

McGuireWoods LLP
One James Center
901 East Cary Street
Richmond, VA 23219-4030
Phone: 804.775.1000
Fax: 804.775.1061
www.mcguiirewoods.com

Kristian M. Dahl
Direct: 804.775.4730

McGUIREWOODS

k Dahl@mcguiirewoods.com
Direct Fax: 804.698.2004

PUBLIC VERSION

BY HAND DELIVERY

October 31, 2011

Mr. Joel H. Peck, Clerk
State Corporation Commission
Document Control Center
Tyler Building, First Floor
1300 East Main Street
Richmond, Virginia 23219

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2011 OCT 31 P 1:27

CLERK'S OFFICE

*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 and of the Code of Virginia*
Case No. PUE-2011-00117

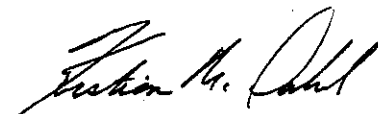
Dear Mr. Peck:

Enclosed for filing are an unbound original and one (1) bound copy of the **Public (Redacted) Version** of Virginia Electric and Power Company's (the "Company's") Application in the above-referenced matter (consisting of Public Volumes 1-2). An extraordinarily sensitive and confidential version of this filing is being filed under seal, under separate cover.

In addition, the Company's Motion for Entry of a Protective Order and Additional Protective Treatment in the above-referenced matter is being filed with the Commission under separate cover.

Should you have any questions, please do not hesitate to contact me.

Sincerely yours,


Kristian M. Dahl

cc: William H. Chambliss, Esq. (w/o enclosures)
C. Meade Browder, Jr., Esq. (w/ enclosures)
Ms. Ellie Irons (w/ enclosures)



Dominion[®]

**Application, Direct Testimony,
and Exhibits of Virginia
Electric and Power Company**

**Before the State Corporation
Commission of Virginia**

**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

Filed: October 31, 2011

**PUBLIC VERSION
Volume 1 of 2**

CASE NO. PUE-2011-00117

**Application of Virginia Electric and Power Company
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COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF)
)
VIRGINIA ELECTRIC AND POWER COMPANY)
)
For approval of a Community Solar Power Program) Case No. PUE-2011-00117
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)

VIRGINIA ELECTRIC AND POWER COMPANY’S PETITION FOR APPROVAL OF A COMMUNITY SOLAR POWER PROGRAM AND FOR CERTIFICATION OF COMPANY-OWNED DISTRIBUTED SOLAR GENERATION FACILITIES, AND REQUEST FOR LIMITED WAIVER

Virginia Electric and Power Company (“Dominion Virginia Power” or the “Company”), by counsel, respectfully files with the State Corporation Commission of Virginia (the “Commission”) the following:

(1) The Company’s Petition for approval of a Community Solar Power Program (“Program” or “Demonstration Program”), pursuant to House Bill 1686, enacted as Chapter 771 of the 2011 Virginia Acts of Assembly (“Chapter 771” or “Distributed Solar Legislation”). As required by Chapter 771, the Program is a demonstration program to study the impact and assess the benefits of solar photovoltaic (“PV”) distributed generation to the Company’s distribution system. Under the proposed Program, the Company will construct and operate up to 30 megawatts (“MW”) direct current (“DC”) of distributed solar generation (“Solar DG”) facilities in strategic locations across the Company’s service territory.¹

(2) As part of its petition, the Company submits its Application for a certificate of public

¹ Chapter 771 further authorizes a utility to petition the Commission for approval of special tariffs to facilitate customer-owned Solar DG installations as alternatives to net energy metering. As discussed herein, the Company proposes to include up to 3 MW of such customer-owned installations in the Program, and will file a special tariff (“Tariff”) for Commission approval sometime during the first six months of 2012 following stakeholder input.

convenience and necessity (“CPCN”) to construct and operate up to a combined 30 MW of Company-owned Solar DG facilities, consisting of multiple Solar DG installations at selected commercial, industrial, and community locations dispersed throughout the Company’s Virginia service territory. As will be demonstrated in this Application and the supporting testimony, the Company seeks approval of a “blanket” CPCN pursuant to Chapter 771, as well as §§ 56-46.1 and 56-580 D of the Code of Virginia (“Va. Code” or “Code”).

Due to the nature of the Solar DG Program and the authority granted to the Commission under Chapter 771, the Company further requests a limited waiver of the Commission’s Filing Requirements in Support of Applications for Authority to Construct and Operate an Electric Generating Facility (20 VAC 5-302-10, *et seq.*) (“Generation Rules”) as permitted by Rule 40 of the Generation Rules, 20 VAC 5-302-40. In particular, the Company requests a limited waiver from the requirements of 20 VAC 5-302-10(iv), 20 VAC 5-302-25(6), 20 VAC 5-302-25(8), 20 VAC 5-302-25(10), 20 VAC 5-302-25(12), 20 VAC 5-302-35(1), 20 VAC 5-302-35(2), and 20 VAC 5-302-35(4) to the extent that they require the filing of information related to the specific sites upon which the proposed Company-owned Solar DG facilities will be installed; fuel supply studies and arrangements; transmission interconnection requirements, facilities and impacts; and the reasons for choosing Solar DG over other alternative generation sources.

The Company notes that pursuant to Va. Code § 56-580 D, the Solar DG Program qualifies as a small renewable energy project and the Commission is to complete its proceedings on the Application within nine months of the filing for approval.

In support of its Petition, Application, Request for Limited Waiver, and all other relief requested herein (collectively, the “Application”), for good cause shown, the Company respectfully shows as follows:

I. GENERAL INFORMATION

1. Dominion Virginia Power is a public service corporation organized under the laws of the Commonwealth of Virginia furnishing electric service to the public within its Virginia service territory. The Company also furnishes electric service to the public in portions of North Carolina. Dominion Virginia Power's electric system, consisting of facilities for the generation, transmission and distribution of electric energy, as well as associated facilities, is interconnected with the electric systems of neighboring utilities, and is a part of the interconnected network of electric systems serving the continental United States. The Company's electric transmission facilities are centrally operated by PJM Interconnection, LLC ("PJM") as part of the PJM regional transmission entity or organization. The Company integrated into PJM effective May 1, 2005. By reason of its operations in multiple states and its interconnections with other utilities, the Company is engaged in interstate commerce.

2. Dominion Virginia Power's post office address is:

Virginia Electric and Power Company
120 Tredegar Street
Richmond, Virginia 23219

3. The addresses and telephone numbers of the attorneys for the Company are:

Mark O. Webb
William H. Baxter II
Dominion Resources Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219
(804) 819-2140 (phone)
(804) 819-2458 (phone)

Kristian M. Dahl
Bernard L. McNamee
Ashley B. Macko
McGuireWoods LLP
One James Center
901 East Cary Street

Richmond, Virginia 23219
(804) 775-4730 (phone)
(804) 775-7877 (phone)
(804) 775-1167 (phone)

II. PETITION FOR APPROVAL OF COMMUNITY SOLAR POWER PROGRAM

4. The 2011 Virginia General Assembly passed the Distributed Solar Legislation, which states that “in order to promote solar energy through distributed generation, the State Corporation Commission shall exercise its existing authority to consider for approval, after notice to all affected parties and opportunity for hearing, petitions filed by a utility to construct and operate distributed solar generation facilities and to offer special tariffs to facilitate customer-owned distributed solar generation as alternatives to net energy metering”²

5. The Company’s proposed Program consists of two components: (1) up to 30 MW of Company-owned Solar DG installations; and (2) a Tariff allowing the Company to purchase up to 3 MW of energy output from customer-owned Solar DG installations. Combined, the resulting 33 MW total size of the Program is determined by calculating 0.20% of the Company’s 2010 adjusted Virginia peak load – a limitation prescribed by Chapter 771.

6. The first component of the Program consists of the Company’s Application to construct and operate up to 30 MW of Company-owned Solar DG facilities to be comprised of multiple installations at selected commercial, industrial, and community customer locations dispersed throughout the Company’s Virginia service territory. The Company anticipates that there will be approximately 30-50 customer installations, ranging from 500 kilowatts (“kW”) to 2 MW. Combined, these 30-50 installations will comprise up to 30 MW of Company-owned Solar DG facilities.

² Virginia Acts of the Assembly, 2011 Reconvened Session, Chapter 771, §1 (approved April 6, 2011) (effective July 1, 2011).

7. The second component of the Program consists of up to 3 MW of customer-owned Solar DG installations subject to a future Tariff that would apply to interested residential and commercial customers as an alternative to net energy metering for selling their solar energy output to the Company. The Company anticipates filing the Tariff for Commission approval sometime during the first six months of 2012, once several tariff options have been evaluated by the Company and shared with customers and stakeholders for feedback in meetings that will take place later this year and early next year.

8. Because Chapter 771 authorizes a Solar DG demonstration project, and directs that certain aspects of Solar DG on the distribution system be assessed, the Company will study its Solar DG installations' operations for five years from the dates that these facilities become operational, and provide annual studies on the Program to the Commission ("Study" or "Studies"). These Studies should assist the Commission with its annual report to the Governor and certain members of the General Assembly, as required by Section 4 of Chapter 771.

9. The Company's proposed Program is designed to further the Commonwealth's interest in promoting solar energy through distributed generation. It will allow the Company to study the impacts and assess the benefits to its distribution system resulting from Solar DG (including impacts on its grid electric service reliability), to gauge customer interest and reaction to Solar DG offerings (including the Tariff), and to strengthen its knowledge base to enable the successful deployment and operation of Solar DG. The Program will also promote the commercialization and development of the solar market in Virginia and thereby promote economic development. In addition, the Program will give the Company valuable experience in deploying Solar DG on a widespread basis and allow it to develop relationships with Solar DG developers, manufacturers, and installers.

III. PROPOSED COMPANY-OWNED SOLAR DG FACILITIES

A. Solar DG Description

10. The Company will install solar PV technology for the Company-owned Solar DG facilities in the Program. Solar PV technology is the most economic and cost-effective choice for producing electricity using solar resources in Virginia. The Company anticipates that the Program will include a mixture of Company-owned rooftop, ground-mounted, and canopy-installed (for example, over a building entrance) Solar DG facilities.

11. In order to meet its designated Study objectives, the Company plans to site the proposed up to 30 MW of Company-owned Solar DG along three key types of circuits: heavily loaded circuits, including constrained or high load growth circuits; lightly loaded circuits; and certain circuits where conservation voltage reduction (“CVR”) is enabled at the substation level. Each Solar DG installation on a given circuit allows the Company to measure operational impacts such as voltage fluctuation, equipment operations, and load flows specific to protection schemes. Through the targeted siting of Solar DG, the Company can develop engineering models and identify the effects on, and benefits to, the distribution system under varying operating conditions. The Solar DG Program will also allow the Company to quantify energy savings from this technology and provide the Company with requisite operating experience to enable it to prepare and plan for this emerging technology as it proliferates in the future.

12. The Company proposes to construct and operate up to 30 MW of Company-owned Solar DG facilities in two phases. Phase I will consist of up to 10 MW of Solar DG and will cover the period from Commission approval of this Application through December 31, 2013. Phase II will consist of up to 20 MW of Solar DG and will cover the period from January 1, 2014 through December 31, 2015.

13. The Company will seek suitable sites targeted in areas of the Company's service territory that meet the Study objectives and other eligibility requirements, such as the age and the structural integrity of the customer's roof, the space available for the solar arrays, and the cost-effectiveness of the installation. All potential sites will also be subject to internal reviews, and must pass feasibility and engineering analyses for site specifics related to solar generation on rooftops or on ground space providing adequate solar irradiance and space requirements.

14. Once all physical and site-specific objectives are satisfied, the Company and the customer will execute a lease. The Company will work to identify and mitigate potential risks and to ensure the optimal long-term operation of Company generation assets in a manner that does not unnecessarily interfere with customer operations.

15. The strategic use of distributed generation is anticipated to provide a number of benefits to the Company's distribution system while enhancing fuel diversification across the Company's generation portfolio. Solar DG promises (among other benefits) to provide environmental benefits associated with a zero emissions generation source, to support renewable energy portfolio standards, to provide economic benefits (including job support and tax revenue benefits), and to support the Commonwealth Energy Plan set forth at Va. Code §§ 67-101, *et seq.* In keeping with Chapter 771, the Company has designed its Demonstration Program to "assess benefits to the utility's distribution system, including constrained or high load growth circuits, for a period of five years from the date each installation becomes operational." Ch. 771, § 1. As part of the Demonstration Program, the Company will "use reasonable efforts to ensure that at least four of the distributed solar installation sites included in the demonstration projects shall be in a community setting, which shall include, but not be limited to, to the extent permitted by law, participation by local governments, schools, community associations, neighborhood associations,

or nonprofit organizations. The capacity of each such community installation shall not exceed 500 kilowatts.” Ch. 771, § 2. In addition, the Company’s Demonstration Program will assess the potential for Solar DG to offer certain benefits with respect to the distribution system, including reduction in peak demand on the distribution system, reduction in distribution line losses, and efficiencies in management of voltage levels to improve performance of the Company’s CVR technology. The Demonstration Program is also structured to allow the Company to gain a better understanding of the impact of reverse load flow situations that may result from high saturations of Solar DG on lightly loaded circuits. Additionally, because the Demonstration Program will enable the monitoring of Solar DG output on particular circuits over time, the Company will be able to develop a Solar DG load model for use in the Distribution Planning process. In summary, by understanding the impact that Solar DG can have on the distribution system, the Company will be better equipped to plan for this resource in the future. Should the Company develop future solar installations, the knowledge gained from this Demonstration Program will allow it to target installations to maximize the value to the distribution system. The Program will also allow the Company to partner with its large commercial, industrial, and community (including governmental) customers and allow them to play an active role in the promotion and application of Solar DG technology on the Company’s distribution system.

16. As prescribed by Chapter 771, at least four of the Solar DG installation sites will be located in community settings such as local government buildings, schools, community associations, neighborhood associations, or nonprofit organizations. The capacity of each community installation will not exceed 500 kW, per the requirements of Chapter 771. The Company intends to solicit suitable participants whose buildings and properties will align with

the Study objectives and who will provide open access to their site. Access to the community settings will enable both customers and the Company to optimize the educational and other benefits surrounding Solar DG technology.

17. Upon approval of the Company's Application, the Company expects to begin actively soliciting Program participants within 90 days, targeting specific customers in the prioritized demonstration areas – including those who have already expressed an interest to the Company in hosting a Solar DG facility, or those who own large warehouses, commercial and industrial establishments, office buildings and schools, each with sufficient space to place large-scale solar facilities – for inclusion in the Program. This process allows the Company to begin evaluating the feasibility of individual sites in areas that align with the study objectives, and negotiating leases to locate Company-owned facilities on customer-owned sites.

18. Consistent with Chapter 771, the Company will continue the Program for a period of not less than five years from the date that each installation becomes operational. At the conclusion of the Program, the Solar DG installations will remain Company-owned generating facilities, subject to applicable lease terms.

B. Solar DG Costs

19. The total estimated construction cost for the Program is not expected to exceed \$135 million, excluding financing costs. The net present value (“NPV”) of the Solar DG project is negative by \$80.8 million. A more detailed discussion of the projected costs is provided in the testimony of Company Witness Joseph G. O'Hare, and Company Witness Dianne O. Corsello explains the comprehensive RFP process that the Company undertook to determine projected Program costs. As discussed more fully below, the Program will not result in an unreasonable increase in rates for consumers, as discussed in Va. Code § 56-585.1 D.

20. The Company will offset the construction costs of the Company-owned Solar DG facilities by taking advantage of federal investment tax credits (“ITCs”) designed in part to spur investment in and to incentivize the use of solar technologies. The ITCs will directly reduce the cost of the Solar DG installations and will benefit customers over the book depreciable life of the assets in future biennial reviews of base rates. The Company will also reduce costs of the program by optimizing the higher-valued solar renewable energy certificates (“RECs”) generated by these Company-owned Solar DG facilities in the market and crediting the proceeds to further reduce cost of service. Cost recovery related to lower-valued replacement RECs will be addressed in a future rate adjustment clause (“RAC”) pursuant to Va. Code § 56-585.1 A 5 (“Subsection A 5”).

21. The Company intends to make use of economies of scale and to leverage volume purchases by primarily locating Company-owned Solar DG facilities on large commercial, industrial, and other customer sites such as large warehouses, commercial and industrial establishments, office buildings and schools each with sufficient space to place large scale solar facilities.

C. Cost Recovery

22. Initially, Program costs will be recovered as part of base rates. As stated above, the Company proposes to construct and operate up to 30 MW of Company-owned Solar DG facilities in two phases. Phase I will consist of up to 10 MW of Solar DG and will cover the period from Commission approval of this Application through December 31, 2013. Phase II will consist of up to 20 MW of Solar DG and will cover the period from January 1, 2014 through December 31, 2015. The Company expects all costs, along with ongoing operating expenditures, associated with the up to 10 MW installed during Phase I to be included in a future biennial

review of the Company's base rates. Although the Company does not intend to seek Commission approval for RAC recovery of costs for the Phase I installations, the Company may, based on its experience with this initial phase, choose to apply for a RAC for the Phase II costs.

23. Va. Code § 56-585.1 D provides guidance to the Commission as to how to examine the costs of renewable generation facilities to customers:

In determining the reasonableness or prudence of a utility providing energy and capacity to its customers from renewable energy resources, the Commission shall consider the extent to which such renewable energy resources, whether utility-owned or by contract, further the objectives of the Commonwealth Energy Policy set forth in §§ 67-101 and 67-102, and shall also consider whether the costs of such resources is likely to result in unreasonable increases in rates paid by consumers.

24. Although this Code section does not permit a utility to construct a renewable generation facility regardless of cost, it does permit recovery for such facilities even if they are more expensive than other generation resource alternatives. Moreover, the determination of reasonableness is based on the effect on rates paid by customers, not the cost per MW compared to alternative generation sources. As measured as a percentage of rates, the cost of the Solar DG programs should be small and have a minimal effect on rates overall. In addition, Chapter 771, by capping the capacity at 0.20% percent of the Company's 2010 adjusted Virginia peak load, indicates the General Assembly's policy determination that Solar DG investments at this level are not unreasonable. Va. Code § 56-585.2 also contemplates that renewable energy may be more expensive than other alternatives.

25. This 0.20% capacity restriction in the Distributed Solar Legislation, along with language above in Va. Code § 56-585.1 D stating that the Commission must consider whether the costs of renewable energy resources are "likely to result in unreasonable increases in rates paid by consumers," appropriately limit Solar DG demonstration programs to ensure that the costs incurred in constructing and operating utility-owned Solar DG installations will remain at a

reasonable level.

26. Pursuant to Va. Code § 56-585.2 E, there are incremental costs for the Solar DG Program and those incremental costs will “not be allocated to or recovered from customers that are served within the large industrial rate classes of the participating utilities and that are served at primary or transmission voltage.”

D. Solar DG Study

27. With Chapter 771’s emphasis on assessing impacts and benefits to a utility’s distribution system in mind, the Company is proposing four specific Study objectives as the outgrowth of this Program. In order to meet its Study objectives, the Company needs to be able to install a sufficient amount of Solar DG capacity on its system. In fact, one of these Study objectives specifically involves assessing the operational impact of “high saturation” solar generation on a single circuit. In order to achieve such saturation, the Company may need to concentrate several MW of Solar DG on a given circuit. The four Study objectives are to: (1) determine the effects of Solar DG on circuit loading, analyze the peak demand reduction benefits to the distribution system, and collect the necessary data to develop a model for Distribution Planning processes; (2) quantify the beneficial reduction in line losses from Solar DG at various points on the distribution system; (3) determine the operational challenge and impact of “high saturation” Solar DG on a single circuit; and (4) evaluate the potential for Solar DG to improve CVR performance. The results of these Studies will be provided annually to the Commission to assist it in preparing its annual reports pursuant to Section 4 of Chapter 771.

28. The Company will conduct the Program, collect data, and quantify impacts and benefits to the distribution system for a period of five years from the date that each Program installation or facility becomes operational. All four studies will be conducted simultaneously

for each installation. The Company will report the Program Study results to the Commission on an annual basis for the duration of the Program – *i.e.* for a period of five years from the commercial operation date of each installation. The Company’s study should assist the Commission in preparing its own annual report to the Governor and certain committee chairs in the General Assembly pursuant to Section 4 of Chapter 771.

IV. CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND FOR APPROVAL TO CONSTRUCT AND OPERATE UP TO 30 MW OF COMPANY-OWNED SOLAR DG FACILITIES

A. Request for a “Blanket” CPCN

29. Chapter 771’s requirements and considerations for approval of a Solar DG demonstration program are significantly different than those for more traditional applications for CPCNs brought before the Commission. Traditional review of CPCN applications usually considers specific sites, specific construction information and specific cost information – all prior to approval and issuance of a CPCN by the Commission. Chapter 771 modifies these standards of review by providing the Commission with the authority to approve Solar DG demonstration programs like the Program here that, simply put, do not fit the traditional CPCN mold. Similarly, standard ways of examining need, cost-effectiveness against other generation resources and alternatives, and the public interest do not fit the traditional mold of CPCN review. Further, in Chapter 771, the General Assembly provided guidance as to the elements the Commission should consider before approving a Solar DG program. In particular, the Distributed Solar Legislation:

- authorizes the Commission to approve as a “one small non-combustible renewable generation facility” multiple Solar DG installations. See Ch. 771 § 3.³

³ Pursuant to § 3 of Chapter 771:

[w]hen a utility proposes solar distributed generation resources as permitted in § 1 of this act comprised of multiple installations combined collectively, the Commission shall

- calls for the establishment of a “demonstration program to assess benefits to the utility’s distribution system, including constrained or high load growth circuits” Ch. 771, § 1.
- requires the consideration and construction of Solar DG installations at community sites like schools and neighborhood associations. Ch. 771, § 2.
- provides for assessment and analysis of “constrained or high load growth circuits” and “constrained or high load growth areas” of the Company’s service territory. Ch. 771, § 1.
- allows utilities to offer special tariffs to facilitate customer-owned Solar DG facilities as alternatives to net energy metering. Ch. 771, § 1

30. Accordingly, the Company requests all necessary approvals, specifically including a “blanket” certificate of public convenience and necessity pursuant to Chapter 771,⁴ and Va. Code §§ 56-46.1⁵ and 56-580 D, to construct and operate up to 30 MW of Company-owned Solar DG facilities in a phased approach across multiple installations at selected commercial, industrial, and community locations dispersed throughout the Company’s service territory. While there are admittedly several factors that play into the construction and operation of Solar DG installations, it would be impractical for both the Commission to have to consider, and for the Company to have to seek, a separate CPCN for each and every one of the many sites that will ultimately be included in the Program. As previously noted, Chapter 771 allows the Commission to consider multiple Solar DG installations as one small non-combustible renewable power generation facility under the CPCN and other statutes.

consider such projects as one small non-combustible renewable power generation facility for purposes of project approval pursuant to §§ 10.1-1197.5, 10.1-1197.8, 56-265.2, 56-580 and 56-585.1 of the Code of Virginia.

⁴ *Id.*

⁵ Va. Code § 56-46.1 I states that “[t]he provisions of this section shall not apply to the construction and operation of a small renewable energy project, as defined in § 10.1-1197.5, by a utility regulated pursuant to this title for which the Department of Environmental Quality has issued a permit by rule pursuant to Article 5 (§ 10.1-1197.5 *et seq.*) of Chapter 11.1 of Title 10.1.” The Department’s proposed Small Renewable Energy Projects (Solar) Permit by Rule (“PBR”) regulations (9 VAC 15-60-10, *et seq.*) have not yet become final. As a result, the Company is filing its Application pursuant to Va. Code § 56-46.1. Pursuant to Va. Code § 10.1-1197.6, the solar PBR regulations must be final by July 1, 2012.

B. Environmental Review And Benefits

31. To facilitate review and analysis of the Company's proposed Program by the Commission, the Virginia Department of Environmental Quality ("DEQ"), and other relevant agencies, the Company is presenting a DEQ Supplement to this Application containing the information and analysis required by Rule 25 (11)(a)-(n) of the Generation Rules, 20 VAC 5-302-25(11)(a)-(n). The DEQ Supplement demonstrates that the proposed Solar DG Program will not result in adverse impacts on the environment in accordance with Va. Code § 56-46.1. Unlike conventional types of generation, Solar DG has zero emissions. Additionally, the crystalline-silicon ("C-Si") solar panels that the Company proposes to use in the Program are non-hazardous material, and there are no specific laws or environmental regulations requiring the special handling or disposal of solar panels. Since the C-Si solar panels will be placed on existing structures and previously developed properties, there are no foreseeable environmental impacts. The general lack of environmental issues associated with the Program is further discussed in the Company's supporting testimony and DEQ Supplement.

32. The Solar DG Program will have numerous benefits to the environment of Virginia, including elimination of emissions of nitrous oxides ("NO_x"), sulfur dioxide ("SO₂"), particulate matter ("PM"), and mercury ("Hg") when compared to other generation resources. Moreover, there will be no impact to water resources and no generation of waste byproducts with the Program's operation.

C. Updates to the Commission

33. Recognizing that Chapter 771 requires the Commission to approve the construction and operation of Solar DG facilities before those locations are identified, the

Company proposes to inform the Commission on a regular basis as to the installation of the Solar DG facilities. As the sites for the Company-owned installations become operational, the Company will provide relevant information to the Commission, including the site address, size and description of the installation, a representation that federal, state and local environmental laws, and any other approvals have been met, and the Program-related Study objectives fulfilled by the site.

D. Public Interest, Need and Benefits of Solar DG

34. The stated goal of Chapter 771 is “to promote solar energy through distributed generation.” Ch. 771, § 1. In order for the Commission to approve a petition for a Solar DG demonstration program, Chapter 771 requires a utility to demonstrate to the Commission that the Solar DG program: (1) is a demonstration program limited in “an aggregate amount of rated generating capacity . . . to 0.20 percent of each electric utility’s adjusted Virginia peak load for the calendar year 2010”; (2) targets certain aspects of the distribution system; (3) includes at least four community settings; and (4) is reasonably designed to further the public interest. Notably, Chapter 771 refers to utility-owned Solar DG facilities in such a program as small renewable energy projects, which are expressly in the public interest pursuant to Va. Code § 56-580 D. Though Company Witness Ashwani K. Vaswani provides the Commission with traditional information regarding the need for energy and capacity to support the Program, the Company believes that the Commission can determine need for the Solar DG Program using the parameters of Chapter 771, as well other parts of the Code. The Company also believes the benefits of the Solar DG Program will serve the public interest.⁶

⁶ The proposed Company-owned Solar DG facilities in the Program meet the definition provided in Va. Code § 10.1-1197.5 of “a small renewable energy project,” which includes “an electrical generation facility with a rated capacity not exceeding 100 megawatts that generates electricity only from sunlight, wind, falling water, wave

35. Even though the Company's Solar DG program can be approved based on the requirements of Chapter 771, the Company's proposed Program will have additional benefits that further support its approval. The Program will (among other benefits):

- Enhance fuel diversification across the Company's generation portfolio;
- Provide environmental benefits associated with a zero emissions generation source;
- Support RPS goals and standards;
- Provide economic benefits (including job support and tax revenue benefits);
- Support the Commonwealth Energy Plan set forth at Va. Code §§ 67-101, *et seq.*;
- Further the General Assembly's stated goal of promoting solar energy through distributed generation; and
- Allow the Company to study the impacts and assess the benefits of Solar DG facilities to its distribution system, all at a capped overall size (and cost) that does not result in unreasonable rate increases for consumers, taking into consideration incentives available that reduce costs to customers (*e.g.*, the ITCs and the optimization of solar RECs) and the General Assembly's determination that Solar DG facilities like these proposed here are in the public interest.⁷

The public convenience and necessity therefore require the Company to construct and operate the proposed up to 30 MW of Company-owned Solar DG facilities included in the Program.

36. The Company's system-wide Integrated Resource Plan ("Plan") identifies the mix

motion, tides, or geothermal power" Section 56-580 D of the Code, in turn, provides that "[s]mall renewable energy projects as defined in Va. Code § 10.1-1197.5 are in the public interest and in determining whether to approve such project, the Commission shall liberally construe the provisions of this title." Because the General Assembly has determined that the construction of small renewable energy projects is in the public interest, the Commission need not make a separate determination that the proposed Company-owned Solar DG facilities in the Program are "not otherwise contrary to the public interest" under Va. Code § 56-580 D.⁶ The General Assembly has further directed under Va. Code § 56-580 D that "in determining whether to approve such project, the Commission shall liberally construe the provisions of this title."

⁷ See, *e.g.*, Va. Code §§ 56-580 D (small renewable energy projects are in the public interest); 56-585.1 D ("In determining the reasonableness or prudence of a utility providing energy and capacity to its customers from renewable energy resources, the Commission shall consider the extent to which such renewable energy resources . . . further the objectives of the Commonwealth Energy Policy . . . and shall also consider whether the costs of such resources is likely to result in unreasonable increases in rates paid by consumers."); 56-585.2 C (achieving RPS Goals is in the public interest).

of resources necessary to meet future capacity and energy needs in an efficient and reliable manner at the lowest reasonable cost. In the 2010 Plan, generic solar units were included as part of the Plan. In addition, in the 2011 Plan filed with the Commission in Case No. PUE-2011-00092, the Company has identified solar generation totaling 30 MW as part of one of the alternative plans.

37. As previously noted, the Company believes it has a responsibility to better understand the impacts – and to assess the potential benefits – of Solar DG on the distribution system in order to be prepared for the future. The up to 30 MW of Company-owned Solar DG facilities proposed in the Program provides a magnitude consistent with Chapter 771’s capacity limitation that will allow the Company to sufficiently study Solar DG, develop competency as an owner of large solar renewable assets, expand its understanding of the impacts and benefits of Solar DG on the distribution system, and plan appropriately for future development and potential broader deployment of Solar DG on its system.

E. Economic and Economic Development Benefits

38. The Company commissioned a report prepared by Chmura Economics and Analytics entitled *The Economic and Fiscal Impact of the Planned Dominion Virginia Power Community Solar Distributed Generation Program in Virginia* (the “Chmura Report”). The Chmura Report determined that from 2013 through 2015, \$135 million in capital expenditures by the Company to construct the Company-owned Solar DG facilities in the Program generates an annual average economic impact of \$34.5 million (including direct, indirect and induced impacts) in Virginia, supporting 105 Virginia jobs per year. Such capital expenditures can also generate \$420,482 in annual tax revenue for the Commonwealth from 2013 to 2015, while the ongoing operations of these facilities can generate total state tax revenues of \$12,250 per year.

The Chmura Report further determined that from 2016 onward, the ongoing operation of these Company-owned Solar DG facilities can produce a total of \$6.8 million in annual economic impact (including direct, indirect, and induced) in the Commonwealth, supporting 12 Virginia jobs.

F. Fuel Diversity

39. The Program will enhance fuel diversity across the Company's generation portfolio. Maintaining a diverse mix of fuels reduces the Company's reliance on any one single fuel source and, therefore, helps protect customers from the rising cost of any one commodity. The Program will also increase the Company's energy production from a sustainable, renewable fuel source (*i.e.*, the Sun), furthering the existing fuel diversity within the Company's electric generating portfolio.

40. Because the Program consists of Company- and customer-owned Solar DG, there are no fuel contracts, fuel supply arrangements, or fuel supply studies for purposes of complying with Rules 25(8) and 35(2), 20 VAC 5-302-25(8) and 20 VAC 5-302-35(2), of the Generation Rules.

G. Operation and Construction Experience

41. The Company has utilized, and will continue to utilize, competitive bidding practices to the greatest extent practicable in its purchases of equipment and materials, and in the acquisition of construction and other services related to the Program. For example, the Company selected a large commercial customer site and conducted a comprehensive and confidential RFP process to confirm costs and maximize price certainty for typical rooftop installations, as well as for the typical ground-mounted and canopy-installed systems in the Program. This RFP included the technical scope of Program work and design specifications for the purpose of soliciting and

engaging an experienced Engineering, Procurement and Construction (“EPC”) contractor to perform the installation of the Company-owned Solar DG facilities. The Company has received fixed price bid responses to the RFP and is in the process of performing commercial and technical evaluations of the bids. EPC contract(s) are expected to be executed upon Commission approval of the Program.

42. The Company has an excellent record of designing, developing, constructing and operating generation projects in a safe and reliable manner, and at reasonable cost. The Company also successfully designs, operates, and maintains approximately 56,800 miles of safe, reliable distribution infrastructure at reasonable cost. As an integrated energy provider and the largest utility in the Commonwealth, the Company is well-qualified to install, own, operate and maintain Solar DG facilities as part of its generation fleet. The Company will carefully and competitively select contractors and vendors to maximize certainty and reasonableness of the Program’s costs. Selected contractors and vendors will have extensive experience in installing and maintaining large-scale Solar DG installations of 500 kW and above.

H. Transmission

43. The Solar DG sites will be connected to the Company’s distribution system on the host customer’s property and will require no new transmission facilities.

I. Investment Tax Credits

44. Program construction costs for the Company-owned Solar DG facilities will take advantage of the federal ITCs which will lower the Program cost of the facilities. Solar generation facilities are eligible for a credit of 30% of the cost of development, with no maximum credit limit. The ITCs are generated at the time an eligible facility is placed in service. To qualify for the 30% ITC, the renewable facility must be placed in service by the end

of 2016, which is consistent with the phased approach whereby construction of the Company-owned Solar DG facilities will be completed by the end of 2015. The ITCs for these Solar DG installations will be up to \$40 million through 2015. The ITCs will directly reduce the cost of the Solar DG installations and will benefit customers over the book depreciable life of the assets in future biennial reviews of base rates.

J. RPS and RECs

45. The Company-owned Solar DG installations will produce renewable energy that qualifies for use under the Virginia RPS program established under Va. Code § 56-585.2, and will contribute to the Company's Commission-approved RPS Plan. Pursuant to Va. Code § 56-585.2 F, the Company intends to optimize the renewable energy generated by these installations – *i.e.*, the Company will sell the higher-valued solar renewable energy produced by the facilities as RECs in the market, thereby lowering the cost of the Program. While the proceeds from the sales of the higher-value Solar RECs will be credited to all customers and reduce the cost of the Solar DG Program, the costs for purchasing the lower-value replacement RECs will be allocated in a future RAC pursuant to Subsection A 5, but not to “customers that are served within the large industrial rate classes of the participating utilities and that are served at primary or transmission voltage,” consistent with Va. Code § 56-585.2 E. Company Witness Chiman H. Muchhala addresses how the Solar DG Program will be part of the Company's RPS compliance.

V. CUSTOMER-OWNED SOLAR DG IN THE PROGRAM

46. As permitted under Chapter 771, within the first six months of 2012, the Company will file with the Commission a Tariff allowing the Company to purchase up to 3 MW of energy output from customer-owned Solar DG installations as an alternative to net energy metering.

VI. COMMONWEALTH ENERGY POLICY

47. The Program will support the Commonwealth Energy Policy stated in Va. Code §§ 67-101 and 67-102. More specifically, the Program will meet the objectives under § 67-101 to increase Virginia's reliance on sources of energy that, compared to traditional energy resources, are less polluting of the Commonwealth's air and water. Moreover, the Program and the Company's proposed deployment and Studies of Solar DG on the distribution system are consistent with the goal under § 67-102 to "support research and development of, and promote the use of, renewable energy sources," to "promote the generation of electricity through technologies that do not contribute to greenhouse gases and global warming," and to "ensure that energy generation and delivery system that may be approved for development in the Commonwealth . . . should be located so as to minimize impacts to pristine natural areas and other significant onshore natural resources, and as near to compatible development as possible."

VII. SUPPORTING TESTIMONY

48. The Company's request for Program approval and for certification and approval to construct and operate up to 30 MW of Company-owned Solar DG facilities to be comprised of multiple installations at selected large commercial, industrial and community customer locations dispersed throughout the Company's service territory is supported by the attached prefiled direct testimonies of Company Witnesses Kenneth D. Barker, Phillip W. Powell, Dianne O. Corsello, Carl Zatkulak, Joseph G. O'Hare, Ashwani K. Vaswani, Robert M. Bisha, and Chiman H. Muchhala. In addition, see Exhibit 1 attached hereto for the information required by 20 VAC 5-302-25(1), (2), (3), (4) and (5), which is sponsored by Company Witness Barker.

**VIII. REQUEST FOR CONFIDENTIAL TREATMENT AND
ADDITIONAL PROTECTIVE TREATMENT OF
EXTRAORDINARILY SENSITIVE INFORMATION**

49. The Company's Application contains, at points so designated, Confidential and Extraordinarily Sensitive information, which is being filed under seal and subject to the Company's Motion for Entry of Protective Order and Additional Protective Treatment filed contemporaneously in compliance with Rule 170 of the Commission's Rules of Practice and Procedure, 5 VAC 5-20-170 ("Motion"). This separate Motion includes a form of Proposed Protective Order substantively similar to others previously approved by the Commission in Company cases.

**IX. REQUEST FOR LIMITED WAIVER OF CERTAIN OF THE COMMISSION'S
GENERATION RULES**

50. The Company respectfully requests that the Commission grant it a limited waiver from the requirements of Generation Rules 20 VAC 5-302-10(iv), 20 VAC 5-302-25(6), 20 VAC 5-302-25(8), 20 VAC 5-302-25(10), 20 VAC 5-302-25(12), 20 VAC 5-302-35(1), 20 VAC 5-302-35(2), and 20 VAC 5-302-35(4) to the extent that they require the filing of information related to the specific sites upon which the proposed Company-owned Solar DG facilities will be installed; fuel supply studies and arrangements; transmission interconnection requirements, facilities and impacts; and the reasons for choosing Solar DG over other alternative generation sources.

51. The Company is seeking Commission approval to construct and operate up to 30 MW of Company-owned Solar DG facilities as part of the Program, to be comprised of multiple installations, approximately 30-50, at selected large commercial, industrial and community locations dispersed throughout the Company's service territory. Because the actual precise locations of the facilities cannot be reasonably determined at this time, the Company has

requested approval of a “blanket” CPCN, as permitted by Chapter 771, that eliminates the need for the Company to seek individual CPCNs prior to installation of each and every Solar DG facility or installation in the Program. Having to negotiate at least an estimated 30-50 separate leases – in addition to conducting all of the requisite individual circuit analysis, engineering studies of distribution in specific areas, analysis of roof strength and loading, *etc.*, as previously discussed – has the potential to unduly delay the Program, increase costs, and jeopardize ITC availability. In contrast, a blanket CPCN will further preserve the Company’s ability to negotiate and enter into lease arrangements with interested customers for potential sites, furthering one or more of the Company’s Chapter 771 Study objectives, with site selection ultimately being made based on parameters discussed by Company Witnesses Zatkulak and Powell.

52. Although the Generation Rules require the filing of economic studies showing that the proposed generating facility (here, the Program) is the most economic alternative, the General Assembly has stated its policy to promote solar energy through distributed generation, concluded that small renewable energy projects like the Company-owned Solar DG facilities in the Program are in the public interest, and recognized that Solar DG Demonstration Programs should receive Commission approval so long as they do not result in unreasonable increases in rates for consumers – a standard which recognizes that Solar DG will not necessarily be the most economical (or least cost) generation resource alternative for a utility.

53. The Generation Rules require the filing of transmission interconnection requirements, facilities and impacts related to the proposed generation facility. Because the Solar DG sites will be connected to the Company’s distribution system on the host customer’s property, no new transmission facilities will be required. Accordingly, these requirements are not applicable to the Solar DG facilities.

54. The Generation Rules also require the filing of fuel supply studies and a description of fuel supply arrangements for the proposed generating facility. As the fuel source for the Solar DG Program is the Sun, these requirements are not applicable.

55. For these reasons and for good cause shown, the Company requests that the Commission grant it a limited waiver from Generation Rules 20 VAC 5-302-10(iv), 20 VAC 5-302-25(6), 20 VAC 5-302-25(8), 20 VAC 5-302-25(10), 20 VAC 5-302-25(12), 20 VAC 5-302-35(1), 20 VAC 5-302-35(2), and 20 VAC 5-302-35(4) to the extent that they require the filing of information related to the specific sites upon which the proposed Company-owned Solar DG facilities will be installed; fuel supply studies and arrangements; transmission interconnection requirements, facilities and impacts; and the reasons for choosing Solar DG over other alternative generation sources.

X. SUMMARY

56. The Company's proposed Community Solar Power Program, including up to 30 MW of Company-owned Solar DG facilities and up to 3 MW of customer-owned Solar DG under Tariff as an alternative to net energy metering, will benefit the Company's customers, the environment and the Commonwealth as a whole. Specifically, the Program will (among other benefits):

- Meet the policy goals and requirements prescribed by the General Assembly in enacting Chapter 771;
- Enhance fuel diversification, provide environmental benefits including RPS support, create economic and economic development benefits, and support the Commonwealth Energy Plan;
- Allow the Company to study the impacts and assess the benefits to its distribution system resulting from targeted Solar DG including impacts on its grid and electric service reliability, gauging customer interest and reaction to Solar DG offerings including the Tariff, and solidifying a knowledge base to enable successful deployment and operation of Solar DG;

- Give the Company valuable experience in deploying Solar DG on a widespread basis and allow it to develop relationships with Solar DG developers, manufacturers, and installers;
- Allow the Company to take advantage of ITCs to offset some of the Program’s construction costs; and
- Produce self-generated higher-value RECs that can be optimized for customer benefit.

The Company’s filing materials demonstrate that the Company has the technical and financial fitness to implement the proposed Program, to construct and operate up to 30 MW of Company-owned Solar DG facilities to be installed at customer sites throughout its service territory, and to satisfy the requirements of Chapter 771 and Va. Code §§ 56-46.1 and 56-580 D. The proposed Solar DG Program will have no material adverse impact upon the reliability of the Company’s electric service, is required by the public convenience and necessity, and is in – and not otherwise contrary to – the public interest.

WHEREFORE, Dominion Virginia Power respectfully requests that the Commission expeditiously:

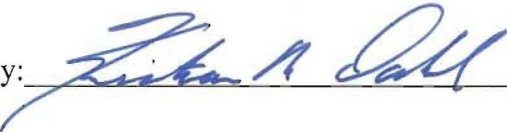
- (1) Direct that notice of the Application be given as required by Va. Code § 56-46.1;
- (2) Approve the Company’s proposed Community Solar Power Program pursuant to Chapter 771 of the 2011 Virginia Acts of Assembly;
- (3) Grant a “blanket” certificate of public convenience and necessity and approval to construct and operate up to 30 MW of Company-owned Solar DG to be comprised of multiple facilities at selected large commercial and industrial customer locations dispersed throughout the Company’s service territory under Va. Code §§ 56-580 D and 56-46.1, and in community settings (including governmental settings) as set forth in Chapter 771;
- (4) Grant the Company’s requested limited waiver as to the filing requirements of 20 VAC 5-302-10(iv), 20 VAC 5-302-25(6), 20 VAC 5-302-25(8), 20 VAC 5-302-25(10), 20 VAC

5-302-25(12), 20 VAC 5-302-35(1), 20 VAC 5-302-35(2), and 20 VAC 5-302-35(4) of the Commission's Generation Rules to the extent that they require the filing of information related to the specific sites upon which the proposed Company-owned Solar DG facilities will be installed; fuel supply studies and arrangements; transmission interconnection requirements, facilities and impacts; and the reasons for choosing Solar DG over other alternative generation sources; and

(5) Grant such other and further relief as the Commission deems just and proper.

Respectfully submitted,

VIRGINIA ELECTRIC AND POWER COMPANY

By:  _____

Mark O. Webb
William H. Baxter II
Dominion Resources Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219
(804) 819-2140 (phone)
(804) 819-2458 (phone)
mark.webb@dom.com
william.h.baxter@dom.com

Kristian M. Dahl
Bernard L. McNamee
Ashley B. Macko
McGuireWoods LLP
One James Center
901 East Cary Street
Richmond, Virginia 23219
(804) 775-4730 (phone)
(804) 775-7877 (phone)
(804) 775-1167 (phone)
kdahl@mcguirewoods.com
bmcnamee@mcguirewoods.com
amacko@mcguirewoods.com

Counsel for Virginia Electric and Power Company

October 31, 2011