

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

**Reports to the Governor of the Commonwealth of Virginia,
the Chairman of the Senate Committee on Commerce and Labor,
the Chairman of the House Committee on Commerce and Labor,
and the Commission on Electric Utility Regulation
of the Virginia General Assembly**



COMBINED REPORTS

INCLUDING:

**Status Report: Implementation of the Virginia Electric Utility
Regulation Act
Pursuant to § 56-596 B of the Code of Virginia**

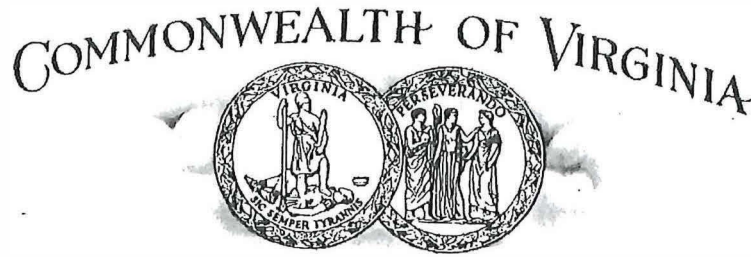
**Report on Distributed Solar Generation
Pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly
and Chapter 382 of the 2013 Virginia Acts of Assembly**

**Report Assessing the Updated Integrated Resource Plans of
Investor-owned Incumbent Electric Utilities
Pursuant to Chapter 6 of the 2015 Virginia Acts of Assembly**

August 29, 2018

MARK C. CHRISTIE
COMMISSIONER

JUDITH WILLIAMS JAGDMANN
COMMISSIONER



JOEL H. PECK
CLERK OF THE COMMISSION
P.O. BOX 1197
RICHMOND, VIRGINIA 23218-1197

STATE CORPORATION COMMISSION

August 29, 2018

TO: The Honorable Ralph S. Northam
Governor, Commonwealth of Virginia

The Honorable Frank W. Wagner
Chairman, Senate Committee on Commerce and Labor

The Honorable Terry G. Kilgore
Chairman, House Committee on Commerce and Labor

The Honorable Thomas K. Norment, Jr.
Member, Senate of Virginia
Chairman, Commission on Electric Utility Regulation

Members of the Commission on Electric Utility Regulation

Ladies and Gentlemen:

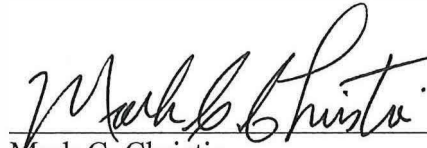
Please find enclosed the Combined Reports of the State Corporation Commission, including the following:

- The Report on the Status of the Implementation of the Virginia Electric Utility Regulation Act, Chapter 23 of Title 56 of the Code of Virginia ("Code"), as required by § 56-596 B of the Code.
- The Report on Distributed Solar Generation as directed by Chapter 771 of the 2011 Virginia Acts of Assembly and Chapter 382 of the 2013 Virginia Acts of Assembly, and
- The Report Assessing the Updated Integrated Resource Plans of Investor-owned Incumbent Electric Utilities pursuant to Chapter 6 of the 2015 Virginia Acts of Assembly.

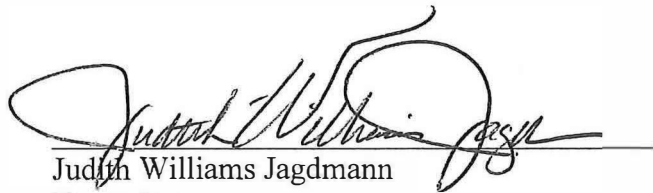
The Honorable Ralph S. Northam
The Honorable Frank W. Wagner
The Honorable Terry G. Kilgore
The Honorable Thomas K. Norment, Jr.
Members of the Commission on Electric Utility Regulation
August 29, 2018
Page 2

Please let us know if we may be of further assistance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark C. Christie", written over a horizontal line.

Mark C. Christie
Chairman

A handwritten signature in black ink, appearing to read "Judith Williams Jagdmann", written over a horizontal line.

Judith Williams Jagdmann
Commissioner

TABLE OF CONTENTS

EXECUTIVE SUMMARY iii

I. INTRODUCTION 1

Composition of the Electric Industry in Virginia 1

Background of Electric Utility Rate Regulation in Virginia 2

II. FINANCIAL REVIEWS AND RELATED CASES 4

Recent History of Bill Increases 4

2017 Base Rate Financial Results 6

Tax Cuts and Jobs Act of 2017 10

III. IRPs 11

IV. GENERATION 14

DEV Energy Mix 14

APCo Energy Mix 15

V. TRANSMISSION 16

VI. DISTRIBUTION 18

VII. CONSERVATION, ENERGY EFFICIENCY, AND DEMAND RESPONSE 20

VIII. RENEWABLE ENERGY 21

Retail Access to Competitive Services 21

Aggregate Demand 23

Voluntary Renewable Portfolio Standard Programs and RACs 24

APCo Activity 24

DEV Activity 25

Distributed Solar Generation 25

DEV Solar Partnership Program 26

DEV Solar Purchase Program 27

Third-party Renewable Energy PPA Pilot Programs 28

Other Recent Renewable Energy Activity of Note 29

Renewable Energy Activity Under the GTSA 30

IX. CONSUMER EDUCATION 32

X. REGIONAL TRANSMISSION ENTITY PARTICIPATION 33

PJM Background 34

PJM Capacity Market 34

PJM Energy Market 35

Significant RTE-Related Dockets at FERC 35

FERC Approval of PJM Pricing for Transmission 36

PJM Capacity Pricing for Out-of-Market Payments 36

XI. CLOSING 37

Appendix 1: Residential Consumer Electric Rates in Virginia
Appendix 2: Change in Average Rates per Customer Class

GLOSSARY OF TERMS

AC	Alternating current
APCo	Appalachian Power Company
Chapter 382	Chapter 382 of the 2013 Virginia Acts of Assembly
Chapter 771	Chapter 771 of the 2011 Virginia Acts of Assembly
Chapter 803	Chapter 803 of the 2017 Virginia Acts of Assembly
Code	Code of Virginia
Commission	Virginia State Corporation Commission
CPCN	Certificate of Public Convenience and Necessity
CPP	Final Rule under § 111(d) of the Federal Clean Air Act or Clean Power Plan
CSP	Competitive Service Provider
DC	Direct Current
DEV	Virginia Electric and Power Company d/b/a Dominion Energy Virginia ¹
DG	Distributed Generation
DMME	Department of Mines, Minerals and Energy
DSM	Demand Side Management
Dominion Energy Virginia	Virginia Electric and Power Company d/b/a Dominion Energy Virginia
FERC	Federal Energy Regulatory Commission
General Assembly	Virginia General Assembly
GTSA	Grid Transformation and Security Act, Chapter 296 of the 2018 Acts of Assembly
IOU	Investor-owned Electric Public Utility
IRP	Integrated Resource Plan
KU/ODP	Kentucky Utilities Company d/b/a Old Dominion Power Company
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour
LMP	Locational Marginal Prices
MW	Megawatt
ODEC	Old Dominion Electric Cooperative
Partnership Program	Solar Partnership Program
PJM	PJM Interconnection, LLC
PPA	Power Purchase Agreement
Purchase Program	Solar Purchase Program
RAC	Rate Adjustment Clause
RECs	Renewable Energy Certificates
Regulation Act	Virginia Electric Utility Regulation Act, codified at Code §§ 56-576 through 56-596
Restructuring Act	Virginia Electric Utility Restructuring Act, Chapter 411 of the 1999 Virginia Acts of Assembly
ROE	Return on Equity
RPM	Reliability Pricing Model
RPS	Renewable Energy Portfolio Standard
RTE	Regional Transmission Entity
Staff	State Corporation Commission Staff
TCJA	Federal Tax Cuts and Jobs Act
Third-Party PPA Pilot Program	Commission Purchase Power Agreement Pilot Program
VES	Virginia Energy Sense, a State Corporation Commission consumer education program

¹ Effective May 12, 2017, Virginia Electric and Power Company changed its “doing business as” name from “Dominion Virginia Power” to “Dominion Energy Virginia.”

EXECUTIVE SUMMARY

This document contains the combined reports of the Virginia State Corporation

Commission (“Commission”) pursuant to the following legislative directives:

- Section 56-596 B of the Code of Virginia (“Code”), which directs the Commission to provide an update by September 1 of each year on the status of implementation of the Virginia Electric Utility Regulation Act, Code §§ 56-576 through -596 (“Regulation Act”);
- 2011 Virginia Acts of Assembly Chapter 771, which directs the Commission to consider utilities' petitions to construct and operate distributed solar generation facilities and to offer tariffs to facilitate customer-owned distributed solar generation, and to report on applicable demonstration projects (pages 25-29 herein);
- 2013 Virginia Acts of Assembly Chapter 382 and 2017 Virginia Acts of Assembly Chapter 803, pursuant to which the Commission conducts renewable energy pilot programs for third-party power purchase agreements in the certificated territories of Virginia Electric and Power Company (“DEV”) and Appalachian Power Company (“APCo”) (pages 25-29 herein); and
- 2015 Virginia Acts of Assembly Chapter 6, which requires the Commission to report on its assessments of investor-owned electric utilities' integrated resource plans (“IRPs”) (pages 11-13 herein).

Key highlights from the combined reports include:

- DEV's residential bill, based on a customer using 1,000 kilowatt-hours (“kWh”) of electricity per month, has risen from \$90.59 in 2007 to \$115 in 2018, with the largest part of the bill increase (\$15.08) attributable to rate adjustment clauses (“RACs”). APCo's residential bill, based on a customer using 1,000 kWh of electricity per month, has risen from \$66.61 in 2007 to \$115.62 in 2018, with the largest part of the bill increase (\$25.75) attributable to base rate increases.
- On June 1 and July 3, 2018, DEV provided analyses of its combined generation and distribution base rate financial results for calendar year 2017 reflecting an earned return on common equity for calendar year 2017 of 13.84%. The earned return on equity (“ROE”) of 13.84% exceeds the 9.20% ROE approved by the Commission for DEV's RACs during 2017 by 4.64 percentage points, or approximately \$365.6 million in revenues. The earned ROE of 13.84% also exceeds the 10.00% ROE approved by the Commission in DEV's last biennial review in 2013 by 3.84 percentage points, or approximately \$302.6 million in revenues.
- On June 1, 2018, APCo provided an analysis of its base rate financial results for calendar year 2017 reflecting an earned return on common equity for calendar year 2017 of 11.31%. The earned ROE of 11.31% exceeds the 9.40% ROE most recently

approved by the Commission for APCo's RACs by 1.91 percentage points, or approximately \$31.98 million of revenues. The earned ROE of 11.31% also exceeds the 9.70% ROE approved by the Commission in APCo's most recent biennial review in 2014 by 1.61 percentage points, or approximately \$26.61 million of revenues.

- In January 2018, the Commission issued an Order protecting the interests of utility customers until federal income tax savings resulting from the Tax Cuts and Jobs Act could be reflected in customers' rates. Examples of these savings, that have been fully recognized, are rate reductions of at least \$112 million and \$29.8 million in DEV's and APCo's transmission RACs, respectively. Further reductions to generation RACs will be fully recognized in pending and upcoming case filings.
- From 2007 to 2017, DEV's energy mix has experienced significant changes. In particular, coal contributions have decreased from 36% in 2007 to 19% in 2017; natural gas contributions have increased from 6% in 2007 to 31% in 2017. For APCo, over the same period, coal contributions have decreased from 75% in 2007 to 69% in 2017; natural gas contributions have increased from 0% in 2007 to 14% in 2017.
- On a total rate basis, APCo's rates have become less competitive in comparison with peer electric utility providers. On a scale from 1 to 18 among peer group utilities, APCo's rates have dropped from a 2006 ranking of 1 (most competitive) to a rank of 10 in 2017. DEV's competitiveness ranking has remained stable, earning a rank of 7 in both 2006 and 2017. Further details may be found in Appendix 2.

In 2018, the Virginia General Assembly enacted major changes to the Regulation Act with the passage of the Grid Transformation and Security Act ("GTSA" or "SB 966"), Chapter 296 of the 2018 Virginia Acts of Assembly. Where material, these changes are addressed herein.

I.
INTRODUCTION

Composition of the Electric Industry in Virginia

The responsibilities of the State Corporation Commission (“Commission”) include the regulation of a diverse electric industry pursuant to the Virginia Constitution and laws enacted by the Virginia General Assembly (“General Assembly”). Virginia's electric industry, for which the Commission regulates the rates and services to customers, consists of three investor-owned utilities (“IOUs”) and 13 member-owned electric cooperatives as identified below.²

Virginia Electric Utilities

	<u>Virginia Customers³</u>	<u>% of Virginia Customers</u>
Investor-Owned:		
Dominion Energy Virginia	2,574,679	67.53
Appalachian Power Company	536,588	14.08
Kentucky Utilities Company	28,122	0.74
Electric Cooperatives:		
Northern Virginia	166,296	4.36
Rappahannock	160,573	4.21
Shenandoah Valley	93,405	2.45
Southside	56,072	1.47
Central Virginia	36,702	0.96
A&N	35,401	0.93
Powell Valley	31,651	0.83
Mecklenburg	31,322	0.82
Northern Neck	18,931	0.50
BARC	12,723	0.33
Prince George	11,638	0.31
Community	11,055	0.29
Craig-Botetourt	<u>7,145</u>	<u>0.19</u>
Totals	3,812,303	100.00

² Non-jurisdictional utilities, such as municipal electric utilities, also provide service in Virginia.

³ Total Virginia customer numbers were reported in FERC Form 1 and Annual Operating Reports.

Nine of the electric cooperatives listed above are distribution cooperatives that are members of the electric generation and transmission cooperative operating as Old Dominion Electric Cooperative (“ODEC”).

Dominion Energy Virginia (“DEV”), Appalachian Power Company (“APCo”), and ODEC are members of PJM Interconnection, LLC (“PJM”), a regional transmission entity (“RTE”) that coordinates the movement of wholesale electricity across all or parts of the District of Columbia and 13 states: Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

Background of Electric Utility Rate Regulation in Virginia

The laws governing electric rate regulation have been significantly amended in recent years. Historically, the Commission has set utilities' rates in accordance with Chapter 10 of Title 56 (§ 56-232 *et seq.*) of the Code of Virginia (“Code”). In 1999, the General Assembly passed the Virginia Electric Utility Restructuring Act (“Restructuring Act”)⁴ which, among other things, established a schedule for a transition to retail electric competition. In 2007, the General Assembly enacted broad changes to the Restructuring Act. These changes became known as the Virginia Electric Utility Regulation Act (“Regulation Act”).⁵ Among other things, this law set up a process by which the rates of DEV and APCo would be subject to biennial reviews and provided for recovery from customers of certain costs plus an applicable profit margin, or return on equity (“ROE”), through a new bill component referred to as rate adjustment clauses (“RAC”).⁶ Consequently, electric companies in Virginia generally recover the cost of providing service, plus a reasonable return, through three bill components: base rates, fuel charges and

⁴ 1999 Va. Acts ch. 411.

⁵ 2007 Va. Acts ch. 933.

⁶ Some RACs also include an “adder” of 100-200 basis points (1% - 2%) to the applicable ROE. *See, e.g.*, Code § 56-585.1 A 6. Note that throughout this report, the term “RAC” is synonymous with the term “rider.”

RACs. Before changes to the law in 2018, RACs have been available to recover costs related to: transmission service, demand-side management (“DSM”) programs such as peak-shaving and energy efficiency programs, environmental compliance costs, incremental costs of participating in Virginia's Renewable Energy Portfolio Standard (“RPS”) program, vegetation management costs, costs for new generation facilities, and costs related to undergrounding of electric distribution lines.

In 2015, the General Assembly passed amendments to the Regulation Act. These amendments, among other things, created a Transitional Rate Period during which base rate reviews, known as biennial reviews, were suspended for APCo (until 2020) and DEV (until 2022).⁷ During this Transitional Rate Period, the Commission was required to periodically hold company-specific proceedings to determine the fair ROE to be applied to each company's RACs approved pursuant to Code §§ 56-585.1 A 5 and A 6.

In 2018, the General Assembly passed the Grid Transformation and Security Act (“GTSA” or “SB 966”).⁸ The GTSA, among other things, provided for triennial reviews of base rate earnings for APCo beginning in 2020 and for DEV beginning in 2021. This law also created a new RAC for distribution grid transformation projects and changed the filing of IRPs from annually to every three years to coincide with the year prior to the filing of a triennial review.

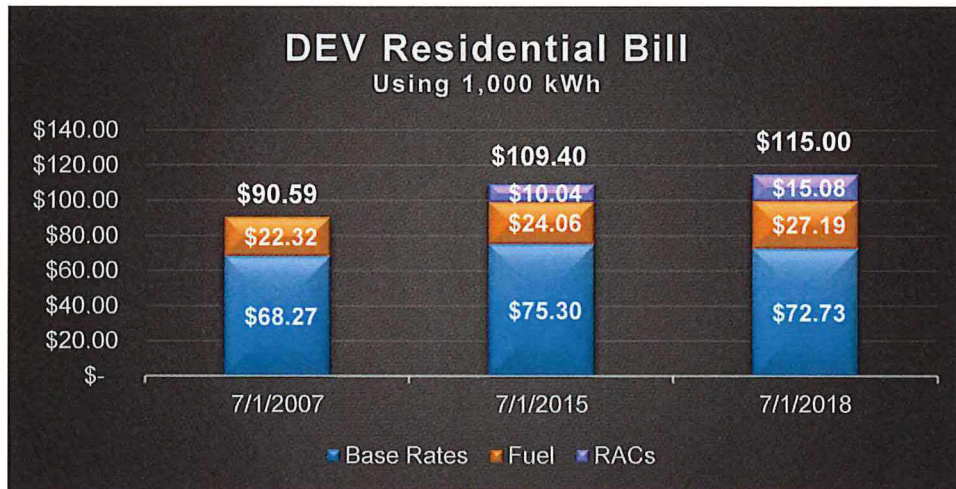
⁷ 2015 Va. Acts ch. 6.

⁸ 2018 Va. Acts ch. 296.

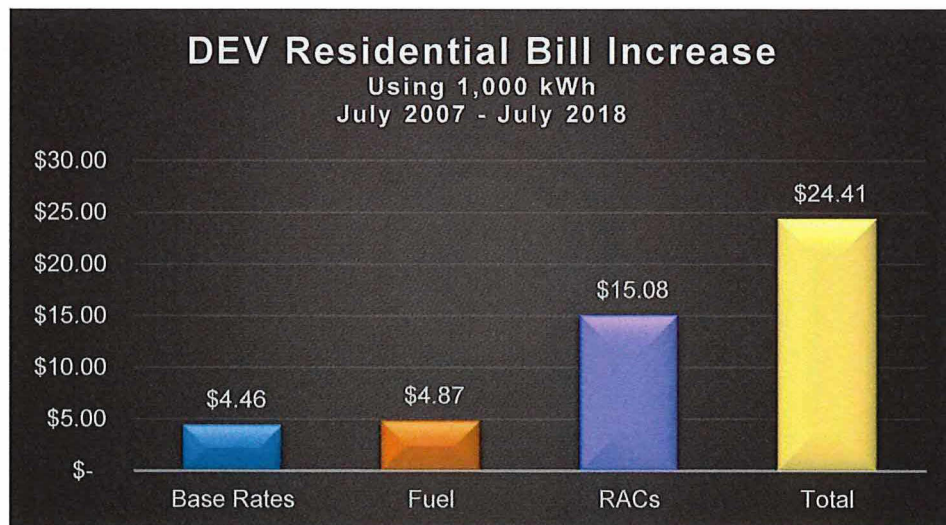
II.
FINANCIAL REVIEWS AND RELATED CASES

Recent History of Bill Increases

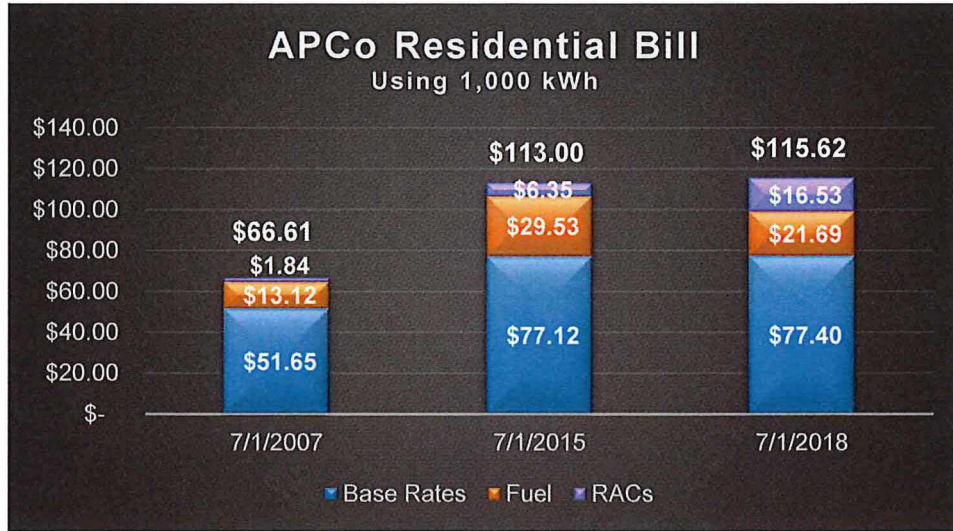
Below is a chart that reflects the magnitude of the three components of DEV’s customer bills as of the effective dates of the Regulation Act (July 1, 2007), the Transitional Rate Period (July 1, 2015), and the GTSA (July 1, 2018).



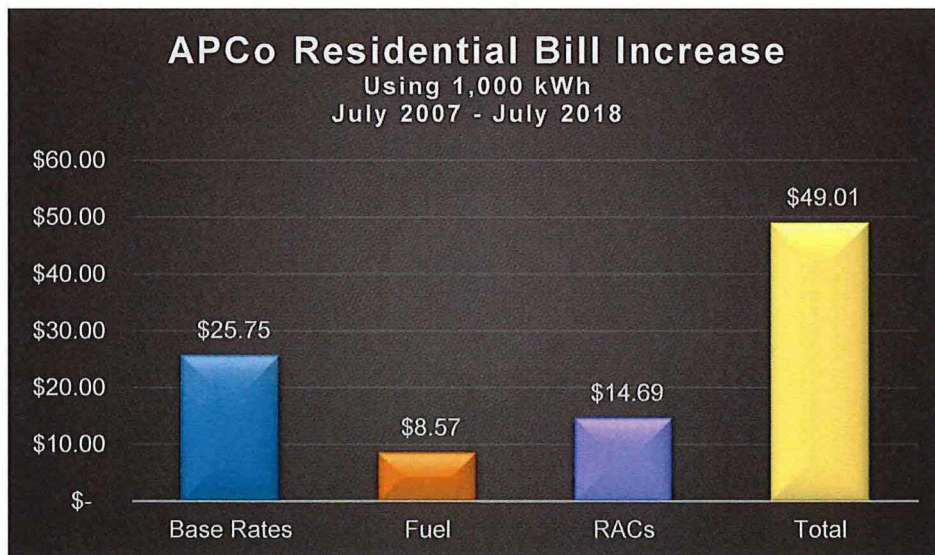
As the chart above indicates, DEV's monthly residential bill was \$90.59 as of July 1, 2007. The bill has increased \$24.41 (26.95%) to \$115 per month as of July 1, 2018. As reflected on the chart below, the RAC component of the bill experienced the largest increase during this time.



Below is a chart that reflects the magnitude of the three components of APCo's customer bills as of the effective dates of the Regulation Act (July 1, 2007), the Transitional Rate Period (July 1, 2015), and the GTSA (July 1, 2018).



As the chart indicates, APCo's monthly residential bill was \$66.61 as of July 1, 2007. The bill has increased \$49.01 (73.58%) to \$115.62 per month as of July 1, 2018. As reflected on the chart below, the base rate component of the bill experienced the largest increase during this time.



A detailed comparison of the July 1, 2018 residential rates for all IOUs and electric cooperatives in Virginia can be found in Appendix 1. Additionally, Appendix 2 provides a view of the average total, residential, commercial and industrial rates for APCo, DEV and Kentucky Utilities Company d/b/a Old Dominion Power Company (“KU/ODP”) compared to the electric utilities within their peer groups.

2017 Base Rate Financial Results

On June 1 and July 3, 2018, DEV responded to requests from Commission Staff (“Staff”), pursuant to § 56-36 of the Code, by providing certain analyses of DEV's combined generation and distribution base rate financial results for calendar year 2017 on a regulatory accounting basis. Pursuant to the GTSA, calendar year 2017 is the first test period of DEV's first triennial review to be filed with the Commission in 2021.⁹

DEV's analysis reflects a combined base rate generation and distribution earned ROE for calendar year 2017 of 13.84%¹⁰ on a regulatory accounting basis. Separately, DEV's 2017 generation and distribution earned ROEs were 19.09% and 7.80%, respectively.¹¹ The combined generation and distribution earned ROE of 13.84% exceeds the 9.20% ROE most recently

⁹ In accordance with changes to Code §§ 56-585.1 and 56-585.1:1 made by SB 966, after the conclusion of the transitional rate period on December 31, 2016, reviews of DEV's rates for generation and distribution services shall resume in 2021, “utilizing the four successive 12-month test periods beginning January 1, 2017, and ending December 31, 2020.” All other reviews that will occur after the end of the transitional rate period encompass three test periods. While four successive test periods compose the DEV 2021 review, Code § 56-585.1 as amended by SB 966 requires, “All such reviews occurring after December 31, 2017, shall be referred to as triennial reviews.”

¹⁰ A 0.01 percentage point of ROE is worth approximately \$788,000 in combined generation and distribution revenues annually.

¹¹ These 2017 earned ROEs are based on information provided by DEV. The Commission did not conduct an audit or investigation of the financial information provided by DEV. The Commission will conduct an audit of the company's 2017 earnings in its first triennial review, which under SB 966 will take place in 2021. Interested parties will have an opportunity to participate in that proceeding. The 2017 earned ROEs determined by the Commission in the first triennial review may differ from the information provided by DEV and included in this report.

approved by the Commission for DEV's RACs¹² by 4.64 percentage points, or approximately \$365.6 million in revenues, and exceeds the 10.00% ROE approved by the Commission in DEV's last biennial review¹³ by 3.84 percentage points, or approximately \$302.6 million in revenues.

Section 56-585.1 A 8 (b) of the Code, as amended by the GTSA, requires the Commission, for the four combined test periods in DEV's first triennial review, to order refunds to customers' bills equal to 70% of DEV's earnings that are more than 70 basis points above the ROE determined by the Commission.¹⁴ Using this statutory calculation, such a potential 70% customer refund would be approximately \$217.4 million based on DEV's 2017 base rate financial results alone and the fair ROE of 9.20% and would be approximately \$173.3 million based on DEV's 2017 base rate financial results alone and the fair ROE of 10.00%.

This amended Code provision also requires that, for purposes of reviewing DEV's earnings in triennial reviews, certain costs are deemed to be fully recovered in the test period in which they were recorded per books by DEV for financial reporting purposes. These costs include: (1) asset impairments related to early retirement determinations made for generation facilities fueled by coal, natural gas, or oil or for automated meter reading electric distribution service meters; (2) costs associated with projects necessary to comply with state or federal environmental laws, regulations, or judicial or administrative orders relating to coal combustion

¹² The Commission approved this ROE in *Application of Virginia Electric and Power Company, For the determination of the fair rate of return on common equity to be applied to its rate adjustment clauses*, Case No. PUR-2017-00038, 2017 S.C.C. Ann. Rept. 475, Final Order (Nov. 29, 2017).

¹³ The Commission approved this ROE in Case No. PUE-2013-00020 to be applicable to DEV's base rates during calendar years 2013 and 2014 and to be applicable to DEV's RACs effective November 30, 2013. *Application of Virginia Electric and Power Company, For a 2013 biennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUE-2013-00020, 2013 S.C.C. Ann. Rept. 371, Final Order (Nov. 26, 2013).

¹⁴ Pursuant to § 56-585.1 A 8 (d) of the Code, the Commission, at the request of DEV, shall determine the amount by which these customer refunds are to be offset due to certain capital investments in solar, wind, and distribution grid transformation projects. This is referred to in the Code as the "customer credit reinvestment offset."

by-product management that are not otherwise recovered through a RAC; (3) costs associated with severe weather events; and (4) costs associated with natural disasters. During 2017, DEV expensed as period costs approximately \$13.4 million on a total company basis, or \$10.8 million on a Virginia jurisdictional basis, on its books for financial reporting purposes related to projects associated with coal combustion by-product management. This reduced DEV's 2017 base rate earnings by approximately 0.14 percentage points.

On June 1, 2018, APCo, in response to a request from Staff pursuant to § 56-36 of the Code, provided certain analyses of its combined generation and distribution base rate financial results for calendar year 2017 on a regulatory accounting basis. Pursuant to the GTSA, calendar year 2017 represents the first test period of APCo's triennial review to be filed with the Commission in 2020.

APCo's analysis reflects a combined base rate generation and distribution earned ROE for calendar year 2017 of 11.31%¹⁵ on a regulatory accounting basis. Separately, the 2017 generation and distribution earned ROEs presented by APCo were 16.51% and 4.75%, respectively.¹⁶ The combined generation and distribution earned ROE of 11.31% exceeds the 9.4% ROE most recently approved by the Commission for APCo¹⁷ by 1.91 percentage points, or approximately \$31.98 million of revenues, and exceeds the 9.70% ROE approved by the

¹⁵ A 0.01 percentage point of ROE is worth approximately \$167,000 in combined generation and distribution revenues annually.

¹⁶ These 2017 earned ROEs are based on information provided by APCo. The Commission did not conduct an audit or investigation of the financial information provided by APCo. The Commission will conduct an audit of the company's 2017 earnings in the company's first triennial review, which under the GTSA will take place in 2020. Interested parties will have an opportunity to participate in that proceeding. The 2017 earned ROEs determined by the Commission in the first triennial review may differ from the information provided by APCo and included in this report.

¹⁷ The Commission approved this ROE in Case No. PUE-2016-00038, *Application of Appalachian Power Company, For the determination of the fair rate of return on common equity to be applied to its rate adjustment clauses*, Case No. PUE-2016-00038, 2016 S.C.C. Ann. Rept. 393, Final Order (Oct. 6, 2016).

Commission in APCo's most recent biennial review¹⁸ by 1.61 percentage points, or approximately \$26.61 million of revenues. Pursuant to Code § 56-585.1:1 C, the Commission currently is considering APCo's March 29, 2018 application for a determination of the ROE to be applied to the RACs approved under Code §§ 56-585.1 A 5 or A 6. APCo seeks approval of an ROE of 10.22%. This case is pending; a hearing was held on August 28, 2018.¹⁹

Section 56-585.1 A 8 (b) of the Code, as amended by SB 966, requires the Commission, for the three combined test periods in APCo's first triennial review, to order refunds to customers' bills equal to 70% of APCo's earnings that are more than 70 basis points above the ROE determined by the Commission.²⁰ Using this statutory calculation, such a potential 70% customer refund would be approximately \$13.6 million based on APCo's 2017 base rate financial results alone and the fair ROE of 9.40% and would be approximately \$9.9 million based on APCo's 2017 base rate financial results alone and the fair ROE of 9.70%.²¹

This amended Code provision also requires that, for purposes of reviewing APCo's earnings in triennial reviews, certain costs are deemed to be fully recovered in the test period in which they were recorded per books by APCo for financial reporting purposes. These costs include: (1) asset impairments related to early retirement determinations made by APCo for

¹⁸ *Application of Appalachian Power Company, For a 2014 biennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUE-2014-00026, 2014 S.C.C. Ann. Rept. 392, Final Order (Nov. 26, 2014).

¹⁹ *Application of Appalachian Power Company, For the determination of the fair rate of return on common equity to be applied to its rate adjustment clauses*, Case No. PUE-2018-00048, Doc. Con. Ctr. No. 180430313, Order for Notice and Hearing (Apr. 18, 2018).

²⁰ Pursuant to § 56-585.1 A 8 (d) of the Code, the Commission, at the request of APCo, shall determine the amount by which these customer refunds are to be offset due to certain capital investments in solar, wind, and distribution grid transformation projects. This is referred to in the Code as the "customer credit reinvestment offset."

²¹ APCo's analysis did not include all the regulatory accounting adjustments previously approved by the Commission in the Company's 2014 Biennial Review (for calendar years 2012 and 2013). While there is no quantification of the 2017 effect of omitted adjustments on regulatory earnings, the effect of these omitted adjustments in APCo's 2014 biennial review increased regulatory earnings by approximately 0.75% (\$11.7 million) for 2012 and 1.45% (\$21.2 million) for 2013.

generation facilities fueled by coal, natural gas, or oil or for automated meter reading electric distribution service meters; (2) costs associated with projects necessary to comply with state or federal environmental laws, regulations, or judicial or administrative orders relating to coal combustion by-product management that are not otherwise recovered through a RAC; (3) costs associated with severe weather events; and (4) costs associated with natural disasters. During 2017, APCo expensed as period costs approximately \$15.1 million on a total company basis, or \$7.0 million on a Virginia jurisdictional basis, on its books for financial reporting purposes related to projects associated with coal combustion by-product management. This reduced APCo's 2017 base rate earnings by approximately 0.42 percentage points. Additionally, APCo reported that during 2017 it expensed \$407,074 of expense associated with severe weather events. This reduced APCo's 2017 base rate earnings by approximately 0.02 percentage points.

Tax Cuts and Jobs Act of 2017

In December 2017, the Federal Tax Cuts and Jobs Act of 2017 (“TCJA”) was enacted into law. Among other provisions, the TCJA reduced the federal corporate income tax rate from 35% to 21% effective January 1, 2018. The Commission issued an Order on January 8, 2018, requiring utilities to accrue regulatory liabilities to protect the interests of customers until such time as the federal tax benefits could be appropriately reflected in customers' rates.²² The GTSA required DEV to reduce rates by \$125 million and for APCo to reduce rates by \$50 million on an interim basis as of July 2018 to reflect the federal tax rate change. A true-up to these interim rate reductions will occur in April 2019 to reflect the lower corporate tax rate as of January 1, 2018. In addition to the legislated reductions to base rates, DEV proposed, and the Commission

²² See, *Commonwealth of Virginia, ex rel., State Corporation Commission, Ex Parte, Regulatory Accounting related to the federal Tax Cuts and Jobs Act of 2017*, Case No. PUR-2018-00005, Doc. Con. Ctr. No. 180110073, Order (Jan. 8, 2018).

approved, reductions to reflect the lower corporate tax rate in DEV's generation RACs pursuant to § 56-585.1 A 6 of the Code effective January 1, 2018. APCo has proposed to reflect the lower corporate tax rate in its currently pending generation RAC, and the Commission has approved a \$29.8 million reduction to APCo's transmission RAC pursuant to § 56-585.1 A 4 of the Code to reflect the lower corporate tax rate.²³ While DEV did not propose a reduction to its transmission RAC to reflect the lower corporate tax rate, the Commission has ordered DEV to make such a reduction, decreasing this rider by at least \$112 million.²⁴

III. **IRPs**

An integrated resource plan (“IRP”) is a document that an electric utility develops that provides a forecast of the utility's load obligations and a plan to meet those obligations by supply side and demand-side resources over the next 15 years to promote reasonable prices, reliable service, energy independence, and environmental responsibility.²⁵ As part of the IRP, each utility must evaluate and report on the effect of current and pending environmental regulations on the continued operation of existing electric generation facilities, options for construction of new generation facilities, and the most cost-effective means of meeting future customer load. Each utility also must address options for maintaining and enhancing rate stability, energy

²³ *Petition of Appalachian Power Company, For revision of a rate adjustment clause pursuant to § 56-585.1 A 6 of the Code of Virginia with respect to the Dresden Generating Plant*, Case No. PUR-2018-00018; *Application of Appalachian Power Company, For approval of a rate adjustment clause pursuant to § 56-585.1 A 4 of the Code of Virginia*, Case No. PUR-2017-00164, Doc. Con. Ctr. No. 180310010, Final Order (Feb. 28, 2018).

²⁴ *Application of Virginia Electric and Power Company, For approval of a rate adjustment clause pursuant to § 56-585.1 A 4 of the Code of Virginia*, Case No. PUR-2018-00066, Doc. Con. Ctr. No. 180810077, Final Order (Aug. 2, 2018). On August 21, 2018, the Commission granted DEV's request for reconsideration and rehearing in this case. If DEV's revised estimate is approved, the revenue requirement reduction attributable to the TCJA could move from approximately \$112 million to approximately \$114.2 million.

²⁵ Code § 56-597.

independence, and economic development, including retention and expansion of energy-intensive industries and service reliability.²⁶

In reviewing IRPs, the Commission has emphasized that as a planning document, the IRP does not control future resource-specific decisions by the Commission, does not preclude the Commission from approving or rejecting any individual supply-side or demand-side resource in the future, and does not create any presumption for or against a particular resource.²⁷ The Commission determines whether an IRP is reasonable and in the public interest on a utility-specific basis given current assumptions for possible future outcomes.

Over the past year, the Commission has issued final orders in recent IRP cases for APCo, DEV, and KU/ODP. In the case of KU/ODP, which does not have any generation facilities located in Virginia, the Commission found that KU/ODP's IRP was reasonable and in the public interest for the specific and limited purpose of filing the planning documents mandated by Code § 56-597 *et seq.* The Commission directed KU/ODP to include in its next IRP filing an update on the company's plans and on the state of Kentucky's plans to comply with the Federal Clean Power Plan (“CPP”).²⁸ In APCo's and DEV's cases, the Commission also found, based on the case record and the applicable statutes, that the companies' IRPs were reasonable and in the public interest for the specific and limited purpose of filing the planning documents mandated by

²⁶ Code § 56-599.

²⁷ See, e.g., *Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUE-2009-00096, 2010 S.C.C. Ann. Rept. 385, Final Order (Aug. 6, 2010).

²⁸ *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Kentucky Utilities Company d/b/a Old Dominion Power Company's Integrated Resource Plan Filing pursuant to Va. Code § 56-597 et seq.*, Doc. Con. Ctr. No. 180230085, Final Order (Feb. 20, 2018). For information on the CPP, see 80 Fed. Reg. 64,662 (Oct. 23, 2015). The United States Supreme Court granted an appeal of the CPP and issued a stay pending the outcome of the appeal. See, e.g., *West Virginia v. Environmental Protection Agency*, No. 15-1363 (D.C. Cir.), *stay granted* (U.S. Feb. 9, 2016) (No. 15A776). The Environmental Protection Agency subsequently proposed repealing the CPP and issued an advance notice of a proposed rulemaking for a potential regulation to replace the CPP. 82 Fed. Reg. 48,035 (Oct. 16, 2017); 82 Fed. Reg. 61,507 (Dec. 28, 2017).

Code § 56-597 *et seq.* The Commission directed that future IRPs, beginning with the IRP due to be filed May 1, 2018, should include detailed plans to implement the mandates contained in the GTSA, as well as plans to comply with all other legal requirements.²⁹

On May 1, 2018, DEV, APCo and KU/ODP submitted their 2018 IRPs identifying the companies' long-term alternative plans for meeting their load obligations.³⁰ These plans rely mostly on solar and wind resources to satisfy future generation needs. This is in accordance with SB 966, which promotes the addition of new utility-owned and utility-operated solar and wind generation facilities over the next several years.³¹ The IRPs are pending before the Commission with hearings scheduled in late September for DEV and early October for APCo.

One of the provisions of the GTSA alters the timing of filing IRPs from annually to once every three years, during the year prior to triennial reviews, beginning in 2019 for APCo and 2020 for DEV. The Commission must issue a final order for any IRP filing within nine months of the date of its filing.

²⁹ *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Appalachian Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No PUR-2017-00045, Doc. Con. Ctr. No. 180320096, Final Order (Mar. 12, 2018); *Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Appalachian Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2017-00045, Doc. Con. Ctr. No. 180320096, Final Order (Mar. 12, 2018); and *Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597, et seq.* Case No. PUR-2017-00051, Doc. Con. Ctr. No. 180320095, Order (Mar. 12, 2018).

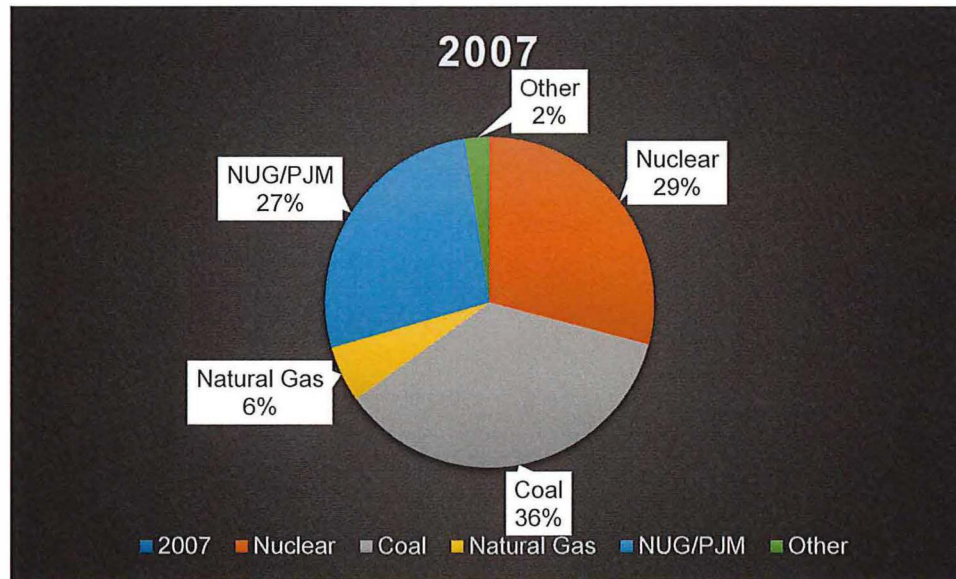
³⁰ KU/ODP and its sister company, Louisville Gas and Electric Company, have Kentucky-based generating assets that serve KU/ODP's customers in Virginia. The two utilities jointly plan and operate their generation and transmission resources, including jointly dispatching generating units and establishing common reserve margins for operating their system. As such, KU/ODP's IRP is different from those of DEV and APCo, and KU/ODP's IRP case currently is not set for hearing. *See generally, Commonwealth of Virginia ex rel. State Corporation Commission, In re: Kentucky Utilities Company d/b/a Old Dominion Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2018-00069.

³¹ 2018 Va. Acts ch. 296, Enactment Clauses 14, 21.

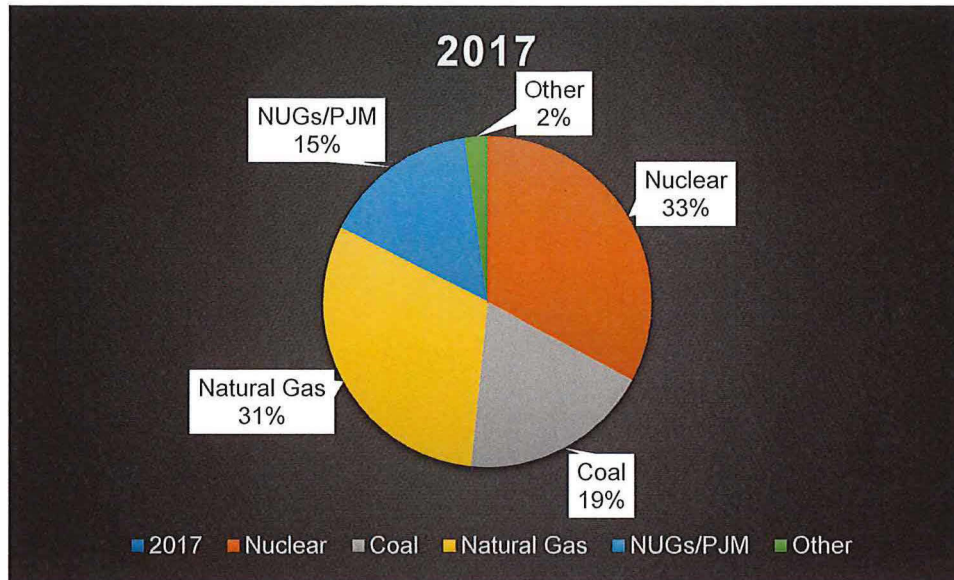
IV. GENERATION

Virginia's electric utilities supply their customers with power from the utilities' facilities, which are located both inside and outside of Virginia, and from energy purchases from other entities. Approximately 90% of the total supply of energy to Virginia's IOU customers is produced from facilities under the Commission's rate setting jurisdiction even though some of those facilities are located outside of Virginia's boundaries. Power from jurisdictional plants that may be located physically in another state is not considered "imported" in any relevant definition because, from legal and regulatory standpoints, Virginia consumers have the same claim on such power as they do on power from jurisdictional plants physically located in Virginia. The charts below illustrate the relative energy mix for DEV and APCo for 2017, as compared to 2007.

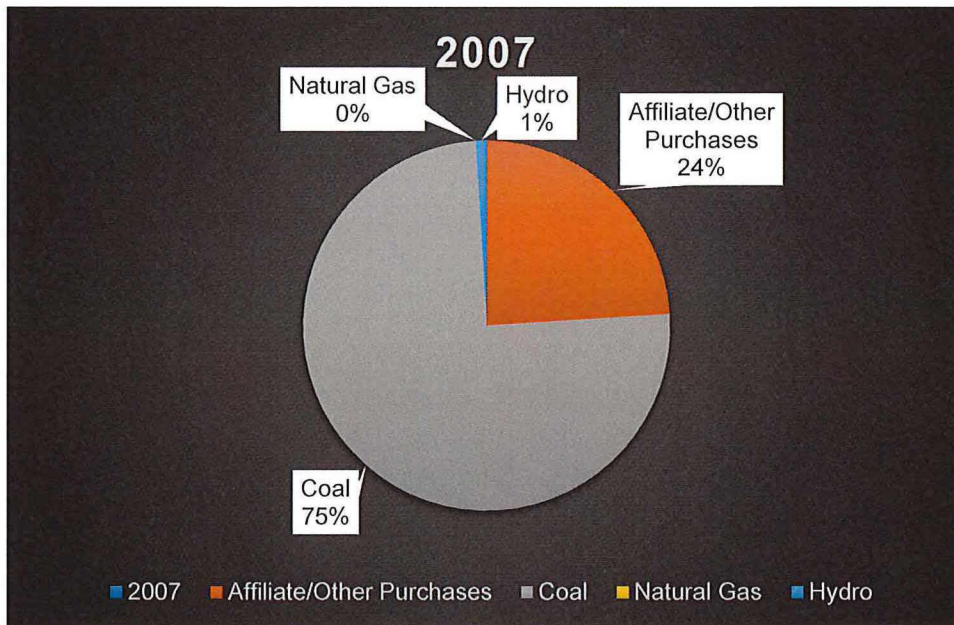
DEV's Energy Mix³²



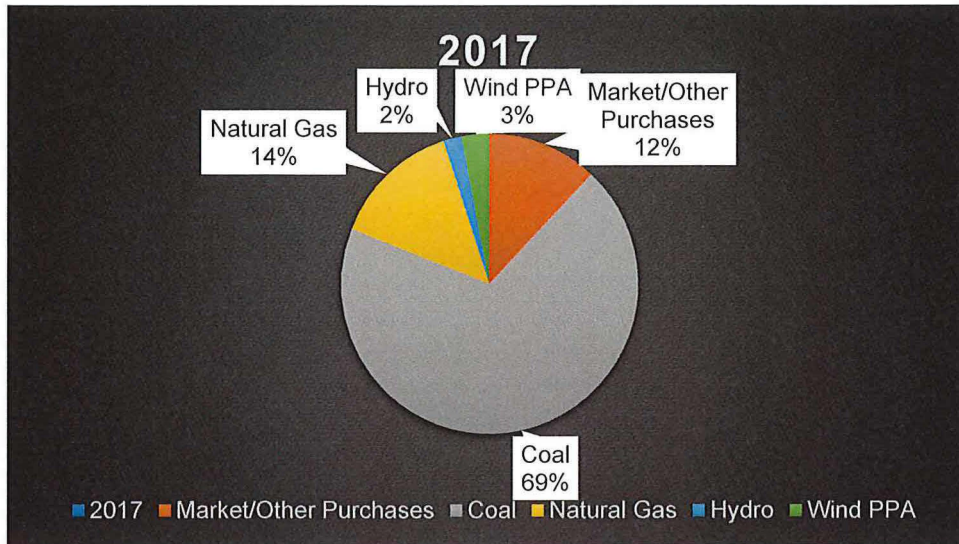
³² *Application of Virginia Electric and Power Company, to revise its fuel factor pursuant to Va. Code § 56-249.6, Case No. PUE-2008-00039, 2008 S.C.C. Ann. Rept. 533, Order Establishing Fuel Factor (June 27, 2008). See Attachment 2 of Staff witness Thomas Lamm's Direct Testimony. Application of Virginia Electric and Power Company, To revise its fuel factor pursuant to Va. Code §56-249.6, Case No. PUR-2018-00067, Doc. Con. Ctr. No. 180540224, Order Establishing Fuel Factor (May 21, 2018). See Attachment 3 of Staff witness Kelli Gravely's Direct Testimony.*



APCO's Energy Mix³³



³³ *Application of Appalachian Power Company, To revise its fuel factor*, Case No. PUE-2007-00067, 2007 S.C.C. Ann. Rept. 470, Order Establishing Fuel Factor (Feb. 1, 2008). See Attachment 3 of Staff witness Thomas Lamm's Direct Testimony. *Application of Appalachian Power Company, To revise its fuel factor pursuant to Va. Code §56-249.6*, Case No. PUR-2017-00120, Doc. Con. Ctr. No. 180310216, Order Establishing Fuel Factor (Mar. 6, 2018). See Attachment 3 of Staff witness Kelli Gravely's Direct Testimony.



These charts reveal that from 2007 to 2017, DEV's energy mix has experienced significant changes. In particular, coal contributions have decreased from 36% in 2007 to 19% in 2017, while natural gas contributions have increased from 6% in 2007 to 31% in 2017. For APCo, over the same period, coal contributions have decreased from 75% in 2007 to 69% in 2017; natural gas contributions have increased from 0% in 2007 to 14% in 2017.

Major generation changes this past year include DEV's announcement to place into cold reserve status ten fossil fuel generating units totaling 1,292 megawatts ("MW"). These older and less efficient units will be dormant but can be restarted and returned to service if necessary.

V. **TRANSMISSION**

Virginia's electric utilities continue to expand their transmission facilities within the Commonwealth. In the past year, six transmission projects were approved and issued certificates of public convenience and necessity by the Commission ("CPCN"). Four transmission CPCN applications currently are pending before the Commission. Recent transmission project highlights include:

- The Commission receives periodic updates on DEV's Surry–Skiffes Creek transmission line project, which was approved by the Commission in 2013.³⁴ DEV continues to seek necessary permits from other agencies (*e.g.*, the U.S. Army Corps of Engineers) and to defend the project in federal court proceedings. The company also has begun an inspection and maintenance program on transmission lines and stations for assets that serve the Virginia Peninsula.³⁵ DEV's updates are publicly available by searching for Case No. PUE-2012-00029 on the Commission's website: <http://www.scc.virginia.gov/docketsearch>.
- On July 26, 2018, the Commission issued a certificate for the I-66 Hybrid Route proposed for the Haymarket transmission line project, which utilizes both overhead and underground transmission facilities, and required the Haymarket transmission line to be built by December 31, 2021, unless DEV provides good cause for an extension of this time period.³⁶ The Commission also approved the Haymarket transmission line as a qualifying project that is part of the underground transmission line pilot program established by SB 966. A second underground transmission line project will be selected for the pilot program from applications filed between July 1, 2018 and July 1, 2020. The Commission will report annually on the progress of the pilot program by December 1 each year through December 1, 2024.

Additionally, pursuant to § 56-585.1 A 4 of the Code, DEV and APCo may petition the Commission once every 12 months for approval of a RAC to recover costs for transmission service, transmission facilities, and associated administrative and ancillary charges. Under this statute, certain PJM-related transmission costs, and costs associated with demand response programs approved by the Federal Energy Regulatory Commission (“FERC”) and administered

³⁴ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power, For approval and certification of electric facilities: Surry-Skiffes Creek 500 kV Transmission Line, Skiffes Creek-Wheaton 230 kV Transmission Line, and Skiffes Creek 500 kV-230 kV-115 kV Switching Station*, Case No. PUE-2012-00029, 2013 S.C.C. Ann. Rept. 240, Order (Nov. 26, 2013), *modified*, Doc. Con. Ctr. No. 140230057, Order Amending Certificates (Feb. 28, 2014), *aff'd*, 2014 S.C.C. Ann. Rept. 253, Order Denying Petition (Apr. 10, 2014), *aff'd on appeal*, *BASF Corp. v. State Corp. Comm'n*, 289 Va. 375, 770 S.E.2d 458 (2015).

³⁵ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power, For approval and certification of electric facilities: Surry-Skiffes Creek 500 kV Transmission Line, Skiffes Creek-Wheaton 230 kV Transmission Line, and Skiffes Creek 500 kV-230 kV-115 kV Switching Station*, Case No. PUE-2012-00029, Doc. Con. Ctr. No. 180810039, Update on Status of Certificated Project (Aug. 1, 2018).

³⁶ *Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: Haymarket 230 kV Double Circuit Transmission Line and 230-34.5 kV Haymarket Substation*, Case No. PUE-2015-00107, Doc. Con. Ctr. No. 180740051, Order on Request to Participate in Pilot Program (July 26, 2018).

by PJM, are deemed reasonable and prudent. Both DEV and APCo received approval for such transmission RACs within the past year, as shown in the chart below.

Company	RAC ID	Case Number	Co. Request	Status
DEV	Rider T1	PUR-2018-00066	\$286,983,645	Final Order issued August 2, 2018, approving recovery of \$162,232,084 ³⁷
APCo	Rider T-RAC	PUR-2017-00164	\$142,724,434	Final Order issued February 28, 2018, approving recovery of \$142,724,434 ³⁸

VI. **DISTRIBUTION**

In addition to the underground transmission line pilot program, the Regulation Act, as revised by SB 966, also provides for the installation of underground distribution facilities and for electric distribution grid transformation projects. Specifically, Code § 56-585.1 A 6 provides that a utility may seek recovery through a RAC of costs related to “one or more new underground facilities to replace one or more existing overhead distribution facilities of 69 kV or less located within the Commonwealth,” including costs related to assessing the feasibility of potential sites to install new underground facilities. DEV has received approval for a RAC, designated Rider U, to recover costs related to such facilities; APCo has not requested such a RAC.

Since the Commission's last report to the Commission on Electric Utility Restructuring, DEV has received approval for an update to its Rider U to recover costs for its Strategic Undergrounding Program and has filed an application for another revision to this RAC. On

³⁷ *Application of Virginia Electric and Power Company, For approval of a rate adjustment clause pursuant to § 56-585.1 A 4 of the Code of Virginia*, Case No. PUR-2018-00066, Doc. Con. Ctr. No. 180810071, Final Order (Aug. 2, 2018). On August 21, 2018, the Commission granted DEV’s request for reconsideration and rehearing in this case.

³⁸ *Application of Appalachian Power Company, For approval of a rate adjustment clause pursuant to § 56-585.1 A 4 of the Code of Virginia*, Case No. PUR-2017-00164, Doc. Con. Ctr. No. 180310010, Final Order (Feb. 28, 2018).

September 1, 2017, the Commission approved a \$22 million revenue requirement for Phases 1 and 2 of DEV's Strategic Undergrounding Program.³⁹

Additionally, on March 19, 2018, DEV filed with the Commission an application for approval of another revision to Rider U.⁴⁰ DEV's application seeks to recover a revenue requirement of approximately \$73 million in costs associated with multiple phases of the company's Strategic Undergrounding Program. This case went to hearing in late July 2018 and currently is pending before the Commission.

The GTSA also broadly defines electric distribution grid transformation projects, deems such projects in the public interest, and permits recovery of associated costs of such projects through three options: (i) a RAC; (ii) retained customer credits (known as the customer credit reinvestment offset); or (iii) base rates. A utility may petition the Commission once a year for approval of a plan for electric distribution grid transformation projects, and a Commission order must be issued within six months of the filing date of any proposed plan.

On July 24, 2018, DEV filed a petition⁴¹ for approval of the first three years ("Phase I") of its ten-year electric distribution grid transformation plan, proposing an investment of \$816.3 million in capital investment and \$101.5 million in operations and maintenance investment. This matter currently is pending before the Commission, with a hearing scheduled for November 2018.

³⁹ *Application of Virginia Electric and Power Company, For revision of a rate adjustment clause: Rider U, new underground distribution facilities, for the rate year commencing September 1, 2017*, Case No. PUE-2016-00136, 2017 S.C.C. Ann. Rept. 406, Final Order (Sept. 1, 2017).

⁴⁰ *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider U, new underground distribution facilities, for the rate year commencing February 1, 2019*, Case No. PUR-2018-00042, Doc. Con. Ctr. No. 180410073, Order For Notice and Hearing (Apr. 2, 2018).

⁴¹ *Petition of Virginia Electric and Power Company, For approval of a plan for electric distribution grid transformation projects pursuant to §§ 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2018-00100, Doc. Con. Ctr. No. 180740080, Order For Notice and Hearing (July 26, 2018).

VII.
CONSERVATION, ENERGY EFFICIENCY, AND DEMAND RESPONSE

Since 2010, DEV and APCo have established multiple DSM programs for both residential and non-residential customers. The Commission approved 19 proposed programs for DEV, some of which are now complete. Nine programs are currently active in DEV's service territory. Similarly, the Commission has approved 12 proposed programs for APCo, and eight programs remain active.

Pursuant to § 56-585.1 A 5 of the Code, these utilities charge RACs to recover costs related to their demand response and energy efficiency programs. DEV's RACs also include recovery of the costs of its electric vehicle pilot program. A subset of large general service customers always has been exempt from paying the costs of energy efficiency programs. The GTSA expanded this exemption to all customers with a history of using more than 500 kilowatts ("kW") of demand from a single delivery meter.

Effective July 1, 2018, the GTSA requires DEV and APCo to develop proposed programs of energy conservation measures whereby five percent of such programs shall benefit low-income, elderly and disabled individuals. The projected costs of such measures through 2028 must be at least \$140 million for APCo and \$870 million for DEV. In developing their portfolios of programs, both DEV and APCo are required to utilize a stakeholder process facilitated by an independent monitor compensated by the Commission's Consumer Education Fund. The stakeholder process must include representatives from the utility, Staff, the Department of Mines, Minerals and Energy ("DMME"), the Office of the Attorney General's Division of Consumer Counsel, energy efficiency program implementers and providers, residential and small business consumers, and any other interested stakeholders selected by the independent monitor. By statute, proposed energy efficiency programs are in the public interest if the net present value

of the benefits exceeds the net present value of the costs as determined by three of four cost/benefit tests.⁴²

The Commission has issued a request for proposals for an independent monitor to facilitate the stakeholder process. Six proposals have been received and currently are under review by an evaluation committee; a contract is expected to be awarded in early October.

VIII. **RENEWABLE ENERGY**

Retail Access to Competitive Services

Section 56-577 of the Code permits customers whose annual electricity demand exceeds 5 MW to purchase electric energy from licensed competitive service providers (“CSPs”), instead of from the customers’ monopoly electric service providers, subject to certain limitations.⁴³

Non-residential retail customers whose annual electricity demand does not exceed 5 MW may request Commission approval to aggregate their loads to meet the 5 MW threshold to become qualified to purchase electric energy from a CSP.⁴⁴ These customers can purchase any type of energy from the CSP; such energy need not come from renewable resources. Regardless of this flexibility, in DEV's service territory 81 of 87 meters served by CSPs are served with renewable energy. Similarly, 64 of 68 competitively metered accounts in APCo's service territory are served with renewable energy.

All individual retail consumers, regardless of customer class, also have an opportunity to purchase energy from a CSP if such a purchase is for “electric energy provided 100% from

⁴² Per the definition of “in the public interest” found in Code § 56-576, these tests are the Total Resource Cost Test, the Utility Cost Test (also called the Program Administrator Test), the Ratepayer Impact Measure Test, and the Participant Test.

⁴³ Code § 56-577 A 3.

⁴⁴ Code § 56-577 A 4.

renewable energy” and if the customer's incumbent electric utility does not offer a 100% renewable energy product.⁴⁵

Currently, neither APCo nor DEV has an approved 100% renewable energy tariff on file with the Commission. On September 13, 2017, the Commission denied APCo's petition for a 100% renewable energy tariff due to concerns raised by parties in the case, including environmental participants, that APCo's proposed 100% renewable energy rate was not just and reasonable.⁴⁶ On May 7, 2018, the Commission denied DEV's application for a 100% renewable energy tariff. Like the APCo case, the Commission agreed with environmental participants and others that DEV's proposed 100% renewable energy rate was not just and reasonable.⁴⁷ Both APCo and DEV have new applications for 100% renewable energy tariffs pending with the Commission.⁴⁸

Under §§ 56-587 and 56-588 of the Code, the Commission licenses retail electric CSPs and aggregators interested in participating in electricity retail access programs in Virginia. Currently, 85 electric and natural gas CSPs and aggregators are licensed as retail competitive service providers. A current list of licensed suppliers can be found on the Commission's website at: <http://www.scc.virginia.gov/power/compsup.aspx>. Despite the high number of licensees, as

⁴⁵ Code § 56-577 A 5. These three categories of purchases from a CSP also have been described in *Petition of Direct Energy Services, LLC, For a declaratory judgment*, Case No. PUE-2016-00094, 2017 S.C.C. Ann. Rept. 373, Final Order (Mar. 15, 2017), *aff'd on appeal, Va. Elec. & Power Co. v. State Corp. Comm'n*, 295 Va. 256, 810 S.E.2d 880 (Mar. 29, 2018).

⁴⁶ *Petition of Appalachian Power Company, For approval of a 100% renewable energy rider*, Case No. PUE-2016-00051, 2017 S.C.C. Ann. Rept. 339, Final Order (Sept. 13, 2017).

⁴⁷ *Application of Virginia Electric and Power Company, For approval of 100 percent renewable energy tariffs pursuant to §§ 56-577 A 5 and 56-234 of the Code of Virginia*, Case No. PUR-2017-00060, Doc. Con. Ctr. No. 180520057, Final Order (May 7, 2018).

⁴⁸ *Application of Appalachian Power Company, For approval of a 100% renewable energy rider pursuant to § 56-577 A 5 of the Code of Virginia*, Case No. PUR-2017-00179, Doc. Con. Ctr. No. 171220352, *Application of Appalachian Power Company* (Dec. 27, 2017); *Application of Virginia Electric and Power Company, For approval of 100 percent renewable energy tariffs for residential and non-residential customers pursuant to §§ 56-577 A 5 and 56-234 of the Code of Virginia*, Case No. PUR-2017-00157, Doc. Con. Ctr. No. 171130104, *Application of Virginia Electric and Power Company* (Nov. 17, 2017).

of the date of this report only four CSPs are actively providing competitive supply service in DEV's service territory, and three CSPs are active in APCo's service territory.

Pursuant to Code § 56-577 A 6, Virginia's electric cooperatives are deemed to offer tariffs for 100% renewable energy if the cooperatives retire a quantity of renewable energy certificates (“RECs”) equal to 100% of the electric energy provided by the tariffs. Nine electric cooperatives have received approval for such tariffs. To Staff's knowledge, there is only one CSP providing competitive supply service from renewable resources to one large industrial customer in the service territory of Rappahannock Electric Cooperative.

Aggregate Demand

During the past twelve months, the Commission has received its first applications from non-residential customers seeking to aggregate load, pursuant to Code § 56-577 A 4, to receive electricity service from a CSP instead of the incumbent electric utility provider for their area. In February 2018 the Commission granted a petition of Reynolds Group Holdings Inc.⁴⁹ to aggregate or combine the demands of three of its subsidiaries at six locations in DEV's service territory to obtain electricity supply service from a CSP. Three additional petitions are pending before the Commission in which the petitioners seek to aggregate demand to purchase energy from CSPs.⁵⁰

⁴⁹ *Petition of Reynolds Group Holdings Inc., For permission to aggregate or combine demands of two or more individual nonresidential retail customers of electric energy pursuant to § 56-577 A 4 of the Code of Virginia*, Case No. PUR-2017-00109, Doc. Con. Ctr. No. 180230162, Final Order (Feb. 21, 2018).

⁵⁰ *Petition of Wal-Mart Stores East, LP and Sam's East, Inc., For permission to aggregate or combine demands of two or more individual nonresidential retail customers of electric energy pursuant to § 56-577 A 4 of the Code of Virginia*, Case No. PUR-2017-00173, Doc. Con. Ctr. No. 171220096, Petition (Dec. 15, 2017); *Petition of Wal-Mart Stores East, LP and Sam's East, Inc., For permission to aggregate or combine demands of two or more individual nonresidential retail customers of electric energy pursuant to § 56-577 A 4 of the Code of Virginia*, Case No. PUR-2017-00174, Doc. Con. Ctr. No. 180110089, Petition (Jan. 9, 2018); and *Petition of Costco Wholesale Corporation, For permission to aggregate or combine demands of two or more individual nonresidential retail customers of electric energy pursuant to § 56-577 A 4 of the Code of Virginia*, Case No. PUR-2018-00088, Doc. Con. Ctr. No. 180610021, Petition (June 1, 2018).

Voluntary Renewable Portfolio Standard Programs and RACs

APCo Activity

In 2008, the Commission approved APCo's application under § 56-585.2 of the Code for participation in a voluntary RPS program and for approval of two power purchase agreements (“PPA”) for wind resources, the Camp Grove project with a capacity of 75 MW and the Fowler Ridge project with a capacity of 100 MW.⁵¹ In 2016 APCo was granted approval to attribute to its RPS program an additional 120 MW of renewable power pursuant to a PPA with Bluff Point Wind Farm LLC.⁵²

APCo has a rider on customers' bills to recover the costs of its participation in Virginia's voluntary RPS program. On June 20, 2017, APCo filed a petition for approval of an update to its RPS-RAC. The Commission issued its Final Order on January 31, 2018, adopting a stipulation recommended by the Hearing Examiner and approving a revenue requirement of approximately \$5.7 million for APCo to collect over the period April 1, 2018, through March 31, 2019.⁵³ On June 1, 2018, APCo submitted its most recent petition to update its RPS-RAC for the period April 1, 2019, through March 31, 2020. This proceeding is pending before the Commission with a hearing scheduled for November 2018.⁵⁴

⁵¹ *Application of Appalachian Power Company, For approval to participate in the Virginia Renewable Energy Portfolio Standard Program*, Case No. PUE-2008-00003, 2008 S.C.C. Ann. Rept. 466, Final Order (Aug. 11, 2008).

⁵² *Application of Appalachian Power Company, For approval of a rate adjustment clause, RPS-RAC, to recover the incremental costs of participation in the Virginia Renewable Energy Portfolio Standard Program pursuant to Va. Code §§ 56-585.1 A 5 d and 56-585.2 E*, Case No. PUE-2016-00042, 2017 S.C.C. Ann. Rept. 333, Final Order (Feb. 1, 2017).

⁵³ *Petition of Appalachian Power Company, For approval of a rate adjustment clause, RPS-RAC, to recover the incremental costs of participation in the Virginia renewable energy portfolio standard program pursuant to Va. Code §§ 56-585.1 A 5 d and 56-585.2 E*, Case No. PUR-2017-00065, Doc. Con. Ctr. No. 180140013, Final Order (Jan. 31, 2018).

⁵⁴ *Petition of Appalachian Power Company, For approval of a rate adjustment clause, RPS-RAC, to recover the incremental costs of participation in the Virginia renewable energy portfolio standard program pursuant to Va. Code §§ 56-585.1 A 5 d and 56-585.2 E*, Case No. PUR-2018-00043, Doc. Con. Ctr. No. 180640111, Order for Notice and Hearing (June 22, 2018).

Pursuant to Code § 56-585.2 H, each IOU participating in an RPS program must file by November 1 of each year a report detailing the utility's efforts to meet the RPS goals set forth in Virginia law. Accordingly, on October 30, 2017, APCo reported to the Commission that it had met its RPS Goal for 2016 through a combination of purchased power wind sources and company-owned hydro generation, as well as by retiring previously banked RECs. In its report APCo also stated that it fully expects to meet the voluntary goals for 2017 and thereafter.

DEV Activity

On May 18, 2010, the Commission approved DEV's application to participate in Virginia's voluntary RPS program.⁵⁵ On November 1, 2017, DEV reported to the Commission that it had exceeded its RPS Goal for 2016 through a combination of company-owned hydro and biomass facilities, solar generation, renewable output from non-utility generators under long-term contracts with DEV, the optimization of REC purchases and sales, and the application of RECs deemed issued by the Commission for research and development activities related to renewable or alternative energy resources. DEV has not applied to the Commission for approval of a RAC to recover costs of participation in the RPS program.

The fall 2017 RPS reports for APCo and DEV are available at:

<http://www.scc.virginia.gov/pur/renew.aspx>.

Distributed Solar Generation

Chapter 771 of the 2011 Virginia Acts of Assembly (“Chapter 771”) directs the Commission to consider for approval petitions filed by a utility to construct and operate distributed solar generation facilities and to offer special tariffs to facilitate customer-owned

⁵⁵ *Application of Virginia Electric and Power Company, For approval to participate in a Renewable Energy Portfolio Standard Program Pursuant to Va. Code§ 56-585.2, Case No. PUE-2009-00082, 2010 S.C.C. Ann. Rept. 367, Final Order (May 18, 2010).*

distributed solar generation. Pursuant to Chapter 771, the Commission has approved two such applications from DEV:⁵⁶

- (i) An application to construct and operate distributed solar generation facilities (called the Solar Partnership Program (the “Partnership Program”));⁵⁷ and
- (ii) An application for approval of tariffs designed to facilitate customer-owned distributed solar generation as an alternative to net metering (called the Solar Purchase Program (the “Purchase Program”)).⁵⁸

DEV Solar Partnership Program

Under the Partnership Program, approved by the Commission in 2012, DEV may construct and operate up to a combined total of 30 MW of company-owned solar distributed generation (“DG”) facilities consisting of multiple installations at select commercial, industrial, and community locations dispersed throughout DEV's Virginia service territory. The Partnership Program is a demonstration designed to study the impacts and assess the benefits of distributed solar photovoltaic generation on targeted distribution circuits. DEV partnered with qualifying commercial, industrial, high school, and university customers with suitable facilities located in select areas for installation of solar projects for demonstration and grid impact study purposes. Currently, eleven projects are operational, providing a capacity of 9,653 kW of direct current (“DC”), or about 7,653 kW of alternating current (“AC”). Total capital expenditures from inception through May 31, 2018, is approximately \$25.3 million of the \$80 million cap originally authorized by the Commission.

⁵⁶ No such applications have been filed by APCo.

⁵⁷ *Application of Virginia Electric and Power Company, For approval of a Community Solar Power Program and for certification of proposed distributed solar generation facilities pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly and §§ 56-46.1 and 56-580 D of the Code of Virginia, Case No. PUE-2011-00117, 2012 S.C.C. Ann. Rept. 328, Order (Nov. 28, 2012).*

⁵⁸ *Application of Virginia Electric and Power Company, For approval of a special tariff to facilitate customer-owned distributed solar generation pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly, Case No. PUE-2012-00064, 2013 S.C.C. Ann. Rept. 269, Order (Mar. 22, 2013).*

DEV Solar Purchase Program

On March 22, 2013, the Commission approved DEV's application and tariff to implement the Purchase Program, pursuant to which DEV may purchase up to 3 MW of energy output, including environmental attributes, from customer-owned solar DG installations as an alternative to net energy metering. Specifically, under this program eligible customers install and own solar DG facilities while continuing to purchase all their electricity from DEV on their current rate schedule. The customers then sell all their solar generation back to DEV, with the associated RECs, at a rate of 15 cents per kWh. The 3 MW limit is divided into two categories, with 60% (1.8 MW) allocated to residential participants and the remaining 40% (1.2 MW) to non-residential participants.

The Purchase Program was approved for a five-year period through June 30, 2018, and realized: (i) 161 installations completed for a combined capacity of 2,019 kW AC; (ii) an additional 13 installations still under construction, representing 195 kW AC; and (iii) 227 installations reserved to be built, representing 963 kW AC. Though the Purchase Program is now closed to new entrants, those facilities that are under construction or for which reservations have been made will continue to be installed.

DEV has concluded it's the Purchase Program.⁵⁹ According to the company, preliminary data results show that solar energy systems can produce renewable energy near the point of use to reduce the amount of electricity or capacity required from other sources. Further study and

⁵⁹ *Application of Virginia Electric and Power Company For approval of a special tariff to facilitate customer-owned distributed solar generation pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly*, Case No. PUR-2018-00091, Doc. Con. Ctr. No. 180640113, Order (June 22, 2018).

additional operating information is required to evaluate any long-term effects on the electric grid.⁶⁰

Third-party Renewable Energy PPA Pilot Programs

Pursuant to Chapter 382 of the 2013 Virginia Acts of Assembly (“Chapter 382”), the Commission has been conducting a pilot program (“Third-Party PPA Pilot Program”) in DEV’s service territory in which a person that owns or operates a solar-powered or wind-powered electric generation facility, with a capacity between 50 kW and 1 MW that is located on the premises owned or leased by an eligible customer-generator will be allowed to sell the electricity generated from such facility exclusively to such eligible customer-generator under a PPA. The PPA may provide third-party financing of the costs of the renewable generation facility. The Chapter 382 total pilot program limitation of 50 MW includes participation among jurisdictional and non-jurisdictional customers, and the minimum size requirement does not apply to certain non-profit entities. On April 5, 2017, the General Assembly approved Chapter 803 of the 2017 Virginia Acts of Assembly (“Chapter 803”). Among other things, Chapter 803 reenacted Chapter 382 with amendments requiring that a pilot program now be conducted within the certificated service territory of each investor-owned electric utility in Virginia, except for KU/ODP. Specifically, nonprofit private institutions of higher education in APCo’s service territory now also may participate in the Third-Party PPA Pilot Program up to an overall limit of 7 MW until July 1, 2022.⁶¹

⁶⁰ On August 1, 2018, DEV submitted to Staff its fifth annual report on the Partnership Program and the Purchase Program. DEV’s report provides a more detailed review of program implementation, customer interest, the selection and development of project sites, and initial data collected and associated preliminary results. This report is available through the Commission’s website, www.scc.virginia.gov/docket search, by clicking on “Docket Search” and searching for either Case No. PUE-2011-00117 or Case No. PUE-2012-00064.

⁶¹ *Commonwealth of Virginia, ex rel., State Corporation Commission, Concerning the establishment of a renewable energy pilot program for third party power purchase agreements*, Case No. PUE-2013-00045, Doc. Con. Ctr. No. 170640178, Order Updating Guidelines (June 29, 2017).

To date, the Commission has received notices of intent from 15 providers for installations at 47 facilities, mostly schools in DEV's service territory, to enter into third-party PPAs for the purchase of solar generating capacity. The total expected capacity of the generation facilities related to these facilities is approximately 7,291.4 MW AC. Currently, thirteen of these solar facilities are operational and provide 2,196.5 MW AC of power. Most of the remaining facilities are expected to begin operation by the end of 2018. The Third-Party PPA Pilot Program for APCo also has begun, and there is tentatively one participant, a 420 kW AC solar facility expected to be operational by the end of this year.

The capacity of the facilities participating in the Third-Party PPA Pilot Program is not yet near the capacity participation caps of either DEV (50 MW) or APCo (7 MW). To date, only solar facilities are participating; the Commission has not received any notice of intent regarding the participation of related wind facilities. The Commission will continue to monitor the demonstration programs and maintain its website regarding participation in the Third-Party PPA Pilot Program.

Other Recent Renewable Energy Activity of Note

The Commission is either reviewing or recently has completed its review of other petitions regarding solar activity. On August 8, 2018, the Commission approved the application of Pleinmont Solar, LLC and certain special purpose entities to construct and operate a 500 MW solar generating facility in Spotsylvania County, Virginia, subject to certain requirements and Commission findings.⁶² Other recently filed petitions of interest include: (1) DEV's petition for approval of its Virginia Community Solar Pilot Program and accompanying voluntary

⁶² *Application of Pleinmont Solar, LLC et al., For certificates of public convenience and necessity for a 500 MW solar generating facility in Spotsylvania County pursuant to §§ 56-46.1 and 56-580 D of the Code of Virginia, Case No. PUR-2017-00162, Doc. Con. Ctr. No. 180820045, Order Granting Certificates (Aug. 8, 2018).*

companion tariff;⁶³ and (2) DEV's petition to construct two utility-scale solar photovoltaic generating facilities.⁶⁴ These matters are pending before the Commission.

Additionally, Chapter 415 of the 2018 Acts of Assembly directs DEV to conduct a pilot program not exceeding 10 MW under which public schools that generate more electricity from solar or wind facilities than is consumed by that school, may credit the excess to metered accounts of other schools within that school system or be paid for such excess electricity. The Commission is charged to adopt guidelines necessary to administer this public school pilot.⁶⁵

Renewable Energy Activity under the GTSA

The GTSA addresses the development of solar and wind energy in new Code § 56-585.1:4. Specifically, it determines the following to be in the public interest:

- The construction or purchase by a public utility of one or more solar or wind generation facilities located in Virginia or off the Commonwealth's Atlantic shoreline, each having a capacity of at least 1 MW and having an aggregate rated capacity that does not exceed 5,000 MW, or the purchase of energy, capacity and environmental attributes of such solar facilities owned by someone other than a public utility;
- The construction or purchase by a public utility of one or more solar or wind generation facilities located in Virginia or off the Commonwealth's Atlantic shoreline, each having a capacity of less than 1 MW, including rooftop solar installations with a capacity of not less than 50 kW, and having an aggregate rated capacity that does not exceed 500 MW, or the purchase of energy, capacity and environmental attributes of such solar facilities owned by someone other than a public utility; and
- Construction, purchase, or leasing activities for a test or demonstration project for a new utility-owned and utility-operated generating facility or facilities using energy derived from offshore wind with an aggregate capacity of not more than 16 MW.

⁶³ *Application of Virginia Electric and Power Company, For approval to establish a Virginia community solar pilot program, pursuant to § 56-585.1:3 of the Code of Virginia*, Case No. PUR-2018-00009, Doc. Con. Ctr. No. 180230018, Order For Notice and Hearing (Feb. 16, 2018).

⁶⁴ *Petition of Virginia Electric and Power Company, For approval and certification of the proposed US-3 Solar Projects pursuant to §§ 56-580 D and 56-46.1 of the Code of Virginia and for approval of a rate adjustment clause, designated Rider US-3, under § 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2018-00101, Doc. Con. Ctr. No. 183740078, Order For Notice and Hearing (July 26, 2018).

⁶⁵ *Commonwealth of Virginia, ex rel., State Corporation Commission, Ex Parte: In the matter concerning the implementation by Virginia Electric and Power Company d/b/a Dominion Energy Virginia of a pilot aggregation program pursuant to House Bill 1451*, Case No. PUR-2018-00061, Doc. Con. Ctr. No. 180440085, Order Inviting Comments (Apr. 20, 2018).

All new utility solar generation must be subject to competitive procurement. Further, 25% of the capacity placed in service on or after July 1, 2018, and located in Virginia shall be from purchases by a utility of energy, capacity and environmental attributes from solar facilities owned by someone other than the public utility. The GTSA provides the public utility with flexibility to recover costs associated with such facilities through a rider, through a customer credit reinvestment offset, or through base rates.⁶⁶

Also, pursuant to new Code § 56-585.1:4 F, a utility may petition the Commission for a prudency determination relative to the construction or purchase of one or more solar or wind facilities located in Virginia, or off the Commonwealth's Atlantic shoreline, or for the purchase of capacity, energy, and environmental attributes from the solar or wind facilities owned by someone other than the utility. A final order on such a petition is to be issued within three months of the date of the petition.

On August 3, 2018, DEV filed a petition for a prudency determination related to its proposed Coastal Virginia Offshore Wind demonstration facility.⁶⁷ This case is pending before the Commission, a hearing is scheduled for October 2018, and a final order is due on or about November 3, 2018. Similarly, on August 17, 2018, DEV filed a petition for a prudency determination related to its Water Strider solar PPA.⁶⁸ This case also is pending, and a Commission final order is due on or about November 17, 2018.

⁶⁶ Code § 56-585.1 A 6.

⁶⁷ *Petition of Virginia Electric and Power Company, For a prudency determination with respect to the Coastal Virginia Offshore Wind Project pursuant to Virginia Code § 56-585.1:4 F*, Case No. PUR-2018-00121, Doc. Con. Ctr. No. 180810212, Order for Notice and Hearing (Aug. 7, 2018).

⁶⁸ *Petition of Virginia Electric and Power Company, For a prudency determination with respect to the Water Strider solar purchase power agreement pursuant to Virginia Code § 56-585.1:4 F*, Case No. PUR-2018-00135, Doc. Con. Ctr. No. 180840142, Order for Notice and Hearing (Aug. 21, 2018).

Senate Bill 966 also made other changes related to energy storage, renewable energy and net energy metering laws. Specifically, Enactment Clause 9 of the GTSA directs the Commission to establish pilot programs under which APCo and DEV must submit proposals to deploy electric power storage batteries. In June 2018, the Commission received comments from DEV and APCo proposing guidelines for Commission administration of the pilot programs.⁶⁹ Pursuant to Enactment Clause 10 of the GTSA, the Commission must establish rules or guidelines for such pilot programs by December 1, 2018.

Further, Enactment Clause 17 of the GTSA directs DEV and APCo to investigate:

- (1) potential improvements to net metering programs provided under Code § 56-594;
- (2) potential improvements to the pilot programs for community solar development;
- (3) expansion of options for customers with corporate clean energy procurement targets; and
- (4) impediments to siting new renewable energy projects. Such investigations must include interested stakeholders and may include development of further legislation. Stakeholder meetings regarding these topics are currently underway. By law, DEV and APCo are to issue reports of their findings to the Governor, the Commission, and the Chairmen of the House and Senate Committees on Commerce and Labor by November 1, 2018.

IX. **CONSUMER EDUCATION**

Section 56-592 of the Code directs the Commission to establish, implement, and maintain a consumer education program to provide retail customers with information regarding energy

⁶⁹ See *Commonwealth of Virginia ex rel. State Corporation Commission, Ex Parte: In the matter concerning the implementation by Appalachian Power Company d/b/a American Electric Power – Virginia of a pilot program for the deployment of electric power storage batteries pursuant to Enactment Clauses 9 and 10 of Senate Bill 966*, Case No. PUE-2018-00059; and *Commonwealth of Virginia ex rel. State Corporation Commission, Ex Parte: In the matter concerning the implementation by Virginia Electric and Power Company d/b/a Dominion Energy Virginia of a pilot program for the deployment of electric power storage batteries pursuant to Enactment Clauses 9 and 10 of Senate Bill 966*, Case No. PUE-2018-00060, Doc. Con. Ctr. No. 180630219, Joint Comments of Virginia Electric and Power Company and Appalachian Power Company (June 19, 2018).

conservation and efficiency, DSM, demand response, and renewable energy. Code § 56-592.1 provides funding for such a program. The Virginia Energy Sense (“VES”) consumer education program is in its ninth year of building awareness of the value of energy efficiency.

The VES has recently achieved several important objectives. Among the highlights, a new teaching curriculum for third graders was developed in cooperation with the Virginia Department of Education to help teach the Standards of Learning on energy usage. Additionally, through its multi-year digital campaign, VES has more than doubled its engagement on Facebook and Twitter channels since 2015. VES also enhanced its television advertising campaign by introducing a series of commercials featuring “Jack,” an animated electrical outlet. The short, humorous videos of Jack on the VES social channels already are highly popular, generating over 1.2 million views by June 30, 2018. Further information about the VES program can be found at www.virginiaenergysense.org.

The Commission will continue to monitor the VES program’s objectives and adjust the VES program as necessary.

X. **REGIONAL TRANSMISSION ENTITY PARTICIPATION**

Section 56-579 G of the Code requires the Commission to report annually “its assessment of the practices and policies of the RTE to which the Commission has approved the transfer of management and control of an incumbent electric utility's transmission assets.”⁷⁰ This section discusses recent developments in RTE participation and the impacts of RTE operations on the energy market. DEV, APCo, and ODEC all are members of PJM, which operates both the high-voltage electric transmission grid and the wholesale electricity market across all or parts of the District of Columbia and thirteen states, including Virginia.

⁷⁰ This also is referred to as a regional transmission organization, or RTO.

PJM Background

PJM Capacity Market

PJM ensures the future availability of resources to meet electricity demand at all times through the capacity market for electricity. This market is designed to ensure the adequate availability of necessary resources; *i.e.*, generating capacity or demand response that can be called on as needed to ensure reliability of the electrical grid. PJM prices capacity using the Reliability Pricing Model (“RPM”). The RPM is intended to stimulate investment in maintaining current generation resources and encouraging new resource development. The RPM is intended to produce capacity prices to spur construction of new generation or transmission where needed to promote reliable service.

PJM sets the price of capacity via a competitive auction held three years prior to the time when the capacity is needed. The RPM auction procedures are approved by FERC.

PJM's latest RPM auction was held in May 2018 to set the price for capacity for delivery in 2021/2022. On May 23, 2018, PJM announced the auction results, revealing that the price per MW increased compared to the 2017 auction (setting the price for capacity in the 2020/2021 delivery year). The 2018 auction cleared 163,627 MW, compared to 165,109 MW cleared in 2017. Additionally, the 2018 auction set the price for capacity performance resources in non-constrained areas at \$140/MW per day. By comparison, the 2017 auction set the price for such resources at \$76.53/MW per day. Currently it is unclear what drivers caused the increase in the price for capacity during the 2018 auction, and PJM's independent Market Monitor has raised concerns challenging the auction results.

DEV and ODEC both participate in the RPM. APCo's participation in the capacity market is through a method known as the Fixed Resource Requirement Alternative. Utilities that

do not desire to participate in the RPM may instead submit a fixed resource requirement capacity plan and meet a fixed capacity resource requirement. APCo utilizes the Fixed Resource Requirement Alternative and has opted out of the RPM capacity auction through the 2021/2022 delivery year.

PJM Energy Market

In addition to the capacity market, PJM operates the wholesale energy market, allowing for purchases of electricity on a day-ahead and five-minute-ahead (the real-time or spot market) basis. PJM prices energy bought in these markets on a system of locational marginal prices (“LMP”), which is designed to reflect the value of energy at the specific place and time where it is delivered. When energy can flow freely to all locations, the LMP is the same throughout PJM. When there is heavy use of the transmission system and energy cannot flow freely to all locations within PJM, LMP is usually higher in the constrained areas. The LMP may change as often as every five minutes.⁷¹ Virginia's electric consumers are impacted by the PJM energy market to the extent that their utilities purchase electricity from and sell electricity to the PJM market.

DEV currently purchases a portion of its energy needs from PJM-administered wholesale markets. ODEC and APCo also purchase energy from these wholesale markets.

Significant RTE-Related Dockets at FERC

Section 56-579 C of the Code directs the Commission to participate “to the fullest extent permitted” in RTE-related dockets at FERC. The following is a discussion of recent developments in significant RTE-related dockets at FERC in which the Commission participated.

⁷¹ <https://learn.pjm.com/Media/about-pjm/newsroom/fact-sheets/locational-marginal-pricing-fact-sheet.pdf>.

FERC Approval of PJM Pricing for Transmission

Regional transmission planning, in particular the debate over which entities pay for regional transmission projects, has been the subject of much discussion since 2007. At that time FERC approved a PJM proposal that would socialize costs of transmission projects operating at or above 500 kilovolt (“kV”) across all PJM transmission zones, based on the transmission owners' respective load ratio shares.⁷² Projects operating below 500 kV would continue to be financed under PJM's existing methodology, wherein all new facilities in PJM's region have been financed by contributions from the region's electric utilities calculated on the basis of the benefits that each utility receives from the facilities.⁷³ This FERC decision, which applies to projects approved by PJM between 2007 and 2012, has been reversed twice by courts. On June 15, 2016, a settlement motion was filed by a number of parties, including DEV, APCo and the Commission. On May 18, 2018, FERC approved the contested settlement which provides for such projects to be 50% socialized, with the remaining 50% financed by contributions from the region's electric utilities calculated on the basis of the benefits that each utility receives from the facilities.⁷⁴

The Commission continues to follow changes in transmission cost allocation policy at FERC and participates when necessary in related proceedings.

PJM Capacity Pricing for Out-of-Market Payments

On April 9, 2018, PJM filed with FERC two alternative proposals to modify the existing capacity market to account for out-of-market payments to generators, such as subsidized resources (*e.g.*, state policies subsidizing nuclear or renewable generation facilities) that PJM

⁷² *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,063 (2007), *reh'g denied*, 122 FERC ¶ 61,082 (2009).

⁷³ *Illinois Commerce Comm'n v. F.E.R.C.*, 576 F.3d 470 (7th Cir. 2009).

⁷⁴ *PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,168 (2018).

claimed would depress capacity market prices. One proposal, supported by PJM's independent Market Monitor, would modify PJM's existing Minimum Offer Price Rule (“MOPR”) to apply to all generation types. (The existing rule covers only new natural gas-fired resources.) The alternative proposal, supported by the PJM Board, would require a two-stage auction process, in which PJM would recalculate prices after the first round by removing offers from subsidized resources and replacing them with reference prices, reflecting PJM’s estimates of a competitive offer.

On June 29, 2018, FERC rejected both proposals, sending the matter to a paper hearing in a new docket, in which FERC made a preliminary finding that an expanded MOPR with limited exemptions and a unit-specific Fixed Resource Requirement could be in the public interest.⁷⁵ In its decision FERC asked for input on what exemptions would be appropriate. Among the issues FERC must decide is whether the existing exemption for utilities like DEV should be maintained. The Commission is participating in this newly established docket at FERC.

XI. **CLOSING**

The Commission continues to execute its responsibilities under the Regulation Act. The Commission does not offer any legislative recommendations at this time but stands ready to provide additional information or assistance if requested.

⁷⁵ *Calpine Corporation v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236 (2018).

Residential Consumer Electric Rates in Virginia
Expressed in \$ per 1000 kWh

UTILITIES	\$ Jul-07	\$ Jul-18	\$ Change	% Change
<u>IOU</u>				
Appalachian Power Company	66.61	115.62	49.01	73.58
Dominion Energy Virginia	90.59	115.00	24.41	26.95
Old Dominion/Kentucky Utilities	67.57	105.71	38.14	56.45
<u>Electric Cooperatives</u>				
A&N	122.59	118.42	(4.17)	(3.40)
BARC	123.18	128.74	5.56	4.51
Central Virginia	83.04	141.28	58.24	70.13
Community	122.37	126.92	4.55	3.71
Craig Botetourt	114.90	142.97	28.07	24.43
Mecklenburg	121.71	138.33	16.62	13.65
Northern Neck	126.35	143.88	17.53	13.87
Northern Virginia	129.20	123.09	(6.11)	(4.73)
Prince George	118.62	126.95	8.33	7.02
Rappahannock	127.72	127.10	0.62	(0.48)
Shenandoah Valley	115.12	114.07	(1.05)	(0.91)
Southside	133.32	133.21	(0.11)	(0.08)

NOTES

1. Rates are exclusive of Local Utility, Consumption and, except for Rappahannock, Sales and Use taxes.
2. Rates for DEV, NNEC and REC reflect annualized rates.
3. Electric Cooperatives: Wholesale Power Cost Adjustment/Power Cost Adjustment rates effective July 2018.
4. DEV's interim fuel factor rate is effective July 1, 2018, pursuant to Case No. PUR-2018-00067
5. DEV's base rates are effective July 1, 2018, pursuant to Case No. PUR-2018-00055
6. DEV's C1A and C2A rates are effective July 1, 2018, pursuant to Case No. PUR-2017-00129.
7. DEV's rates exclude the one-time reduction to bills through the Distribution and Generation Service 2018 Bill Credit Riders, Case No. PUR-2018-00053.
8. APCo's EE-RAC is effective July 1, 2018, pursuant to Case No. PUR-2017-00126.

Appendix 2

CHANGE IN AVERAGE RATES PER CUSTOMER CLASS

PEER Group Average Rate Comparison⁷⁶

Total Rate:	2006 ¢/kWh	2017 ¢/kWh	Change %	2006 Ranking	2017 Ranking	Rank Change
Alabama Power	7.09	10.16	43.37	8	15	-7
Appalachian Power Company (Va)	5.04	9.24	83.33	1	10	-9
Dominion Virginia Power	6.79	8.78	29.38	7	7	0
DUKE Energy Carolinas (NC)	6.48	8.21	26.69	6	2	4
DUKE Energy Carolinas (SC)	5.54	7.64	37.85	3	1	2
Entergy Mississippi, Inc	9.89	8.62	-12.88	15	5	10
FP&L Company	11.22	10.13	-9.72	18	14	4
Georgia Power	7.29	9.21	26.32	11	9	2
Gulf Power	7.98	11.55	44.69	14	18	-4
Mississippi Power	7.21	9.09	26.00	9	8	1
Duke Energy Progress, Inc. (NC)	7.60	8.61	13.38	12	4	8
Duke Energy Progress, Inc. (SC)	7.27	8.61	18.37	10	3	7
Duke Progress Energy Florida, Inc.	10.55	10.47	-0.73	17	16	1
SCE&G	7.83	11.47	46.60	13	17	-4
Tampa Electric Company	9.96	9.95	-0.11	16	12	4
Kentucky Utilities (d/b/a ODP)	5.85	9.96	70.21	5	13	-8
Louisville Gas & Electric	5.79	9.42	62.78	4	11	-7
Kentucky Utilities (KY)	5.32	8.64	62.31	2	6	-4
Average For East South Central	6.85	9.46	38.10			
Average For South Atlantic	8.26	9.59	16.10			
USA Average	8.89	10.85	22.05			

⁷⁶ Throughout Appendix 2, the “ranking” columns compare the position (1 to 18) of the peer utilities among each other, with position 1 as the lowest average rate and position 18 the highest average rate for a given year. In other words, a customer of a utility with a ranking of 1 would generally tend to have a lower bill than a comparable customer of a utility with a ranking higher than 1 in the designated year. The “rank change” column reflects the number of positions towards or away from 1 that a particular utility has moved from the base year 2006 to 2017. A positive rank change means that utility was closer to 1 in 2017 than in 2006 and, all else being equal, average customers’ rates have become more competitive for that utility. Similarly, a negative rank change indicates that a utility has moved farther away from 1 between 2006 and 2017 and, all else being equal, average customer rates have become less competitive for that utility.

PEER Group Average Rate Comparison

Residential Rate:	2006 ¢/kWh	2017 ¢/kWh	Change %	2006 Ranking	2017 Ranking	Rank Change
Alabama Power	8.93	13.37	49.71	9	16	-7
Appalachian Power Company (Va)	5.95	11.44	92.27	2	12	-10
Dominion Virginia Power	8.43	11.32	34.29	7	11	-4
DUKE Energy Carolinas (NC)	7.93	10.19	28.41	6	2	4
DUKE Energy Carolinas (SC)	7.33	10.59	44.42	5	6	-1
Entergy Mississippi, Inc	10.55	9.46	-10.31	15	1	14
FP&L Company	11.90	11.23	-5.63	18	10	8
Georgia Power	8.82	12.10	37.27	8	13	-5
Gulf Power	9.07	13.47	48.56	12	17	-5
Mississippi Power	10.12	13.24	30.76	14	15	-1
Duke Energy Progress, Inc. (NC)	9.03	10.37	14.93	11	4	7
Duke Energy Progress, Inc. (SC)	9.01	11.20	24.29	10	9	1
Duke Progress Energy Florida, Inc.	11.79	12.54	6.35	17	14	3
SCE&G	9.92	14.89	50.09	13	18	-5
Tampa Electric Company	10.97	11.14	1.52	16	8	8
Kentucky Utilities (d/b/a ODP)	6.03	10.43	73.02	3	5	-2
Louisville Gas & Electric	6.63	10.90	64.37	4	7	-3
Kentucky Utilities (KY)	5.87	10.29	75.46	1	3	-2
Average For East South Central	8.24	11.79	43.08			
Average For South Atlantic	9.79	11.72	19.71			
USA Average	10.62	13.28	25.05			

PEER Group Average Rate Comparison

Commercial Rate:	2006 ¢/kWh	2017 ¢/kWh	Change %	2006 Ranking	2017 Ranking	Rank Change
Alabama Power	8.17	12.12	48.41	14	18	-4
Appalachian Power Company (Va)	5.09	9.01	77.01	1	7	-6
Dominion Virginia Power	6.08	7.55	24.18	3	1	2
DUKE Energy Carolinas (NC)	6.31	7.64	21.00	7	2	5
DUKE Energy Carolinas (SC)	6.26	8.43	34.63	6	4	2
Entergy Mississippi, Inc	10.20	8.84	-13.41	17	5	12
FP&L Company	10.54	8.90	-15.60	18	6	12
Georgia Power	7.50	9.40	25.23	9	9	0
Gulf Power	7.59	10.50	38.38	10	16	-6
Mississippi Power	8.05	10.32	28.23	12	15	-3
Duke Energy Progress, Inc. (NC)	7.46	8.36	11.98	8	3	5
Duke Energy Progress, Inc. (SC)	8.05	9.46	17.45	13	11	2
Duke Progress Energy Florida, Inc.	9.62	9.44	-1.83	16	10	6
SCE&G	7.91	11.50	45.47	11	17	-6
Tampa Electric Company	9.48	9.08	-4.20	15	8	7
Kentucky Utilities (d/b/a ODP)	6.26	9.71	55.11	5	12	-7
Louisville Gas & Electric	6.18	9.77	57.98	4	13	-9
Kentucky Utilities (KY)	5.75	10.13	76.14	2	14	-12
Average For East South Central	7.73	10.70	38.42			
Average For South Atlantic	8.33	8.97	7.68			
USA Average	9.33	10.82	15.97			

PEER Group Average Rate Comparison

n

Industrial Rate:	2006 ¢/kWh	2017 ¢/kWh	Change %	2006 Ranking	2017 Ranking	Rank Change
Alabama Power	4.92	6.51	32.36	7	9	-2
Appalachian Power Company (Va)	3.85	6.71	74.29	1	11	-10
Dominion Virginia Power	4.62	5.99	29.47	5	5	0
DUKE Energy Carolinas (NC)	4.73	5.94	25.70	6	4	2
DUKE Energy Carolinas (SC)	4.04	5.10	26.28	2	1	1
Entergy Mississippi, Inc	8.04	6.25	-22.17	16	7	9
FP&L Company	8.87	6.77	-23.69	18	12	6
Georgia Power	5.39	5.46	1.23	11	2	9
Gulf Power	5.85	7.97	36.23	14	17	-3
Mississippi Power	5.10	6.63	29.89	8	10	-2
Duke Energy Progress, Inc. (NC)	5.78	6.05	4.57	13	6	7
Duke Energy Progress, Inc. (SC)	5.64	5.80	2.84	12	3	9
Duke Progress Energy Florida, Inc.	8.31	7.25	-12.76	17	15	2
SCE&G	5.15	7.20	39.60	9	14	-5
Tampa Electric Company	7.65	7.81	2.00	15	16	-1
Kentucky Utilities (d/b/a ODP)	5.22	8.95	71.48	10	18	-8
Louisville Gas & Electric	4.35	6.83	57.12	3	13	-10
Kentucky Utilities (KY)	4.46	6.27	40.49	4	8	-4
Average For East South Central	4.97	6.48	30.38			
Average For South Atlantic	5.19	6.40	23.31			
USA Average	6.00	7.00	16.67			