

Dominion Resources Services, Inc.
Law Department
P.O. Box 26532, Richmond, VA 23261



Horace P. Payne, Jr.
Senior Counsel
Direct: (804) 819-2682
Fax: (804) 819-2183
horace.p.payne@dom.com

State Corporation Commission
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OCT 31 2014

October 31, 2014

Division of
Utility Accounting & Finance
Richmond, VA

VIA HAND DELIVERY

Ms. Susan D. Larsen
Director, Division of Public Utility Accounting

Mr. William F. Stephens
Director, Division of Energy Regulation

State Corporation Commission
1300 E. Main Street
Richmond, Virginia 23219

*Dominion Virginia Power's
Annual Report to the State Corporation Commission on Renewable Energy,
in accordance with § 56-585.2 H of the Code of Virginia*

Dear Ms. Larsen and Mr. Stephens:

In accordance with § 56-585.2 H of the Code of Virginia, Virginia Electric and Power Company d/b/a Dominion Virginia Power ("Dominion" or "the Company") submits its 2014 Annual Report to the State Corporation Commission ("Commission") on Renewable Energy.

In 2013, Dominion Virginia Power generated enough renewable energy from its own resources to meet 80% of its 2013 RPS Goal. This includes output from the Company's hydroelectric facilities as well as one of the largest biomass facilities in the eastern United States. It also includes renewable output from non-utility generators under long-term contracts with the Company. When it made economic sense for our customers, the Company continued to optimize some of the renewable energy certificates ("RECs") from its generation by selling them in other states, and then replacing them with less costly RECs produced by non-Company units. Net proceeds from the optimization are credited to customers, directly benefiting our customers here in Virginia.

Legislation passed by the 2012 Virginia General Assembly provides that utilities participating in a RPS program may meet up to 20 percent of their annual RPS Goals using RECs issued by the Commission for qualified investments in renewable and alternative energy research and development activities. Pursuant to this provision, the Company has partnered with 12 institutions of higher education on Virginia renewable and alternative energy research and development projects, an overview of which is provided in the Annual Report. The Company

filed its 2013 Annual Report of Qualified Investments on March 31, 2014 to facilitate the Commission's validation and issuance of RECs for Virginia renewable and alternative energy research and development projects. On June 20, 2014, the Commission issued its Order finding that 137,336 renewable energy certificates were deemed issued to the Company for qualified investments in 2013.

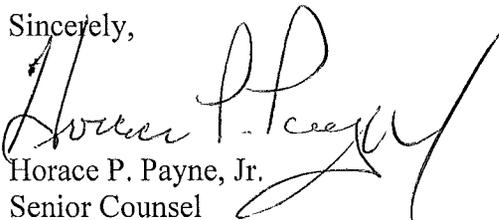
As noted in its 2014 Integrated Resource Plan filed August 29, 2014, the Company has a strong commitment to a cost-effective renewable energy program. The Company is actively developing both onshore and offshore wind projects in Virginia, including two offshore wind generation projects adjacent to one another about 26 miles east of Virginia Beach. The Company continues to evaluate additional renewable development opportunities, including up to 60 MW of renewable energy from its Virginia City Hybrid Energy Center using biomass co-fired with coal which began in 2013. The Company has also developed 153 MW of renewable energy as a result of the approval of the Company's Application in Case No. PUE-2011-00073 for the conversion of the Altavista, Hopewell, and Southampton power stations from burning coal to biomass. The converted Altavista Power Station entered commercial operation on July 12, 2013, Hopewell on October 18, 2013, and Southampton on November 28, 2013.

The Company has also implemented a two-component solar distributed generation program. First, the Solar Partnership Program is a demonstration program to study the impact and assess the benefits of distributed solar photovoltaic generation on its distribution system through the construction and operation of Company-owned distributed solar generation installations. Second, the Solar Purchase Program is a demonstration program consisting of a new special tariff under which the Company will purchase no more than 3 MW of energy output from customer-owned distributed solar generation installations as an alternative to net energy metering. The customer response to both of these solar programs has been positive.

Beyond development of specific projects, the Company encourages its customers to support renewable energy generation resources through voluntary participation in several renewable energy options, including its Rider G Renewable Energy Program, which offers customers a companion rate for purchase and retirement of RECs equal to all or a portion of a customer's monthly consumption. The Company was awarded a 2013 EPA Green Power Supplier of the Year Award for this program. The Company has also implemented a renewable generation pilot program, including another new experimental and voluntary tariff, Rate Schedule RG – Renewable Energy Supply Service, designed to provide large, non-residential customers served under Schedule GS-3 and GS-4 the option to purchase a greater percentage of their energy needs from renewable energy.

Thank you for the opportunity to provide this information. If you or your staff members have any questions, please contact me.

Sincerely,



Horace P. Payne, Jr.
Senior Counsel



Virginia Electric and Power Company

d/b/a

Dominion Virginia Power

Annual Report to the State Corporation Commission

on Renewable Energy, in accordance with

§ 56-585.2.H of the Code of Virginia

October 31, 2014

I. INTRODUCTION

Pursuant to § 56-585.2 H of the Code of Virginia (“Va. Code”), Virginia Electric and Power Company (“Dominion Virginia Power” or the “Company”) submits this Annual Report on Renewable Energy (“Report”) to the Virginia State Corporation Commission (“Commission”). Va. Code § 56-585.2 H requires each investor-owned incumbent electric utility in the Commonwealth to report to the Commission annually on (i) its efforts to meet renewable portfolio standard (“RPS”) goals (“RPS Goals”); (ii) its generation of renewable energy; and (iii) advances in renewable generation technology that affect the utility’s activities. Exhibit 1 to this Annual Report shows the Company’s RPS compliance position for meeting its RPS Goals, including 2013 actual compliance and 2014-2025 forecasted compliance. This Annual Report also describes generally the Company’s efforts to support renewable energy development as well as advances in renewable generation technology.

2013 RPS Compliance

The Company met and exceeded its 2013 Virginia RPS Plan renewable target of 1,732,746 megawatt hours (“MWh”) through implementation of its RPS Plan approved by the Commission as illustrated in Exhibit 2 of this Annual Report (as verified by Chiman H. Muchhala). Renewable generation from the Company’s own resources (including through contracts with Non-Utility Generators (“NUGs”)) provided 80 percent of Dominion Virginia Power’s 2013 RPS Goal, some of which was banked and/or optimized as permitted by Va. Code § 56-585.2.

II. EFFORTS TO MEET RENEWABLE PORTFOLIO STANDARD GOALS

A. **Statutory Guidance**

For the purposes of complying with Virginia's RPS Goals as set forth in Va. Code § 56-

585.2 *et seq.*, "renewable energy" is defined (by reference to Va. Code § 56-576) as:

energy derived from sunlight, wind, falling water, biomass, sustainable or otherwise, (the definitions of which shall be liberally construed), energy from waste, land fill gas, municipal solid waste, wave motion, tides, and geothermal power, and does not include energy derived from coal, oil, natural gas, or nuclear power. Renewable energy shall also include the proportion of the thermal or electric energy from a facility that results from the co-firing of biomass.

Va. Code § 56-585.2 further defines how such renewable energy can qualify for compliance with the Virginia RPS Goals. Such renewable energy must be:

- generated in the Commonwealth or in the interconnection region of the regional transmission entity of which the participating utility is a member, as it may change from time to time, and purchased by a participating utility under a power purchase agreement; provided, however, that if such agreement was executed on or after July 1, 2013, the agreement shall expressly transfer ownership of renewable attributes, in addition to ownership of the energy, to the participating utility;
- generated by a public utility providing electric service in the Commonwealth from a facility in which the public utility owns at least a 49 percent interest and that is located in the Commonwealth, in the interconnection region of the regional transmission entity of which the participating utility is a member, or in a control area adjacent to such interconnection region; or
- represented by renewable energy certificates ("RECs").¹
- "Renewable energy" shall not include electricity generated from pumped storage, but shall include run-of-river generation from a combined pumped-storage and run-of-river facility.

Va. Code § 56-585.2 B provides that "[a]ny investor-owned incumbent electric utility may apply to the Commission for approval to participate in a renewable energy portfolio standard program" and that the "Commission shall approve such application if the applicant

¹ "Renewable energy certificate" means either (i) a certificate issued by an affiliate of the regional transmission entity of which the participating utility is a member, as it may change from time to time, or any successor to such affiliate, and held or acquired by such utility, that validates the generation of renewable energy by eligible sources in the interconnection region of the regional transmission entity or (ii) a certificate issued by the Commission pursuant to subsection J and held or acquired by a participating utility, that validates a qualified investment made by the participating utility. Va. Code § 56-576.

demonstrates that it has a reasonable expectation of achieving 12 percent of its base year electric energy sales from renewable energy sources during calendar year 2022, and 15 percent of its base year electric energy sales from renewable energy sources during calendar year 2025”

Va. Code § 56-585.2 D sets forth the RPS Goals:

- RPS Goal I: In calendar year 2010, 4 percent of total electric energy sold in the base year.
- RPS Goal II: For calendar years 2011 through 2015, inclusive, an average of 4 percent of total electric energy sold in the base year, and in calendar year 2016, 7 percent of total electric energy sold in the base year.
- RPS Goal III: For calendar years 2017 through 2021, inclusive, an average of 7 percent of total electric energy sold in the base year, and in calendar year 2022, 12 percent of total electric energy sold in the base year.
- RPS Goal IV: For calendar years 2023 and 2024, inclusive, an average of 12 percent of total electric energy sold in the base year, and in calendar year 2025, 15 percent of total electric energy sold in the base year.

B. Dominion Virginia Power’s RPS Plan

On July 28, 2009, the Company submitted its Application for Approval to Participate in a Renewable Energy Portfolio Standard Program Pursuant to Va. Code § 56-585.2 (the “Application”), in Case No. PUE-2009-00082. The Application represented the Company’s initial filing for approval of its RPS Plan. On May 18, 2010, the Commission issued its Final Order (the “Final Order”) in that initial proceeding, finding that the Company has demonstrated that it has a reasonable expectation of achieving 12 percent of its base year electric energy sales from renewable energy sources during calendar year 2022, and 15 percent of its base year electric energy sales from renewable energy sources during calendar year 2025, and granting Dominion Virginia Power’s Application seeking approval to participate in a RPS program.

Any references to MWh goals, renewable generation and REC transactions set forth in this Annual Report are shown at the Virginia Jurisdictional percentage level and not at the Total System level. The 2013 Virginia Jurisdictional percentage is 80.2157 percent of the Total System level and is shown rounded for the purposes of this report to 80.22 percent. This percentage is based on the Company's most recent cost of service study for the 12 months ending December 31, 2013. This allocation factor is used as the basis for apportioning existing generation MWh for inclusion in its Virginia RPS Plan.

As set forth in the Company's approved RPS Plan, the Company plans to use existing renewable energy sources (including that renewable energy provided by contract with NUGs),² to develop new renewable energy generation facilities where feasible, and to purchase RECs to achieve the RPS Goals. Specifically, the renewable energy from existing renewable energy sources and new renewable energy sources identified in the 2014 Integrated Resource Plan, are estimated to be approximately 1.1 million MWh in 2022 and 1.2 million MWh in 2025.³ The Company also plans to develop additional new renewable generation facilities where feasible or purchase approximately 4.1 million RECs in 2022 and 5.3 million RECs in 2025 to meet and comply with the 2022 and 2025 targets of 5.2 million MWh and 6.5 million MWh, respectively.

The Company met RPS Goal I in 2010.⁴ The Company's RPS Plan will also meet the interim RPS Goals II through IV as described in the RPS Application. Exhibit 1 to this Annual

² The Commission approved the Company's use of renewable energy from NUGs where the contract on renewable attributes was silent in its Order on Petition, *Petition of Virginia Electric and Power Company for a declaratory judgment*, Case No. PUE-2010-00132 (June 17, 2011). Legislation passed in 2013 requires "if such agreement was executed on or after July 1, 2013, the agreement shall expressly transfer ownership of renewable attributes, in addition to ownership of the energy, to the participating utility . . ." Virginia Acts of Assembly, 2013 Session, Chapters 308 and 403.

³ At this time, most of the NUG contracts have expiration dates prior to 2025.

⁴ *Application of Virginia Electric and Power Company for a 2011 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-2011-00027, Final Order at 22 (Nov. 30, 2011).

Report shows the Company’s RPS compliance position for meeting its RPS Goals, including 2013 actual compliance and 2014-2025 forecasted compliance.

1. Total Electric Energy Sold in the Base Year

Pursuant to Va. Code § 56-585.2 A, “[t]otal electric energy sold in the base year” is “total electric energy sold to Virginia jurisdictional retail customers by a participating utility in calendar year 2007, excluding an amount equivalent to the average of the annual percentages of the electric energy that was supplied to such customers from nuclear generating plants for the calendar years 2004 through 2006.” The Company has calculated its total electric energy sold in the base year as follows:

| | |
|--|-----------------------|
| Electric Energy Sold to Retail Customers in 2007 (Virginia Jurisdiction) | 64,621,534 MWh |
| Three-year Average (2004-2006) Nuclear Generation (Virginia Jurisdiction) | <u>21,302,885 MWh</u> |
| Total Electric Energy Sold in the Base Year (Target Baseline) | <u>43,318,649 MWh</u> |

2. RPS Goals for the Years 2011 Through 2025

The Company’s RPS Goals were established and approved in Case No. PUE-2009-00082 by multiplying the total electric energy sold in the base year (described above) by the RPS Goals for the years 2011 through 2025.

Pursuant to Va. Code § 56-585.2 D, the RPS Goals II-IV are based on multiyear averages. The Company’s RPS Goals for each individual year as represented in MWh (or average MWh for a group of years) are as follows:

| Year | 2011- 2015 | 2016 | 2017-2021 | 2022 | 2023-24 | 2025 |
|----------------|-------------------|-------------|------------------|-------------|----------------|-------------|
| Percent | 4% Average | 7% | 7% Average | 12% | 12% Average | 15% |
| Goal | 1,732,746 | 3,032,305 | 3,032,305 | 5,198,238 | 5,198,238 | 6,497,797 |

3. Resources to Fulfill the RPS Goals

a. Existing DVP Renewable Energy Generation Facilities Included in Approved

RPS Plan:⁵

| Existing Renewable Energy Facilities Owned by Dominion Virginia Power | | | |
|--|--------------|-----------------|---------------|
| Facility | State | Capacity | Fuel |
| Gaston | NC | 220 MW | Hydroelectric |
| Roanoke Rapids | NC | 95 MW | Hydroelectric |
| Cushaw | VA | 2 MW | Hydroelectric |
| North Anna | VA | 1 MW | Hydroelectric |
| Pittsylvania | VA | 83 MW | Biomass |
| Subtotal | | 318 MW | Hydroelectric |
| Subtotal | | 83 MW | Biomass |
| Total | | 401 MW | |

Pursuant to Va. Code § 56-585.2 F, utilities participating in a RPS program are permitted to use a combined 1.5 million green tons of certain tree-based material, as defined in the statute.⁶

⁵ Based on the Company's most recent cost of service study for the 12 months ending December 31, 2013, the Virginia Jurisdiction is responsible for approximately 80.22 percent of the Company's electricity demand, and the Company used this allocation factor as the basis for apportioning approximately 80.22 percent of the existing generation MWh for inclusion in its Virginia RPS Plan.

⁶ The relevant portion of Va. Code § 56-585.2 F states:

Utilities participating in such program shall collectively, either through the installation of new generating facilities, through retrofit of existing facilities or through purchases of electricity from new facilities located in Virginia, use or cause to be used no more than a total of 1.5 million tons per year of green wood chips, bark, sawdust, a tree or any portion of a tree which is used or can be used for lumber and pulp manufacturing by facilities located in Virginia, towards meeting RPS goals, excluding such fuel used at electric generating facilities using wood as fuel prior to January 1, 2007. A utility with an approved application shall be allocated a portion of the 1.5 million tons per year in proportion to its share of the total electric energy sold in the base year, as defined in subsection A, for all utilities participating in the RPS program. A utility may use in meeting RPS goals, without limitation, the following sustainable biomass and biomass based waste to energy resources: mill residue, except wood chips, sawdust and bark; pre-commercial soft wood thinning; slash; logging and construction debris; brush; yard waste; shipping crates; dunnage; non-merchantable waste paper; landscape or right-of-way tree trimmings; agricultural and vineyard materials; grain; legumes; sugar; and gas produced from the anaerobic decomposition of animal waste.

In its Final Order approving the Company's RPS Plan, the Commission determined that Dominion Virginia Power's *pro rata* share of the 1.5 million ton restriction for certain green tree-based materials is 73.929 percent or 1,108,940 tons. Since the Company's Pittsylvania biomass facility is grandfathered as an existing facility under the statute, the Company has not burned any incremental tree-based material subject to the 1.5 million ton limitation in 2014.

b. NUG Renewable Energy Resources

In addition to Company-owned resources, Dominion Virginia Power has existing renewable energy resources in the form of long-term contracts with various renewable energy NUGs. In its RPS Application, the Company took the position that the NUG contracts for renewable energy include all aspects of that energy, including the renewable attributes. In 2010, the Company filed a Petition for Declaratory Judgment with the Commission in Case No. PUE-2010-00132 to determine if the Company could use the renewable energy generated by a qualifying NUG where the contract was silent on ownership of such renewable attributes. By its Order on Petition dated June 17, 2011, the Commission decided that the Company should apply the NUG renewable energy as part of its RPS Plan. As a result, the Company banked the renewable energy generation of 1.9 million MWh produced by qualifying NUGs from 2010 – 2012. An additional 0.6 million MWh were generated by such qualifying NUGs in 2013. The Company will apply approximately 1 million of these MWh toward its 2013 RPS compliance. Because the Commission did not make a specific determination regarding the ownership of the NUG RECs (which may no longer have any value if the Company has the right to use the renewable attributes through application of the renewable energy through its RPS plan), it is

unlikely that the Company will be able to optimize the NUG renewable energy where the Company did not also have rights to the RECs.⁷

c. New Renewable Energy Sources

The Company is actively developing both onshore and offshore wind projects in Virginia. With respect to onshore wind, the Company's 2014 Integrated Resource Plan, filed August 29, 2014, recommends the continued reasonable development of three onshore wind projects that will bring a total of 247 megawatts ("MW") of renewable energy to the Company's resource portfolio.

In addition, Dominion Virginia Power is involved in two offshore wind generation projects adjacent to one another about 26 miles east of Virginia Beach. One project focuses on research and development of offshore wind generation technology, the Virginia Offshore Wind Technology Advancement Project ("VOWTAP"). In December 2012, the VOWTAP was one of seven projects selected to receive \$4 million each in federal funds to undertake initial engineering, design and permitting. The demonstration facility will consist of two six-megawatt turbines with a goal to identify innovative ways to lower the costs of offshore wind. In May 2014, the VOWTAP was one of three finalists to be awarded up to \$47 million in additional funding from the U.S. Department of Energy ("DOE") to help support the construction of the 12 megawatt demonstration project.

The second project is intended to develop a commercial offshore wind generation facility. In October 2013, the Company executed a \$1.6 million lease for 112,800 acres of federal land to develop a commercial-scale offshore wind turbine facility capable of generating up to 2,000 MW of electricity, enough to power approximately 500,000 homes. The Company is actively

⁷ See *infra* n.2.

developing this commercial generation project, with the development schedule in compliance with the lease obligations established by the U.S. Bureau of Ocean Energy Management.

d. Research and Development Initiatives

A 2012 revision to Va. Code § 56-585.2 resulting from Chapters 274 and 717 (HB 1102 and SB 413) of the 2012 Acts of the General Assembly allows utilities that are participating in Virginia's RPS program to meet up to 20 percent of their annual RPS Goals using RECs issued by the Commission for qualified investments in renewable and alternative energy research and development activities.⁸ Pursuant to Va. Code § 56-585.2, the Company has partnered with 12 institutions of higher education on Virginia renewable and alternative energy research and development projects. The following provides a snapshot of each project and its associated funding.

Appalachian School of Law, Grundy, Va., \$95,000

Removing Barriers to the Development of Onshore Wind Energy in Virginia

An analysis of the legal, regulatory, policy, and public opinion obstacles and opportunities for onshore wind development in Virginia, primarily with respect to siting and permitting. This includes cataloging the policy incentives and disincentives that exist for permitting and siting onshore wind facilities.

Christopher Newport University, Newport News, Va., \$50,000 (Completed)

Overview of Offshore Wind Energy in the United States and the European Union

The study will focus on drivers, incentives, mandates, and other market considerations that affect the supply and demand for offshore wind energy.

⁸ "Qualified investment" means an expense incurred in the Commonwealth by a participating utility in conducting, either by itself or in partnership with institutions of higher education in the Commonwealth or with industrial or commercial customers that have established renewable energy research and development programs in the Commonwealth, research and development activities related to renewable or alternative energy sources, which expense (i) is designed to enhance the participating utility's understanding of emerging energy technologies and their potential impact on and value to the utility's system and customers within the Commonwealth; (ii) promotes economic development within the Commonwealth; (iii) supplements customer-driven alternative energy or energy efficiency initiatives; (iv) supplements alternative energy and energy efficiency initiatives at state or local governmental facilities in the Commonwealth; or (v) is designed to mitigate the environmental impacts of renewable energy projects. Va. Code § 56-585.2.

George Mason University, Fairfax, Va., \$25,000 (Completed)

Decision Guidance Approach to Power Optimization and Management

The project will seek to apply operational optimization tools and techniques to the area of energy storage devices (batteries) operating within a power distribution system. The goal is to optimize battery costs and value derived from utility scale battery systems.

George Washington University Virginia Science and Technology Campus, Ashburn, Va., \$150,000 over 2 years

High-Efficiency Intermediate-Band Solar Cells with Quantum Dots

Motivated by advancements in nanotechnology, this project will seek to engineer solar cells that will use the unique properties of quantum dots to raise conversion efficiency of solar light into electricity.

Longwood University, Farmville, Va., \$50,000 (Completed)

Biomass Optimization Prototype

A multi-phase project to develop a prototype biomass processing plant with the goal of improving the energy gained from the biomass when burned. RPS research and development funding will support a Phase 1 Pre-planning Study to identify the most efficient and sustainable way of processing, drying, and storing biomass.

Old Dominion University, Norfolk, Va., \$500,000 over 3 years

Development of a Test Facility for Photovoltaic Systems

Establishes a test facility to study issues related to economics, operation, maintenance, and performance of large-scale solar installations. Areas of study include 1) Cost and operational comparison of various solar mounting structures; 2) Side-by-side comparison of different photovoltaic technologies; and 3) Real-time analysis of performance degradation of solar tracking systems.

Randolph Macon College, Ashland, Va., \$96,000 over 2 years

Integration of Battery Storage with Solar Distributed Generation

This project is intended to explore the benefits of integrated battery and solar generation and support the development of energy conservation strategies for large-scale consumers.

University of Virginia, Charlottesville, Va., \$150,000 over 2 years

Ultralight Technologies for Offshore Wind Cost-of-Energy Savings

A coupled engineering design and cost-of-energy study to investigate the potential impact that two new technologies, segmented ultralight morphing rotors and hydraulic power transmission, can bring to offshore wind energy cost.

Virginia Commonwealth University, Richmond, Va., \$100,000

Energy Harvesting: Developing piezoelectric materials for passive energy harvesting

This project will investigate and develop advanced composite materials to harvest waste energy, such as vibrations and heat, from heavy industrial equipment.

Virginia State University, Ettrick, Va., \$150,000 over 2 years

Green Roof Initiative

This study seeks to combine green roof and alternative energy technologies in novel ways to improve both the energy efficiency of buildings and the sustainable use of water for irrigation.

Virginia Tech, Blacksburg, Va., \$300,000 over 3 years

Center for Natural Resources Assessment and Decision Support

Supports the establishment of a new center with a goal of ensuring that the forests of Virginia are used and managed sustainably so they may continue to provide an array of products and services for the benefit of current and future generations.

Virginia Union University, Richmond, Va., \$150,000 over 2 years

Sustainable Design Strategies

The project will collect baseline energy usage data at campus facilities. This information will later be used in the design of energy efficient buildings and to conduct comparative analysis of sustainable design strategies.

The Company filed its 2013 Annual Report of Qualified Investments on March 31, 2014, analyzing the prior year's PJM REC prices and quantifying its qualified investments made in 2013 to facilitate the Commission's validation and issuance of RECs for Virginia renewable and alternative energy research and development projects. On June 20, 2014, the Commission issued its Order finding that 137,336 renewable energy certificates are deemed issued to the Company for 2013 pursuant to Va. Code § 56-585.2 J.⁹

The Company intends to file its annual report by March 31, 2015, analyzing the prior year's PJM REC prices and quantifying its qualified investments made in 2014 to facilitate the Commission's validation and issuance of RECs for Virginia renewable and alternative energy research and development projects. The Company will apply any R&D RECs issued by the Commission towards its 2014 RPS Compliance.

e. Purchase of RECs

After counting the MWh from the existing renewable energy sources, the RPS Plan calls for the Company to fulfill any deficit by purchasing lower cost RECs that fit within the definition

⁹ The Company's 2013 Annual Report of Qualified Investments was filed with the Commission's Divisions of Public Utility Accounting and Energy Regulation on March 31, 2014 and was addressed by the Commission in Case No. PUE-2014-00056.

of Va. Code § 56-585.2. Though Virginia law makes no distinction regarding types of RECs based on the source of renewable energy, most jurisdictions and markets do make such distinctions, and currently these distinctions impact the valuation of the RECs. The market price of individual RECs is based on a variety of factors, including energy source. The Company expects that it will be able to fully satisfy the RPS Goals II through IV through the Company's existing renewable generation portfolio, new renewable generation facilities and the purchase of lower cost RECs. In addition, based on an amendment to Va. Code § 56-585.2 by the 2010 General Assembly, utilities are permitted to sell more expensive RECs generated at its facilities (or acquired through a purchase power agreement) and replace them with lower cost RECs from the market and credit the difference to customers.¹⁰ This authorization by the General Assembly is commonly referred to as "REC optimization." The Company utilized REC optimization from 2010 through 2013 and intends to carry-out REC optimization transactions in the future where economically feasible for the benefit of ratepayers. In addition, the 2012 General Assembly amended the RPS Statute so as to permit the use of certain thermal energy and equivalent RECs for purposes of RPS compliance.¹¹

f. Banking of Excess Renewable Energy and/or RECs

Under the RPS Plan, the Company will bank any excess amounts of renewable energy and/or RECs for application in future years in which there is a deficit pursuant to Va. Code § 56-585.2 D. Section 56-585.2 D allows a utility to apply renewable energy sales or RECs acquired during the periods covered by any RPS goal that are in excess of the sales requirement for that goal to the sales requirements for a future RPS goal in the five calendar years after the renewable

¹⁰ Virginia Acts of the Assembly, 2010 Reconvened Session, Chapter 850.

¹¹ See Virginia Acts of the Assembly, 2012 Session, Chapters 46 and 200.

energy was generated or the renewable energy certificates were created, except that a utility shall be able to apply renewable energy certificates acquired by the utility prior to January 1, 2014.

C. Application of the Renewable Resources to meeting the Company's RPS Plan

The Company's RPS Plan will permit the Company to meet its RPS Goals.

1. 2013 Renewable Energy Generated & REC Transactions

The Company met and exceeded its 2013 Virginia RPS Plan renewable target of 1,732,746 MWh through implementation of its RPS Plan approved by the Commission as illustrated in Exhibit 2 of this report. The Company achieved compliance by applying 487,969 RECs or Renewable Energy created by Company-owned facilities, 40,369 purchased RECs, 1,067,072 MWh of renewable energy from NUGs, and 137,336 RECs issued by the Commission for qualified investments in renewable and alternative energy research and development activities.¹² An additional 500,000 RECs purchased in 2013 will be banked for future use. This bank also includes 1,426,442 MWh of renewable attributes generated in 2011, 2012 and 2013 from NUGs. Additionally, the Company optimized 301,614 Company-generated RECs.

Company-generated renewable generation (including NUGs) provided 80 percent of Dominion Virginia Power's 2013 RPS Goal, of which some of this was banked and/or optimized.

Pursuant to Va. Code § 56-585.2 H the breakdown of the Company's efforts to meet its RPS goals for 2013 is as follows:

¹² Renewable energy certificates for 2013 were deemed issued by the Commission pursuant to Va. Code § 56-585.2 J by its June 20, 2014 Order on the Company's *2013 Annual Report of Qualified Investments* in Case No. PUE-2014-00056. The Company's request for that issuance of RECs for 2013 reflected: (1) the Company's actual 2013 expenditures of \$575,438 on research and development activities in the Commonwealth related to renewable or alternative energy sources; and (2) a value of \$4.19 per REC based on the Company's analysis of the average price of publicly available Tier I and Tier 2 RECs.

- § 56-585.2 H 1.a. – A list of all states where the purchased or owned renewable energy was generated, specifying the number of megawatt hours or renewable energy certificates originating from each state.

| State | PA | MD | NC ¹³ | VA ¹⁴ | Total |
|---------------|----------------|----------|------------------|------------------|------------------|
| Totals | 500,000 | 0 | 481,578 | 2,159,778 | 3,141,356 |
| Applied | 0 | 0 | 481,578 | 1,254,168 | 1,735,746 |
| Banked | 500,000 | 0 | 0 | 603,996 | 1,103,996 |
| Optimized | 0 | 0 | 0 | 301,614 | 301,614 |

- § 56-585.2 H 1.b. – A list of the decades in which the purchased or owned renewable energy generating units were placed in service, specifying the number of megawatt hours or renewable energy certificates originating from those units.

| Decade | 1910s | 1920s | 1930s | 1950s | 1960s | 1980s | 1990s | 2010s | Total |
|---------------|----------------|---------------|---------------|----------------|----------------|----------------|------------------|----------------|------------------|
| Totals | 408,631 | 40,369 | 11,065 | 240,271 | 241,307 | 413,205 | 1,557,803 | 137,336 | 3,141,356 |
| Applied | 0 | 40,369 | 4,683 | 240,271 | 241,307 | 274,723 | 797,057 | 137,336 | 1,735,746 |
| Banked | 408,631 | 0 | 0 | 0 | 0 | 138,482 | 465,514 | 16,378 | 1,103,996 |
| Optimized | 0 | 0 | 6,382 | 0 | 0 | 0 | 295,232 | 0 | 301,614 |

- § 56-585.2 H 1.c. – A list of fuel types used to generate the purchased or owned renewable energy, specifying the number of megawatt hours or renewable energy certificates originating from each fuel type.

| Fuel Type | Hydro | MSW | Biomass (Wood Waste) | Landfill Gas | R&D | Total |
|---------------|------------------|------------------|----------------------------|-----------------|----------------|------------------|
| Totals | 1,056,998 | 1,649,244 | 295,232 | 2,546 | 137,336 | 3,141,356 |
| Applied | 528,338 | 1,070,072 | 0 | 0 | 137,336 | 1,735,746 |
| Banked | 522,278 | 579,172 | 0 | 2,546 | 0 | 1,103,996 |
| Optimized | 6,382 | 0 | 295,232 | 0 | 0 | 301,614 |

¹³ All of the RECs from NC are from Company-owned renewable energy resources.

¹⁴ All of the RECs from VA are from either Company-owned renewable energy resources or renewable energy NUGs.

2. 2014 Renewable Energy Generated & REC Transactions

The Company will meet or exceed its 2014 Virginia RPS Plan renewable target of 1,732,746 MWh through implementation of its RPS Plan approved by the Commission which is illustrated in Exhibit 3.

a. Company-Owned Facilities

Total renewable energy production for 2014, through September 30, 2014, from renewable energy facilities owned by the Company and included in the RPS Plan was 616,140 MWh. The Company estimates the total renewable energy production from these resources for calendar year 2014 will be 663,037 MWh (some of which will be optimized).

b. NUGs

The Company has determined that the renewable energy production from contracted NUGs year-to-date through September 30, 2014 is 488,614 MWh. The Company estimates the total qualified renewable energy production from existing contracted NUGs for calendar year 2014 will be 532,226 MWh. Any renewable energy not needed to meet the 2014 Goal will be banked for future use as permitted by statute.

c. 2014 REC Transactions (Purchase for Virginia RPS Compliance/Sales for Optimization)

The Company's REC transactions for 2014, through September 30, 2014 are summarized as follows:

- 201,344 Company-generated higher value RECs optimized
- 400,000 lower cost RECs purchased, including replacement RECs

- The Company will continue to replace the higher value RECs sold with lower cost RECs from the market, with the difference to be credited to customers.

d. RECs from R&D

As discussed in Section II.B.3.d. above, the Company intends to file its annual report by March 31, 2015, analyzing the prior year's PJM REC prices and quantifying its qualified investments made in 2014 to facilitate the Commission's validation and issuance of RECs for Virginia renewable and alternative energy research and development projects.

The Company will apply any R&D RECs issued by the Commission towards its 2014 RPS Compliance.

Although the Company is allowed to meet up to 20 percent (346,549) of its RPS Goal with R&D RECs, Exhibit 3 includes the Company's conservative estimate of 100,000 R&D RECs for 2014.

e. Banking of Excess Renewable Energy and/or RECs

The Company began 2014 with banked renewable energy and RECs of 1,926,447 MWh and expects to have a bank of approximately 1,651,363 MWh of renewable energy and RECs toward future RPS targets at year-end 2014.

3. 2015 Through 2025 Renewable Plan

Exhibit 1 to this Annual Report outlines the Company's Virginia RPS Plan from 2013 through 2025, including actual totals for 2013 and forecasts for the remaining years. This exhibit has been updated to reflect the assumptions used for the 2014 Integrated Resource Plan. For planning purposes, for years 2015 through 2025, no REC optimization is assumed. Based on current information, the Company forecasts that it will continue to be able to fully satisfy the

RPS Goals I through IV through the Company's existing renewable generation portfolio, through the purchase of RECs (including optimization) and new renewable generation where economically feasible.

D. Rider Filings

Pursuant to Va. Code §§ 56-585.1 A 5(d), 56-585.1 A 6 and 56-585.2 E, utilities are permitted to recover certain costs for participating in an RPS program or for the construction of renewable generation facilities. The Company anticipates that it will file a Va. Code § 56-585.1 A 5(d) rate adjustment clause rider in 2015 primarily for the recovery of the costs for purchasing RECs to comply with the RPS program.

III. OVERALL DEVELOPMENT OF RENEWABLE ENERGY

As discussed in Section II.B.3.a. above, the Company has over 400 MW of renewable energy capacity that it generates at hydroelectric and biomass facilities. The Company also intends to develop a number of new renewable energy facilities through the 2025 timeframe as discussed in Section II.B.3.c. In addition, potential future renewable energy resources are discussed in Section IV below.

The Company is actively developing certain additional new renewable generation facilities not included in its approved RPS Plan. Decisions to build new renewable generation are primarily determined based on need and as part of the Company's Integrated Resource Planning process, and subject to Commission issuance of a certificate of public convenience and necessity.

Specifically, the Company continues to evaluate renewable development opportunities, such as 60 MW of renewable energy from its Virginia City Hybrid Energy Center ("VCHEC")

using biomass co-fired with coal which began in 2013.¹⁵ In addition, the Company has developed 153 MW of renewable energy as a result of the approval of the Company's Application in Case No. PUE-2011-00073 for the conversion of the Altavista, Hopewell and Southampton Power Stations from burning coal to biomass (primarily waste wood) ("Biomass Conversions"). The converted Altavista Power Station entered commercial operation on July 12, 2013, Hopewell on October 18, 2013, and Southampton Power on November 28, 2013. Because the Biomass Conversions are expected to use primarily waste wood, the Company does not expect to exceed its pro-rata share of the state's restriction on certain tree-based materials mentioned previously in Section II.B.3.a. The Company does not currently plan to include the Biomass Conversions in the Company's RPS Plan, but rather the Company will treat revenues from the RECs generated by the facilities as credits to customers to offset costs, which will flow through the rate adjustment clause approved under Va. Code § 56-585.1 A 6.

Though not part of the Company's RPS Plan, the Company is also encouraging customers to support renewable energy generation resources in the region through voluntary participation in several renewable energy options. Dominion Virginia Power's Rider G Renewable Energy Program, commonly referred to as the "Green Tariff" and marketed as "Dominion Green Power®" became effective on January 1, 2009, and offers customers a companion rate for the purchase and retirement of RECs equal to all or a portion of a customer's monthly consumption. The Company's contractor, 3Degrees Group, Inc., performs REC procurement services (including certification and tracking), customer education and program promotion services, and has ensured that the Company's Green Tariff program has received

¹⁵ VCHEC is designed to produce up to 120 MW of renewable energy, but the actual amount of renewable energy produced at the facility may vary from year to year, particularly as plant operations continue to develop over the first 8-10 years. In 2013, one percent of the fuel utilized at VCHEC was biomass. It is anticipated that it will provide approximately three percent of renewable energy in 2014 and step up each year thereafter until it reaches ten percent of renewable energy starting in 2020.

Green-e® Energy certification from the Center for Resource Solutions, a national non-profit organization. In 2013, Dominion Virginia Power was awarded with an EPA Green Power Supplier of the Year Award for its Dominion Green Power® program. This award recognizes excellence in providing voluntary renewable energy options to customers. Launched in 2009, the Dominion Green Power® program currently has nearly 25,000 participants, with 55 percent of the participants choosing to match 100 percent of their monthly energy usage with purchases of RECs. The RECs purchased on behalf of customers participating in this voluntary program are not counted toward the Virginia RPS compliance goals. Rather, this program offers Dominion Virginia Power customers an additional way to support renewable energy above and beyond Dominion's renewable energy initiatives.

In addition, pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly, the Company has developed a solar distributed generation program consisting of two separate components. On October 31, 2011, the Company submitted its application for the first component, the Solar Partnership Program (formerly the "Community Solar" Program), a demonstration program to study the impact and assess the benefits of distributed solar photovoltaic generation on its distribution system through the construction and operation of Company-owned distributed solar generation installations. The Commission approved the Solar Partnership Program on November 28, 2012. Under that Program, the Company will construct and operate up to 30 MW of Company-owned solar facilities on leased rooftops or on the grounds of commercial businesses and public properties throughout its Virginia service area. Preferred locations are large, flat rooftops on secure commercial facilities with close proximity to existing Dominion Virginia Power infrastructure. The Company intends to use the proceeds it

receives from selling the RECs obtained from the Solar Partnership Program to offset the costs of the Program.

On May 17, 2012, the Company filed a petition with the Commission for approval of its Solar Purchase Program, the second component of the Company's Chapter 771 initiatives. The Solar Purchase Program is a demonstration program consisting of a special tariff under which the Company will purchase no more than 3 MW of energy output from customer-owned distributed solar generation installations, offered as an alternative to net energy metering. The Solar Purchase Program was approved on March 22, 2013. Participating customers install and own the solar generation system located on their property, but sell the electricity and solar RECs back to Dominion Virginia Power at a premium rate of 15 cents per kilowatt-hour. Participating customers purchase all of the electricity for their home or business from the Company on their current rate schedule. The renewable energy certificates obtained from the Solar Purchase Program will be incorporated into the REC portfolio as Virginia-based solar RECs and retired on behalf of the customers voluntarily participating in the Dominion Green Power® program.

The customer interest in both of these solar programs has been relatively strong, and the Company is very pleased with the substantial progress being made toward achieving the goals and intent of the programs.

On December 20, 2012, the Company also filed an application for approval to establish a renewable generation pilot program including another new experimental and voluntary tariff, Rate Schedule RG – Renewable Energy Supply Service (“Rate Schedule RG”). The proposed Rate Schedule RG is designed to provide large, non-residential customers served under Schedule GS-3 and GS-4 with the option to purchase a greater percentage of their energy needs from renewable energy resources than they currently receive from the Company's existing generation

mix. Rate Schedule RG was approved by the Commission on December 16, 2013 in Case No. PUE-2012-00142, with certain additional requirements and officially launched April 1, 2014. Eligible customers sign a contract for the Company to purchase additional amounts of renewable energy as determined by the customer. The customer is responsible for all costs associated with its additional purchase of renewable energy under Rate Schedule RG, including the administrative fee. Additionally, the renewable energy supplier signs a power purchase agreement with the Company equal to the amount of renewable energy to be purchased under the customer's contract. The remainder of the customer's energy requirements, as well as all of the customer's capacity requirements, are provided under their existing Rate Schedule GS-3 or GS-4.

IV. ADVANCES IN RENEWABLE GENERATION TECHNOLOGY

The Company strives to remain up to date on the development of emerging renewable and alternative energy technologies. Dominion Resources, Inc. formed its Alternative Energy Solutions Group in April 2009 to conduct research, track federal and state policies, and identify potential opportunities in the alternative and renewable energy sector. The broader efforts to monitor and potentially pursue beneficial renewable energy technology reach into almost every part of the Company. Some of the renewable resources and technologies that Dominion is currently considering include:

A. Solar

In 2012 solar photovoltaic ("PV") as a percent of total generation in the U.S. remained small, comprising only 0.64 percent.¹⁶ Despite its small percentage of total generation, solar PV technology continues to be one of the most rapidly growing renewable energy sectors with a

¹⁶ <http://www.nrel.gov/docs/fy14osti/60197.pdf>

compounded annual growth rate from 2000-2012 in the U.S. of 65 percent.¹⁷ With 4,800 MW of grid-connected PV capacity added in 2013, the U.S. was the world's third largest PV market in 2013.¹⁸ From 1998 through 2013, installed solar PV prices have continued to decline by approximately \$0.7/W (12 to 15 percent) per year, on average, depending on the system size. Government incentives and policy initiatives, such as the DOE's SunShot Initiative, continue to drive the rapid growth of solar. For instance, the SunShot Initiative has a goal to reduce the cost of PV-generated electricity by roughly 75% between 2010 and 2020.¹⁹ Federal tax credits for solar remain available until December 31, 2016, contributing to the cost competitiveness of this resource. Even after the expiration of federal tax credits, the growth in rooftop solar is expected to continue as installed costs continue to drop, leading to the prospect of grid parity in key markets over the coming years. Additionally, technology advancements and cost reductions in energy storage could lead to increased pairing of solar PV with energy storage thereby enhancing the cost-effectiveness of solar PV generation even more.

B. Offshore Wind

Offshore wind has the potential to provide the largest, scalable renewable resource for Virginia with near-term resource availability of approximately 2,000 MW. Virginia has a unique offshore wind opportunity due to its shallow continental shelf extending approximately 40 miles off the coast, strong wind resource, proximity to load centers, availability of local supply chain infrastructure to support future growth, and world class port facilities. Currently, offshore wind is a comparatively more costly renewable generation resource. The Company continues to pursue cost reduction efforts through the VOWTAP.

¹⁷ *Id.*

¹⁸ http://emp.lbl.gov/sites/all/files/lbnl-6808e_0.pdf

¹⁹ *Id.*

There is increasing political momentum in Virginia and throughout the Mid-Atlantic surrounding offshore wind development, driven by its potential for significant economic development, job creation and renewable attributes. In 2010, the Virginia General Assembly passed legislation creating the Virginia Offshore Wind Development Authority (“VOWDA”). The Company is represented at the VOWDA by an appointee of the Governor. As required by this legislation, the Company completed an offshore wind transmission study to determine possible offshore wind interconnection points to the transmission grid. The Company released the results of the study in December 2010, which found that it would be possible to interconnect large scale wind generation facilities with the existing grid in Virginia Beach, Virginia. The study can be viewed at the following link:

<http://www.dmme.virginia.gov/DE/VOWDA/DominionOffShoreWindStudyReport.pdf>

In House Joint Resolution 605, the 2011 Virginia General Assembly established a goal to develop 3,000 MW of offshore wind by 2025. The General Assembly has also amended Va. Code § 56-585.1 in recent years to further incent offshore wind development by Virginia electric utilities.

In February 2012, the Company completed a second study to evaluate the build options for high voltage underground transmission from Virginia Beach into the Atlantic Ocean to support potentially multiple offshore wind projects. The study found that for every 500-700 MW (nameplate) of offshore wind capacity constructed, one service platform is appropriate with two lines to shore. This transmission solution limits the potential for stranded offshore transmission investment and emphasizes the potential cost savings that may be achieved through a phased build-out approach.

As discussed in Section II.3.c., in December 2012, a private/public collaborative led by Dominion Virginia Power was one of seven projects selected by the DOE to receive a \$4 million award for initial engineering, design and permitting an offshore wind turbine demonstration facility off the coast of Virginia. Dominion's team was among three finalists selected by DOE in May 2014, for follow-on funding of up to \$47 million over a four-year period to design, install and gather operational data from a 12-megawatt offshore wind facility. The Company is committed to undertaking engineering, design and permitting for the demonstration facility of two six-megawatt turbines with a goal of finding innovative ways to lower costs of offshore wind. Any construction for the project would be contingent upon obtaining applicable regulatory approval(s).

As noted previously, Dominion Virginia Power won the lease for 112,800 acres of federal land off the coast of Virginia to develop an offshore wind turbine facility capable of generating up to 2,000 MW of electricity, enough to power approximately 500,000 homes. The Department of Interior's Bureau of Ocean Energy Management ("BOEM") is the lead federal agency in charge of leasing areas for offshore wind development on the outer continental shelf. Dominion will proceed with the BOEM timetable for development of the commercial wind energy area while advancing its research project and looking for ways to lower the cost of bringing offshore wind generation to customers.

Dominion has been actively working with the federal government, Virginia's state government, the City of Virginia Beach, and other partners to develop offshore wind for several years, and the auction was another important step forward.

C. Other Renewable Technologies

The Company is also continuing to evaluate other emerging alternative energy technologies including waste-to-energy, geothermal, and tidal and wave power.

- Waste-to-energy (“WtE”) technologies involve converting waste sources such as municipal solid waste, landfill gas, and agricultural waste into electricity. WtE is a dispatchable and a potentially cost competitive form of renewable energy.
- Geothermal power is power extracted from heat stored deep within the earth’s surface. It is believed that the U.S. has more geothermal capacity than any other country. California is home to almost two-thirds of U.S. geothermal electrical installed capacity of nearly 3,000 MW.²⁰ Very limited geothermal energy resources are available in Virginia.
- Tidal and wave power (a.k.a. hydrokinetic electric power generation) relies on ocean water fluctuations to collect and release energy. In September 2011, backed by \$10 million of DOE funding, Ocean Renewable Power installed a tidal-power turbine with 180 kW of capacity off the northeastern Maine Coast supplying the grid under a power purchase agreement. While significant research and isolated projects such as the above-referenced project in Maine continue to occur, neither tidal nor wave facilities have proven to be commercially viable on a wide scale. On March 20, 2014, the Federal Energy Regulatory Commission issued a 10-year pilot license to Public Utility District No. 1 of Snohomish County for the proposed Admiralty Inlet Pilot Tidal Project to be located in the Puget Sound in the state of Washington. The 600-kilowatt Admiralty Inlet Project is an experimental project designed to determine whether commercial development of the tidal energy resources of Puget Sound is commercially viable. The

²⁰ <http://www.geothermal.org/PDFs/Articles/California.pdf>

Company will continue to monitor developments surrounding these technologies and hydrokinetic projects.

VI. CONCLUSION

As noted in its 2014 Integrated Resource Plan, the Company has a strong commitment to a cost-effective renewable energy program. The Company received Commission approval of its proposed RPS Plan in Case No. PUE-2009-00082, demonstrating that it has a reasonable expectation of achieving 12 percent of its base year electric energy sales from renewable energy sources during calendar year 2022, and 15 percent of its base year electric energy sales from renewable energy sources during calendar year 2025. The Company views its efforts toward its RPS Plan in Virginia in the past year, as well as its overall approach to the development of renewable resources, as successful and highlights the following:

- The Company met its RPS Goal II for calendar year 2013 (1,732,746 MWh) by applying renewable energy generated at its own facilities, contracted NUGs, R&D RECs, and applying renewable energy and/or RECs purchased in the market. A bank of 1,926,447 MWh of renewable energy and RECs was established at year-end to apply towards future Company RPS goals. For 2013 RPS Goal II compliance, the Company optimized 301,614 higher value RECs and replaced them with lower cost RECs from the market, which difference will be credited to customers. The Company's 2013 RPS compliance is supported by Exhibit 2.
- The Company will meet its RPS Goal II for calendar year 2014 (1,732,746 MWh) by applying renewable energy generated at its own facilities or contracted NUGs, R&D RECs issued by the Commission and renewable energy and/or RECs purchased in the market while expecting to bank 1,651,363 MWh of renewable energy and/or RECs to apply towards future Company RPS goals.
- The Company has optimized 201,344 higher value RECs as of September 30, 2014 for 2014 RPS Goal II compliance, and will replace them with lower cost RECs from the market, which difference will be credited to customers.
- The Company is actively pursuing development of onshore and offshore wind technologies, including one project focusing on research and development of offshore wind generation technology, the Virginia Offshore Wind Technology Advancement Project, and a second project intended to develop a commercial offshore wind generation facility. The Company recently executed a \$1.6 million

lease for 112,800 acres of federal land to develop a commercial-scale offshore wind turbine facility capable of generating up to 2,000 MW of electricity.

- Dominion Virginia Power is also involved in other offshore wind development efforts. Dominion's submission was one of seven projects selected to receive \$4 million each in federal matching funds to undertake initial engineering, design and permitting for the demonstration facility of two six-MW turbines with a goal of finding innovative ways to lower costs of offshore wind. Dominion's project team was selected for up to \$47 million in follow on funding in May 2014 to continue planning, development and data collection related to this demonstration project.
- The Company added 153 MW of energy from renewable sources with the conversion of the Altavista, Hopewell and Southampton Power stations from burning coal to biomass (primarily waste wood). The Biomass Conversions provide economic renewable energy to the Company's customers.
- The Company's "Dominion Green Power®" Program, which offers customers a companion rate for the purchase and retirement of RECs equal to all or a portion of a customer's monthly consumption, won a 2013 EPA Green Power Supplier of the Year Award.
- Consistent with a 2012 revision to Va. Code § 56-585.2, the Company has partnered with 12 institutions of higher education on Virginia renewable and alternative energy research and development projects.

The Company continues to move forward in implementing its cost-effective renewable energy program, as outlined in this Annual Report to the Commission.

EXHIBIT 1
ANNUAL REPORT TO THE SCC ON RENEWABLE ENERGY
DOMINION VIRGINIA POWER
RENEWABLE ENERGY PORTFOLIO STANDARD PROGRAM
VIRGINIA GOALS

| TOTAL ELECTRIC ENERGY SOLD IN THE BASE YEAR | | | | | | | | | | | | | |
|---|------------------------|------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Electric Energy Sold to Virginia Jurisdictional Retail Customers in 2007 | 64,621,534 MWh | | | | | | | | | | | | |
| Less Three-year Average (2004-2006) Nuclear Generation | 21,302,885 MWh | | | | | | | | | | | | |
| Total Electric Energy Sold in the Base Year | 43,318,649 MWh | | | | | | | | | | | | |
| RENEWABLE ENERGY PORTFOLIO STANDARD GOALS | | | | | | | | | | | | | |
| Percent | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| | 4% | 4% | 4% | 7% | 7% | 7% | 7% | 7% | 7% | 12% | 12% | 12% | 15% |
| Goal (MWh) | 1,732,746 | 1,732,746 | 1,732,746 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 5,198,238 | 5,198,238 | 5,198,238 | 6,497,797 |
| RENEWABLE ENERGY PORTFOLIO STANDARD PROGRAM¹ | | | | | | | | | | | | | |
| | 2013 ² | 2014 ² | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Generation Resources (MWh) | | | | | | | | | | | | | |
| Small Hydro | 12,773 | 11,355 | 13,744 | 13,744 | 13,743 | 13,744 | 13,744 | 13,744 | 13,744 | 13,744 | 13,744 | 13,744 | 13,744 |
| Large Hydro | 481,578 | 448,198 | 468,743 | 468,744 | 468,743 | 468,743 | 468,743 | 468,743 | 468,743 | 468,743 | 468,743 | 468,743 | 468,743 |
| Pittsylvania | 295,233 | 203,482 | 81,857 | 68,640 | 209,826 | 275,439 | 373,884 | 372,701 | 331,920 | 394,153 | 445,092 | 483,979 | 489,116 |
| Solar NUG ³ | 0 | 0 | 150,781 | 301,545 | 299,303 | 297,807 | 296,318 | 295,559 | 293,362 | 291,895 | 290,436 | 289,692 | 287,538 |
| NUGS | 603,996 | 532,226 | 158,374 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 1,393,580 | 1,195,261 | 873,499 | 852,673 | 991,616 | 1,055,733 | 1,152,689 | 1,150,748 | 1,107,769 | 1,168,536 | 1,218,015 | 1,256,159 | 1,259,141 |
| Total Renewable Resources (MWh) | 1,726,301 ⁴ | 1,457,662 ⁴ | 873,499 | 852,673 | 991,616 | 1,055,733 | 1,152,689 | 1,150,748 | 1,107,769 | 1,168,536 | 1,218,015 | 1,256,159 | 1,259,141 |
| VA Bank, Balance Beginning of Year | 1,932,891 | 1,926,447 | 1,651,363 | 792,116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Target (MWh) | 1,732,746 | 1,732,746 | 1,732,746 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 3,032,305 | 5,198,238 | 5,198,238 | 5,198,238 | 6,497,797 |
| Net Position (MWh) | 1,926,447 | 1,651,363 | 792,116 | (1,387,517) | (2,040,689) | (1,976,572) | (1,879,616) | (1,881,557) | (1,924,536) | (4,029,702) | (3,980,223) | (3,942,079) | (5,238,656) |
| NOTES: 1 - Based on Strategist forecast used for the 2014 VA IRP and 12/31/2013 Virginia Jurisdictional allocation of DOM load of 80.22% 2 - 2013 is actual and 2014 includes actuals through 9/30/2014 and projections through year-end 3 - Solar generation reflects double credit of generation as allowed by statute; however, if the solar energy is optimized in the future, it will only count as one credit 4 - Total Renewable Resources includes Company and allowable NUG generated renewable energy, REC purchases, R&D RECs and REC Optimization | | | | | | | | | | | | | |

EXHIBIT 2
DOMINION VIRGINIA POWER
RENEWABLE ENERGY PORTFOLIO STANDARD PROGRAM
2013 SUMMARY

TOTAL ELECTRIC ENERGY SOLD IN THE BASE YEAR (MWh)

| | |
|--|--------------------------|
| Total Electric Energy Sold to Virginia Jurisdictional Retail Customers in 2007 | 64,621,534 |
| Less Three-year Average Percentages (2004-2006) Nuclear Generation | <u>21,302,885</u> |
| Total Electric Energy Sold in the Base Year | <u><u>43,318,649</u></u> |

RENEWABLE ENERGY PORTFOLIO STANDARD GOALS

| | |
|------------|------------------|
| | 2013 |
| Percent | <u>4%</u> |
| Goal (MWh) | <u>1,732,746</u> |

Company RPS Generation Resources (MWh)

| | Total Energy Generated during 2013 | VA Jurisdictional Energy Generated during 2013 ⁽¹⁾ |
|--|--|---|
| Company Owned | | |
| Hydro | | |
| Cushaw | 13,795 | 11,065 |
| North Anna | 2,130 | 1,708 |
| Gaston | 300,823 | 241,307 |
| Roanoke Rapids | 299,532 | 240,271 |
| Subtotal Hydro | 616,280 | 494,351 |
| Biomass | | |
| Pittsylvania | 368,050 | 295,233 |
| Subtotal Biomass | 368,050 | 295,233 |
| Total Company Owned | 984,330 | 789,584 |
| NUGS⁽²⁾ | 752,966 | 603,996 |
| TOTAL Renewable Energy Generated During 2013 | 1,737,296 | 1,393,580 |
| Total Company Generated Renewable Energy as a % of goal | | 80% |

| | |
|---|--------------------|
| Less Company Generated Renewable Energy Credits Optimized | <u>(301,614)</u> |
| Total Renewable Energy Available for 2013 Compliance | 1,091,966 |
| R & D RECs | 137,336 |
| REC Purchases | 540,369 |
| NUG Renewable Energy and RECs Previously Banked | <u>1,892,522</u> |
| Total Renewable Energy and RECs Available for 2013 Compliance | 3,662,193 |
| Less Renewable Energy and RECs Banked for Future RPS Application | <u>(1,926,447)</u> |
| Renewable Energy and RECs Applied for Compliance² | <u>1,735,746</u> |

Notes: (1) Based on VA jurisdictional allocation of 80.2157%.

(2) The Company applied 1,735,746 for RPS Compliance for 2011 - 2013. Because Goal II is a multi-year average, the Company may apply this overage of 9,000 in future years.

EXHIBIT 3
DOMINION VIRGINIA POWER
RENEWABLE ENERGY PORTFOLIO STANDARD PROGRAM
2014 SUMMARY

TOTAL ELECTRIC ENERGY SOLD IN THE BASE YEAR (MWh)

| | |
|--|--------------------------|
| Total Electric Energy Sold to Virginia Jurisdictional Retail Customers in 2007 | 64,621,534 |
| Less Three-year Average Percentages (2004-2006) Nuclear Generation | <u>21,302,885</u> |
| Total Electric Energy Sold in the Base Year | <u><u>43,318,649</u></u> |

RENEWABLE ENERGY PORTFOLIO STANDARD GOALS

| | |
|-------------------|-------------------------|
| Percent | 2014 |
| Goal (MWh) | <u>4%</u> |
| | <u>1,732,746</u> |

Company RPS Generation Resources (MWh)

| | Actual through September 30, 2014 | Projected through Balance of Year | Estimated Total 2014 ⁽¹⁾ |
|-----------------------------|---|---|--|
| Company Owned | | | |
| Hydro | | | |
| Cushaw | 8,390 | 728 | 9,117 |
| North Anna | 2,078 | 160 | 2,238 |
| Gaston | 209,256 | 17,898 | 227,154 |
| Roanoke Rapids | 203,462 | 17,582 | 221,045 |
| Subtotal Hydro | 423,186 | 36,368 | 459,554 |
| Biomass | | | |
| Pittsylvania | 192,954 | 10,528 | 203,482 |
| Subtotal Biomass | 192,954 | 10,528 | 203,482 |
| Total Company Owned | 616,140 | 46,897 | 663,037 |
| NUG Renewable Energy | 488,614 | 43,612 | 532,226 |
| TOTAL | 1,104,754 | 90,509 | 1,195,263 |

| | | | |
|---|----------------------|--------------------|----------------------|
| Company-Owned Renewables less REC-Optimized Resources | 616,140 (201,344) | 46,897 (11,256) | 663,037 (212,600) |
| Net Company-Owned | 414,796 | 35,641 | 450,437 |
| REC Purchases | 400,000 | 0 | 400,000 |
| R&D RECs² | | | 75,000 |
| NUG Renewable Energy | 488,614 | 43,612 | 532,226 |
| TOTAL 2014 Renewable Resources | 1,303,410 | 79,253 | 1,457,663 |
| 2013 Bank Carried Forward | | | 1,926,447 |
| Renewable Resources to be Retired (per Target) | | | 1,732,746 |
| Company's Estimated Net Renewable Position for 2014 Year-End | | | 1,651,364 |

Notes: (1) Based on projected VA jurisdictional allocation of 80.22%.

(2) Based on projected Qualified Investments and preliminary PJM REC price analysis.

