative?**
- 6 A. Yes. Schedule 10, Pages 1 and 2 of Company Exhibit GGB-1 provide the
7 revised Fuel Charge Rider A and EMF Rider B under the full recovery
8 proposal, which would be applicable for usage on and after February 1, 2019.
9 Schedule 11, Pages 1 and 2 provide the revised Fuel charge Rider A and the
10 EMF Rider B under the mitigation alternative, which likewise would be
11 applicable for usage on and after February 1, 2019.
- 12 **Q. Does this conclude your testimony?**
- 13 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
GEORGE G. BEASLEY**

George G. Beasley received a Bachelor of Science degree in Finance from Virginia Commonwealth University in 1996. Mr. Beasley started his career with the Company in 2008 as a Sr. Business Performance Analyst. In 2011 Mr. Beasley was promoted to Supervisor Customer Revenue Management Planning and Analysis where he was responsible for the analytical support of our electric Credit and Billing functions. In 2015 Mr. Beasley took over the Customer Billing Compliance and Quality Control Manager position and was responsible for the auditing and quality control of changes implemented into the Billing system including rate and regulatory changes. In 2017, Mr. Beasley joined the Rate Department as a Regulatory Specialist to work in the Rate Design section, where he assists with regulatory filings, the design of rates, and performing analysis related to the Company's Virginia and North Carolina service territories.

**SUMMARY OF KWH ATTRIBUTABLE TO
 CHANGE IN USAGE, WEATHER NORMALIZATION, AND CUSTOMER GROWTH
 TWELVE MONTHS ENDED JUNE 30, 2018**

		SYSTEM			
<u>LINE</u>	<u>JURISDICTION</u>	<u>CHANGE IN USAGE KWH</u>	<u>WEATHER NORM. KWH</u>	<u>CUSTOMER GROWTH KWH</u>	<u>TOTAL KWH</u>
1)	NORTH CAROLINA (A)	(11,124,387)	(83,385,279)	(8,214,045)	(102,723,711)
2)	VIRGINIA	75,668,311	(1,224,259,493)	280,602,199	(867,988,983)
3)	COUNTY	(21,849,626)	(57,799,715)	12,437,859	(67,211,482)
4)	STATE	7,533,975	(2,172,431)	2,514,436	7,875,980
5)	MS - GOVERNMENTAL	96,474,170	(10,599,426)	15,349,551	101,224,295
7)	FERC	<u>0</u>	<u>(64,777,424)</u>	<u>0</u>	<u>(64,777,424)</u>
8)	SYSTEM KWH AT SALES LEVEL	146,702,443	(1,442,993,768)	302,690,000	(993,601,325)
9)	SUBTOTAL - SYSTEM KWH AT GENERATION LEVEL (LINE 8 x 2017 EXPANSION FACTOR) (B)				(1,038,289,538)

NOTES

() DENOTES NEGATIVE VALUE

<u>(A) NORTH CAROLINA BY CLASS</u>	<u>CHANGE IN USAGE KWH</u>	<u>WEATHER NORM. KWH</u>	<u>CUSTOMER GROWTH KWH</u>	<u>TOTAL KWH</u>
RESIDENTIAL	(20,107,709)	(68,038,285)	3,100,208	(85,045,786)
SGS / PA	(6,720,102)	(15,346,994)	1,879,419	(20,187,677)
LGS	(12,643,073)	0	(13,356,398)	(25,999,471)
NS	25,885,526	0	0	25,885,526
6VP	2,543,630	0	0	2,543,630
ODL & ST LTS	(78,590)	0	161,864	83,274
TRAFFIC	<u>(4,069)</u>	<u>0</u>	<u>862</u>	<u>(3,207)</u>
TOTAL	(11,124,387)	(83,385,279)	(8,214,045)	(102,723,711)

(B) 2017 SYSTEM EXPANSION FACTOR IS 1.044976

**DOMINION ENERGY NORTH CAROLINA
CALCULATION OF SYSTEM AVERAGE FUEL FACTOR
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019**

EXPENSE: 12 MONTH NORMALIZED SYSTEM FUEL EXPENSE (A) \$1,824,035,658

SALES: 12 MONTHS SYSTEM KWH SALES ADJUSTED
FOR CHANGE IN USAGE, WEATHER AND CUSTOMER GROWTH (B) 85,266,747,633

FEE: NORTH CAROLINA REGULATORY FEE ADJUSTMENT FACTOR 1.0014

FACTOR = $\frac{\$1,824,035,658}{85,266,747,633} \times 1.0014$

FACTOR = \$0.02142 / KWH (C) (D)

NOTES

(A) FROM COMPANY EXHIBIT NO. BEP-1 SCHEDULE 4

(B) SYSTEM KWH AT SALES LEVEL [COMPANY EXHIBIT RC-1, SCHEDULE 3]	86,260,348,958
PLUS: SYSTEM KWH USAGE, WEATHER, GROWTH ADJUSTMENT	
[COMPANY EXHIBIT NO. GGB-1, SCHEDULE 1, LINE 8]	(993,601,325)
TOTAL SYSTEM SALES	85,266,747,633

(C) THE NORTH CAROLINA JURISDICTIONAL BASE FUEL FACTOR IS \$0.02073/KWH

(D) WITHOUT NC REGULATORY FEE \$0.02139 /KWH

**DOMINION ENERGY NORTH CAROLINA
CALCULATION OF FUEL COST RIDER A
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>CUSTOMER CLASS</u>	<u>KWH SALES</u> (A)	<u>SYSTEM FUEL FACTOR</u> (B)	<u>FUEL REVENUE UNIFORM RATE</u> (1) x (2)	<u>CLASS EXPANSION @ GENERATION LEVEL</u> (1) x (4)	<u>JURISDICTIONAL UNIFORM RATE @ GENERATION LEVEL</u> (3a) / (5a)	<u>JURISDICTIONAL VOLTAGE DIFFERENTIATED RATE @ SALES LEVEL</u> (4) x (6)	<u>VOLTAGE DIFFERENTIATED BASE FUEL RATE</u>	<u>FUEL COST RIDER A RATE</u> (7) - (8)
RESIDENTIAL	1,556,675,212	\$0.02142	\$33,343,983	1,05194911	\$0.02059	\$0.02166	\$0.02095	\$0.00071
SGS & PA	808,798,323	\$0.02142	\$17,324,460	1,05092449	\$0.02059	\$0.02164	\$0.02093	\$0.00071
LGS	625,380,529	\$0.02142	\$13,395,651	1,04292197	\$0.02059	\$0.02147	\$0.02079	\$0.00068
SCHEDULE NS	886,152,526	\$0.02142	\$18,981,387	1,01130009	\$0.02059	\$0.02082	\$0.02014	\$0.00068
GVP	272,930,630	\$0.02142	\$5,846,174	1,02584498	\$0.02059	\$0.02112	\$0.02043	\$0.00069
OUTDOOR LIGHTING	25,032,274	\$0.02142	\$536,191	1,05194911	\$0.02059	\$0.02166	\$0.02095	\$0.00071
TRAFFIC	502,793	\$0.02142	\$10,770	528,913	\$0.02059	\$0.02166	\$0.02095	\$0.00071
TOTAL	4,175,472,287		\$89,438,616	4,342,764,395	(5a)			

NOTES

(A)	TEST YR KWH	CHG IN USAGE, WEATHER CUST. GROWTH ADJ	TOTAL*
RESIDENTIAL	1,641,720,998	(85,045,786)	1,556,675,212
SGS & PA	828,986,000	(20,187,677)	808,798,323
LGS	651,380,000	(25,999,471)	625,380,529
SCHEDULE NS	860,267,000	25,885,526	886,152,526
GVP	270,387,000	2,543,630	272,930,630
STREET & OUTDOOR LIGHTING	24,949,000	83,274	25,032,274
TRAFFIC	506,000	(3,207)	502,793
TOTAL	4,278,195,998	(102,723,711)	4,175,472,287

* CLASS KWH AT SALES LEVEL PLUS CHANGE IN USAGE, WEATHER NORMALIZATION, AND CUSTOMER GROWTH [COMPANY EXHIBIT NO. GGB-1 SCHEDULE 1]

(B) IN \$/KWH

"FULL RECOVERY"
DOMINION ENERGY NORTH CAROLINA
CALCULATION OF EXPERIENCE MODIFICATION FACTOR - RIDER B
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

EXPENSE:	JULY 1, 2017 - JUNE 30, 2018 NC JURISDICTIONAL FUEL EXPENSE UNDER RECOVERY (A)	\$16,162,154
INTEREST:	18 MONTHS AT 10% ON OVER RECOVERY	<u>\$0</u>
NET:		\$16,162,154
SALES:	12 MONTHS JURISDICTIONAL KWH SALES ADJUSTED FOR CHANGE IN USAGE, WEATHER, AND CUSTOMER GROWTH (B)	4,175,472,287
FEE:	NORTH CAROLINA REGULATORY FEE ADJUSTMENT FACTOR	1.0014

$$\text{FACTOR} = \frac{\$16,162,154}{4,175,472,287} \times 1.0014$$

$$\text{FACTOR} = \$0.00388 \quad / \text{KWH (C)}$$

NOTES

(A) FROM COMPANY EXHIBIT NO. RC-1 SCHEDULE 2

(B) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2

(C) WITHOUT NC REGULATORY FEE \$0.00387 /KWH

"FULL RECOVERY"
DOMINION ENERGY NORTH CAROLINA
CALCULATION OF EXPERIENCE MODIFICATION FACTOR - RIDER B
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<u>CUSTOMER CLASS</u>	<u>KWH SALES</u> (A)	<u>NC JURISDICTIONAL EMF</u> (B)	<u>FUEL REVENUE UNIFORM EMF</u> (1) x (2)	<u>CLASS EXPANSION FACTOR</u>	<u>CLASS KWH @ GENERATION LEVEL</u> (1) x (4)	<u>UNIFORM EMF @ GENERATION LEVEL</u> (3a) / (5a)	<u>VOLTAGE DIFFERENTIATED EMF @ SALES LEVEL</u> (4) x (6)
RESIDENTIAL	1,556,675,212	\$0.00388	\$6,039,900	1.05194911	1,637,543,102	\$0.00373	\$0.00392
SGS & PA	808,798,323	\$0.00388	\$3,138,137	1.05092449	849,985,965	\$0.00373	\$0.00392
LGS	625,380,529	\$0.00388	\$2,426,476	1.04292197	652,223,092	\$0.00373	\$0.00389
SCHEDULE NS	886,152,526	\$0.00388	\$3,438,272	1.01130009	896,166,127	\$0.00373	\$0.00377
6VP	272,930,630	\$0.00388	\$1,058,971	1.02584498	279,984,518	\$0.00373	\$0.00383
OUTDOOR LIGHTING	25,032,274	\$0.00388	\$97,125	1.05194911	26,332,678	\$0.00373	\$0.00392
TRAFFIC	502,793	\$0.00388	\$1,951	1.05194911	528,913	\$0.00373	\$0.00392
TOTAL	4,175,472,287		\$16,200,832 (3a)		4,342,764,395 (5a)		

NOTES

(A) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2

(B) IN \$/KWH

"MITIGATION PROPOSAL"
DOMINION ENERGY NORTH CAROLINA
CALCULATION OF EXPERIENCE MODIFICATION FACTOR - RIDER B
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

EXPENSE:	JULY 1, 2017 - JUNE 30, 2018 NC JURISDICTIONAL FUEL EXPENSE UNDER RECOVERY (A)	\$16,162,154
INTEREST:	18 MONTHS AT 10% ON OVER RECOVERY	<u>\$0</u>
NET:		\$16,162,154
Adjustment	50 % JULY 1, 2017 - JUNE 30, 2018 NC JURISDICTIONAL FUEL EXPENSE UNDER RECOVERY	\$8,081,077
SALES:	12 MONTHS JURISDICTIONAL KWH SALES ADJUSTED FOR CHANGE IN USAGE, WEATHER, AND CUSTOMER GROWTH (B)	4,175,472,287
FEE:	NORTH CAROLINA REGULATORY FEE ADJUSTMENT FACTOR	1.0014

$$\text{FACTOR} = \frac{\$8,081,077}{4,175,472,287} \times 1.0014$$

$$\text{FACTOR} = \$0.00194 \quad / \text{KWH (C)}$$

NOTES

- (A) FROM COMPANY EXHIBIT NO. RC-1 SCHEDULE 2
- (B) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2
- (C) WITHOUT NC REGULATORY FEE \$0.00194 /KWH

"MITIGATION PROPOSAL"
DOMINION ENERGY NORTH CAROLINA
CALCULATION OF EXPERIENCE MODIFICATION FACTOR - RIDER B
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<u>CUSTOMER CLASS</u>	<u>KWH SALES</u> (A)	<u>NC JURISDICTIONAL EMF</u> (B)	<u>FUEL REVENUE UNIFORM EMF</u> (1) x (2)	<u>CLASS EXPANSION FACTOR</u>	<u>CLASS KWH @ GENERATION LEVEL</u> (1) x (4)	<u>UNIFORM EMF @ GENERATION LEVEL</u> (3a) / (5a)	<u>VOLTAGE DIFFERENTIATED EMF @ SALES LEVEL</u> (4) x (6)
RESIDENTIAL	1,556,675,212	\$0.00194	\$3,019,950	1.05194911	1,637,543,102	\$0.00187	\$0.00197
SGS & PA	808,798,323	\$0.00194	\$1,569,069	1.05092449	849,985,965	\$0.00187	\$0.00197
LGS	625,380,529	\$0.00194	\$1,213,238	1.04292197	652,223,092	\$0.00187	\$0.00195
SCHEDULE NS	886,152,526	\$0.00194	\$1,719,136	1.01130009	896,166,127	\$0.00187	\$0.00189
6VP	272,930,630	\$0.00194	\$529,485	1.02584498	279,984,518	\$0.00187	\$0.00192
OUTDOOR LIGHTING	25,032,274	\$0.00194	\$48,563	1.05194911	26,332,678	\$0.00187	\$0.00197
TRAFFIC	502,793	\$0.00194	\$975	1.05194911	528,913	\$0.00187	\$0.00197
TOTAL	4,175,472,287		\$8,100,416 (3a)		4,342,764,395 (5a)		

NOTES

(A) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2

(B) IN \$/KWH

"FULL RECOVERY"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL COST LEVEL - PRESENT AND PROPOSED
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)
<u>NC JURISDICTION</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02073	\$0.00004	(\$0.00139)	\$0.00010	\$0.01948
PROPOSED	<u>\$0.02073</u>	<u>\$0.00069</u>	<u>\$0.00388</u>	<u>\$0.00000</u>	<u>\$0.02530</u>
CHANGE	\$0.00000	\$0.00065	\$0.00527	(\$0.00010)	\$0.00582
<u>RESIDENTIAL</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00392</u>	<u>\$0.00000</u>	<u>\$0.02558</u>
CHANGE	\$0.00000	\$0.00065	\$0.00533	(\$0.00011)	\$0.00587
<u>SGS & PA</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02093	\$0.00006	(\$0.00141)	\$0.00011	\$0.01969
PROPOSED	<u>\$0.02093</u>	<u>\$0.00071</u>	<u>\$0.00392</u>	<u>\$0.00000</u>	<u>\$0.02556</u>
CHANGE	\$0.00000	\$0.00065	\$0.00533	(\$0.00011)	\$0.00587
<u>LGS</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02079	\$0.00003	(\$0.00140)	\$0.00010	\$0.01952
PROPOSED	<u>\$0.02079</u>	<u>\$0.00068</u>	<u>\$0.00389</u>	<u>\$0.00000</u>	<u>\$0.02536</u>
CHANGE	\$0.00000	\$0.00065	\$0.00529	(\$0.00010)	\$0.00584

NOTES

() DENOTES NEGATIVE VALUE

"FULL RECOVERY"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL COST LEVEL - PRESENT AND PROPOSED
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)
<u>SCHEDULE NS</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02014	\$0.00006	(\$0.00136)	\$0.00010	\$0.01894
PROPOSED	<u>\$0.02014</u>	<u>\$0.00068</u>	<u>\$0.00377</u>	<u>\$0.00000</u>	<u>\$0.02459</u>
CHANGE	\$0.00000	\$0.00062	\$0.00513	(\$0.00010)	\$0.00565
<u>6VP</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02043	\$0.00006	(\$0.00137)	\$0.00010	\$0.01922
PROPOSED	<u>\$0.02043</u>	<u>\$0.00069</u>	<u>\$0.00383</u>	<u>\$0.00000</u>	<u>\$0.02495</u>
CHANGE	\$0.00000	\$0.00063	\$0.00520	(\$0.00010)	\$0.00573
<u>OUTDOOR LIGHTING</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00392</u>	<u>\$0.00000</u>	<u>\$0.02558</u>
CHANGE	\$0.00000	\$0.00065	\$0.00533	(\$0.00011)	\$0.00587
<u>TRAFFIC</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00392</u>	<u>\$0.00000</u>	<u>\$0.02558</u>
CHANGE	\$0.00000	\$0.00065	\$0.00533	(\$0.00011)	\$0.00587

NOTES

() DENOTES NEGATIVE VALUE

"MITIGATION PLAN"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL COST LEVEL - PRESENT AND PROPOSED
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)
<u>NC JURISDICTION</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02073	\$0.00004	(\$0.00139)	\$0.00010	\$0.01948
PROPOSED	<u>\$0.02073</u>	<u>\$0.00069</u>	<u>\$0.00194</u>	<u>\$0.00000</u>	<u>\$0.02336</u>
CHANGE	\$0.00000	\$0.00065	\$0.00333	(\$0.00010)	\$0.00388
<u>RESIDENTIAL</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00197</u>	<u>\$0.00000</u>	<u>\$0.02363</u>
CHANGE	\$0.00000	\$0.00065	\$0.00338	(\$0.00011)	\$0.00392
<u>SGS & PA</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02093	\$0.00006	(\$0.00141)	\$0.00011	\$0.01969
PROPOSED	<u>\$0.02093</u>	<u>\$0.00071</u>	<u>\$0.00197</u>	<u>\$0.00000</u>	<u>\$0.02361</u>
CHANGE	\$0.00000	\$0.00065	\$0.00338	(\$0.00011)	\$0.00392
<u>LGS</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02079	\$0.00003	(\$0.00140)	\$0.00010	\$0.01952
PROPOSED	<u>\$0.02079</u>	<u>\$0.00068</u>	<u>\$0.00195</u>	<u>\$0.00000</u>	<u>\$0.02342</u>
CHANGE	\$0.00000	\$0.00065	\$0.00335	(\$0.00010)	\$0.00390

NOTES

() DENOTES NEGATIVE VALUE

"MITIGATION PLAN"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL COST LEVEL - PRESENT AND PROPOSED
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)
<u>SCHEDULE NS</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02014	\$0.00006	(\$0.00136)	\$0.00010	\$0.01894
PROPOSED	<u>\$0.02014</u>	<u>\$0.00068</u>	<u>\$0.00189</u>	<u>\$0.00000</u>	<u>\$0.02271</u>
CHANGE	\$0.00000	\$0.00062	\$0.00325	(\$0.00010)	\$0.00377
<u>6VP</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02043	\$0.00006	(\$0.00137)	\$0.00010	\$0.01922
PROPOSED	<u>\$0.02043</u>	<u>\$0.00069</u>	<u>\$0.00192</u>	<u>\$0.00000</u>	<u>\$0.02304</u>
CHANGE	\$0.00000	\$0.00063	\$0.00329	(\$0.00010)	\$0.00382
<u>OUTDOOR LIGHTING</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00197</u>	<u>\$0.00000</u>	<u>\$0.02363</u>
CHANGE	\$0.00000	\$0.00065	\$0.00338	(\$0.00011)	\$0.00392
<u>TRAFFIC</u>	<u>BASE FUEL COMPONENT \$/KWH</u>	<u>RIDER A FUEL CHARGE \$/KWH</u>	<u>RIDER B EMF \$/KWH</u>	<u>RIDER B2 EMF \$/KWH</u>	<u>TOTAL FUEL RATE \$/KWH</u>
PRESENT	\$0.02095	\$0.00006	(\$0.00141)	\$0.00011	\$0.01971
PROPOSED	<u>\$0.02095</u>	<u>\$0.00071</u>	<u>\$0.00197</u>	<u>\$0.00000</u>	<u>\$0.02363</u>
CHANGE	\$0.00000	\$0.00065	\$0.00338	(\$0.00011)	\$0.00392

NOTES

() DENOTES NEGATIVE VALUE

"FULL RECOVERY"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL RECOVERY
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)	(6)
<u>CUSTOMER CLASS</u>	<u>SALES(KWH)</u>	<u>BASE FUEL COMPONENT</u> (A)	<u>FUEL COST RIDER A</u> (B)	<u>EMF RIDER B</u> (C)	<u>TOTAL</u> (2) + (3) + (4)	<u>TOTAL REVENUE</u> (1) x (6)
RESIDENTIAL	1,556,675,212	\$0.02095	\$0.00071	\$0.00392	\$0.02558	\$39,819,752
SGS & PA	808,798,323	\$0.02093	\$0.00071	\$0.00392	\$0.02556	\$20,672,885
LGS	625,380,529	\$0.02079	\$0.00068	\$0.00389	\$0.02536	\$15,859,650
SCHEDULE NS	886,152,526	\$0.02014	\$0.00068	\$0.00377	\$0.02459	\$21,790,491
6VP	272,930,630	\$0.02043	\$0.00069	\$0.00383	\$0.02495	\$6,809,619
OUTDOOR LIGHTING	25,032,274	\$0.02095	\$0.00071	\$0.00392	\$0.02558	\$640,326
TRAFFIC	502,793	\$0.02095	\$0.00071	\$0.00392	\$0.02558	\$12,861
TOTAL	4,175,472,287					\$105,605,584

	<u>SALES(KWH)</u>	<u>BASE FUEL COMPONENT</u>	<u>FUEL COST RIDER A</u>	<u>EMF RIDER B</u>	<u>TOTAL</u> (2) + (3) + (4) + (5)	<u>TOTAL REVENUE</u> (1) x (6)
NORTH CAROLINA JURISDICTION	4,175,472,287	\$0.02073	\$0.00069	\$0.00388	\$0.02530	\$105,639,449

	<u>SALES(KWH)</u>	<u>PRESENT TOTAL RATE</u>	<u>PROPOSED TOTAL RATE</u>	<u>TOTAL CHANGE</u> (3) - (2)	<u>TOTAL REVENUE CHANGE</u> (4) x (1)
NORTH CAROLINA JURISDICTION REVENUE CHANGE	4,175,472,287	\$0.01948	\$0.02530	\$0.00582	\$24,301,249

NOTES

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- (A) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2
- (B) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2
- (C) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 3, PAGE 2
- (D) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 4, PAGE 2

"MITIGATION PLAN"
DOMINION ENERGY NORTH CAROLINA
TOTAL FUEL RECOVERY
TWELVE MONTHS ENDED JUNE 30, 2018
TO BE EFFECTIVE FEBRUARY 1, 2019

	(1)	(2)	(3)	(4)	(5)	(6)
<u>CUSTOMER CLASS</u>	<u>SALES(KWH)</u>	<u>BASE FUEL COMPONENT</u> (A)	<u>FUEL COST RIDER A</u> (B)	<u>EMF RIDER B</u> (C)	<u>TOTAL</u> (2) + (3) + (4)	<u>TOTAL REVENUE</u> (1) x (6)
RESIDENTIAL	1,556,675,212	\$0.02095	\$0.00071	\$0.00197	\$0.02363	\$36,784,235
SGS & PA	808,798,323	\$0.02093	\$0.00071	\$0.00197	\$0.02361	\$19,095,728
LGS	625,380,529	\$0.02079	\$0.00068	\$0.00195	\$0.02342	\$14,646,412
SCHEDULE NS	886,152,526	\$0.02014	\$0.00068	\$0.00189	\$0.02271	\$20,124,524
6VP	272,930,630	\$0.02043	\$0.00069	\$0.00192	\$0.02304	\$6,288,322
OUTDOOR LIGHTING	25,032,274	\$0.02095	\$0.00071	\$0.00197	\$0.02363	\$591,513
TRAFFIC	502,793	\$0.02095	\$0.00071	\$0.00197	\$0.02363	\$11,881
TOTAL	4,175,472,287					\$97,542,615

	<u>SALES(KWH)</u>	<u>BASE FUEL COMPONENT</u>	<u>FUEL COST RIDER A</u>	<u>EMF RIDER B</u>	<u>TOTAL</u> (2) + (3) + (4) + (5)	<u>TOTAL REVENUE</u> (1) x (6)
NORTH CAROLINA JURISDICTION	4,175,472,287	\$0.02073	\$0.00069	\$0.00194	\$0.02336	\$97,539,033

	<u>SALES(KWH)</u>	<u>PRESENT TOTAL RATE</u>	<u>PROPOSED TOTAL RATE</u>	<u>TOTAL CHANGE</u> (3) - (2)	<u>TOTAL REVENUE CHANGE</u> (4) x (1)
NORTH CAROLINA JURISDICTION REVENUE CHANGE	4,175,472,287	\$0.01948	\$0.02336	\$0.00388	\$16,200,832

NOTES

(A) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2

(B) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 2, PAGE 2

(C) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 3, PAGE 2

(D) FROM COMPANY EXHIBIT NO. GGB-1 SCHEDULE 4, PAGE 2

RIDER AFUEL COST RIDER

The applicable cents per kilowatt-hour charge¹ shall be added to the base fuel cost contained in the energy charges within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.000¢/kWh
Schedule 1DF	Residential	0.000¢/kWh
Schedule 1P	Residential	0.000¢/kWh
Schedule 1T	Residential	0.000¢/kWh
Schedule 1W	Residential	0.000¢/kWh
Schedule 5	SGS & Public Authority	0.000¢/kWh
Schedule 5C	SGS & Public Authority	0.000¢/kWh
Schedule 5P	SGS & Public Authority	0.000¢/kWh
Schedule 7	SGS & Public Authority	0.000¢/kWh
Schedule 30	SGS & Public Authority	0.000¢/kWh
Schedule 42	SGS & Public Authority	0.000¢/kWh
Schedule 6C	Large General Service	0.000¢/kWh
Schedule 6P	Large General Service	0.000¢/kWh
Schedule 6L	Large General Service	0.000¢/kWh
Schedule 10	Large General Service	0.000¢/kWh
Schedule 26	Outdoor Lighting	0.000¢/kWh
Schedule 30T	Traffic Control	0.000¢/kWh
Schedule 6VP	6VP	0.000¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.000¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider A is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.

RIDER BEXPERIENCE MODIFICATION FACTOR (EMF)

The applicable cents per kilowatt-hour charge¹ shall be added to the energy charges contained within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.000¢/kWh
Schedule 1DF	Residential	0.000¢/kWh
Schedule 1P	Residential	0.000¢/kWh
Schedule 1T	Residential	0.000¢/kWh
Schedule 1W	Residential	0.000¢/kWh
Schedule 5	SGS & Public Authority	0.000¢/kWh
Schedule 5C	SGS & Public Authority	0.000¢/kWh
Schedule 5P	SGS & Public Authority	0.000¢/kWh
Schedule 7	SGS & Public Authority	0.000¢/kWh
Schedule 30	SGS & Public Authority	0.000¢/kWh
Schedule 42	SGS & Public Authority	0.000¢/kWh
Schedule 6C	Large General Service	0.000¢/kWh
Schedule 6P	Large General Service	0.000¢/kWh
Schedule 6L	Large General Service	0.000¢/kWh
Schedule 10	Large General Service	0.000¢/kWh
Schedule 26	Outdoor Lighting	0.000¢/kWh
Schedule 30T	Traffic Control	0.000¢/kWh
Schedule 6VP	6VP	0.000¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.000¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider B is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.

RIDER AFUEL COST RIDER

The applicable cents per kilowatt-hour charge¹ shall be added to the base fuel cost contained in the energy charges within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.071¢/kWh
Schedule 1DF	Residential	0.071¢/kWh
Schedule 1P	Residential	0.071¢/kWh
Schedule 1T	Residential	0.071¢/kWh
Schedule 1W	Residential	0.071¢/kWh
Schedule 5	SGS & Public Authority	0.071¢/kWh
Schedule 5C	SGS & Public Authority	0.071¢/kWh
Schedule 5P	SGS & Public Authority	0.071¢/kWh
Schedule 7	SGS & Public Authority	0.071¢/kWh
Schedule 30	SGS & Public Authority	0.071¢/kWh
Schedule 42	SGS & Public Authority	0.071¢/kWh
Schedule 6C	Large General Service	0.068¢/kWh
Schedule 6P	Large General Service	0.068¢/kWh
Schedule 6L	Large General Service	0.068¢/kWh
Schedule 10	Large General Service	0.068¢/kWh
Schedule 26	Outdoor Lighting	0.071¢/kWh
Schedule 30T	Traffic Control	0.071¢/kWh
Schedule 6VP	6VP	0.069¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.068¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider A is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.

RIDER BEXPERIENCE MODIFICATION FACTOR (EMF)

The applicable cents per kilowatt-hour charge¹ shall be added to the energy charges contained within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.392¢/kWh
Schedule 1DF	Residential	0.392¢/kWh
Schedule 1P	Residential	0.392¢/kWh
Schedule 1T	Residential	0.392¢/kWh
Schedule 1W	Residential	0.392¢/kWh
Schedule 5	SGS & Public Authority	0.392¢/kWh
Schedule 5C	SGS & Public Authority	0.392¢/kWh
Schedule 5P	SGS & Public Authority	0.392¢/kWh
Schedule 7	SGS & Public Authority	0.392¢/kWh
Schedule 30	SGS & Public Authority	0.392¢/kWh
Schedule 42	SGS & Public Authority	0.392¢/kWh
Schedule 6C	Large General Service	0.389¢/kWh
Schedule 6P	Large General Service	0.389¢/kWh
Schedule 6L	Large General Service	0.389¢/kWh
Schedule 10	Large General Service	0.389¢/kWh
Schedule 26	Outdoor Lighting	0.392¢/kWh
Schedule 30T	Traffic Control	0.392¢/kWh
Schedule 6VP	6VP	0.383¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.377¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider B is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.

RIDER AFUEL COST RIDER

The applicable cents per kilowatt-hour charge¹ shall be added to the base fuel cost contained in the energy charges within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.071¢/kWh
Schedule 1DF	Residential	0.071¢/kWh
Schedule 1P	Residential	0.071¢/kWh
Schedule 1T	Residential	0.071¢/kWh
Schedule 1W	Residential	0.071¢/kWh
Schedule 5	SGS & Public Authority	0.071¢/kWh
Schedule 5C	SGS & Public Authority	0.071¢/kWh
Schedule 5P	SGS & Public Authority	0.071¢/kWh
Schedule 7	SGS & Public Authority	0.071¢/kWh
Schedule 30	SGS & Public Authority	0.071¢/kWh
Schedule 42	SGS & Public Authority	0.071¢/kWh
Schedule 6C	Large General Service	0.068¢/kWh
Schedule 6P	Large General Service	0.068¢/kWh
Schedule 6L	Large General Service	0.068¢/kWh
Schedule 10	Large General Service	0.068¢/kWh
Schedule 26	Outdoor Lighting	0.071¢/kWh
Schedule 30T	Traffic Control	0.071¢/kWh
Schedule 6VP	6VP	0.069¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.068¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider A is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.

RIDER BEXPERIENCE MODIFICATION FACTOR (EMF)

The applicable cents per kilowatt-hour charge¹ shall be added to the energy charges contained within each of the following Dominion Energy North Carolina filed Rate Schedules.

Rate Schedule	Customer Class	Cents per kWh Charge
Schedule 1	Residential	0.197¢/kWh
Schedule 1DF	Residential	0.197¢/kWh
Schedule 1P	Residential	0.197¢/kWh
Schedule 1T	Residential	0.197¢/kWh
Schedule 1W	Residential	0.197¢/kWh
Schedule 5	SGS & Public Authority	0.197¢/kWh
Schedule 5C	SGS & Public Authority	0.197¢/kWh
Schedule 5P	SGS & Public Authority	0.197¢/kWh
Schedule 7	SGS & Public Authority	0.197¢/kWh
Schedule 30	SGS & Public Authority	0.197¢/kWh
Schedule 42	SGS & Public Authority	0.197¢/kWh
Schedule 6C	Large General Service	0.195¢/kWh
Schedule 6P	Large General Service	0.195¢/kWh
Schedule 6L	Large General Service	0.195¢/kWh
Schedule 10	Large General Service	0.195¢/kWh
Schedule 26	Outdoor Lighting	0.197¢/kWh
Schedule 30T	Traffic Control	0.197¢/kWh
Schedule 6VP	6VP	0.192¢/kWh
Schedule NS Tier 2-Type A and Tier 3 Energy Charges	Schedule NS	0.189¢/kWh
Schedule NS Tier 1 Type A & B, and Tier 2-Type B Energy Charges	Schedule NS	Rider B is Included in the Energy Charges

¹This charge is not a part of the base fuel cost included in the energy prices stated in the Rate Schedules and should, therefore, be applied in addition to the prices stated in the Rate Schedules.