

**Virginia State Corporation Commission
eFiling CASE Document Cover Sheet**

211166102

Case Number (if already assigned)	PUR-2021-00066
Case Name (if known)	Petition of Appalachian Power Company for a prudency review with respect to the purchase of the Amherst Solar Facility
Document Type	EXPE
Document Description Summary	Appalachian Power Company Petition for a prudency review with respect to the purchase of the Amherst Solar Facility
Total Number of Pages	73
Submission ID	23361
eFiling Date Stamp	11/18/2021 1:12:23PM



BOUNDLESS ENERGY

American Electric Power
1000 East Main Street
Richmond, Virginia 23219
781-511-1000

211160102

November 18, 2021

By Electronic Filing

Hon. Bernard J. Logan, Clerk
State Corporation Commission
Document Control Center
1300 East Main Street, First Floor
Richmond, Virginia 23219

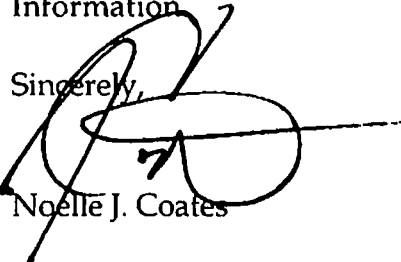
Noelle J. Coates
Senior Counsel - Regulatory
Services
(804) 698-5541 (P)
(804) 698-5526 (F)
njcoates@aep.com

**Re: Petition of Appalachian Power Company
For a prudency review, pursuant to § 56-585.1:4 H
of the Code of Virginia with respect to the purchase
of the Amherst Solar Facility
Case No. PUR-2021-00066**

Dear Mr. Logan:

Please find attached for filing the Petition of Appalachian Power Company for a prudency review, pursuant to § 56-585.1:4 H of the Code of Virginia, with respect to the purchase of the Amherst Solar Facility. Please note that the Company is requesting in the Petition a waiver of the Commission's Rate Case Rules that would permit it to file one hard copy of certain extraordinarily sensitive and/or voluminous materials that support the Petition, as well as electronic copies of these documents on three compact disks. The hard copy and disks are being filed simultaneously by hand with the Commission under separate cover. The Company has also made this information available to Staff.

The Company is also simultaneously filing a Motion for Protective Ruling and Additional Protective Treatment for Extraordinarily Sensitive Information.

Sincerely,

Noelle J. Coates

Enclosures
cc: William H. Chambliss, Esq.
C. Meade Browder, Jr., Esq.

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

**PETITION OF
APPALACHIAN POWER COMPANY**

**for a prudency review, pursuant to § 56-585.1:4 H
of the Code of Virginia, with respect to the purchase
of the Amherst Solar Facility**

Case No. PUR-2021-00066

**PETITION OF APPALACHIAN POWER COMPANY FOR A PRUDENCY
DETERMINATION WITH RESPECT TO
THE AMHERST FACILITY PURCHASE AND SALE AGREEMENT
AND REQUEST FOR WAIVER**

Pursuant to Section 56-585.1:4 H of the Code of Virginia, Appalachian Power Company (“Appalachian” or the “Company”) petitions the State Corporation Commission of Virginia (the “Commission”) for a prudency determination with respect to the Company’s proposed purchase and sale agreement (“PSA”) with SAE Solar LLC (a project company that is a subsidiary of SolAmerica Energy, LLC (“SolAmerica”) for the 4.875 megawatt (“MW”) solar facility to be located in Amherst County, Virginia (the “Facility or the “Amherst Facility”).¹

In support of its Petition, the Company respectfully states the following:

A. Background

1. Appalachian is a Virginia public service corporation serving approximately 540,000 customers in Virginia with its main office in Charleston, West Virginia and offices at Three James Center, 1051 East Cary Street, Suite 1100, Richmond, Virginia 23219. The names and addresses of the Company’s legal counsel are listed at the foot of this Petition.

¹ On August 30, 2021, Appalachian filed a 60-day notice of intent to file this Petition pursuant to 20 VAC 5-204-10 A (“Rule 10 A”) of the Commission’s *Rules Governing Utility Rate Applications and Annual Informational Filings of Investor-Owned Electric Utilities* (“Rate Case Rules”), accompanied by a request for waiver of Rule 10 A so that Appalachian could file this Petition sooner than 60 days from August 30, 2021. On September 1, 2021, the Commission granted that request for waiver. *Order on Motion* (Sept. 1, 2021). Due to a variety of factors, the execution of the PSA was delayed until early November, which delayed the filing of this Petition.

2. The following witnesses offer testimony in support of this Petition:

- **William K. Castle**, Director of Regulatory Services-VA/TN for Appalachian. Mr. Castle supports the Company's prudence request; addresses environmental justice considerations of the Facility; and describes the Request for Proposal process for this Facility as well as the relationship of the Facility to the Company's 2020 VCEA Plan. He also describes how the Amherst Facility will enable the Company to meet requirements for renewable energy set out in the Code of Virginia and explains the regulatory approval process in West Virginia and the implications for Virginia customers.
- **Alex Vaughan**, Director, Regulated Pricing and Renewables, American Electric Power Service Corporation. Mr. Vaughan describes the economic analysis for the proposed Amherst Facility that demonstrates it is a prudent utility investment for the Company and its Virginia customers; and discusses the Company's proposed treatment of the Amherst Facility's load reduction in regards to the allocation of existing Company assets and their costs to serve.

B. The Solar Mandates in the Virginia Code

In 2018, the General Assembly enacted the Grid Transformation and Security Act ("GTSA"),² which contained, among many provisions, Enactment Clause 21 (the "GTSA Solar Mandate"):

That on or before July 1, 2028, subject to the approval of the [Commission], [Appalachian] shall construct or acquire a generation facility or facilities utilizing energy derived from sunlight with an aggregate capacity of not less than 200 megawatts located in the Commonwealth, which utility-owned generation facility or facilities is in the public interest as is set forth in this act. If a Phase I Utility serves in more than one jurisdiction, and a jurisdiction other than the Commonwealth denies the Phase I Utility recovery of the costs of the generation facility or facilities utilizing energy from sunlight allocated to that jurisdiction, the Phase I Utility can recover all of the costs of the generation facility or facilities utilizing energy from sunlight from its Virginia jurisdictional customers, and all attributes of the generation facility or facilities utilizing energy from sunlight, including energy and capacity shall be assigned to Virginia.

In 2020, the General Assembly enacted the Virginia Clean Economy Act (the "VCEA"), which also imposed a mandate on Appalachian to "petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and

² 2018 Va. Acts ch. 296 (SB 966).

environmental attributes of 600 megawatts of generating capacity using energy derived from sunlight or onshore wind.” Specifically, by December 31, 2023, Appalachian is required to petition the Commission “for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 200 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind”³ (the “VCEA Mandate”). The VCEA also establishes renewable portfolio standard (“RPS”) requirements that will lead Appalachian to providing 100 percent clean energy by 2050.⁴

C. The Amherst Facility and its Purchase

To comply with the GTSA Solar Mandate, the Company issued a request for proposals (“RFP”) on January 22, 2020. The Company received multiple bids for projects, and short-listed three projects, two of which subsequently withdrew. As a result of this thorough and transparent competitive bidding process, the Company only pursued the Amherst Facility, which is a 4.875 MW, fixed-tilt design, photovoltaic solar facility to be located in Amherst County, Virginia, approximately two miles southeast of the town of Amherst. The Facility will be located in a sparsely populated, wooded area, and the panels will largely be obscured by vegetation on all sides. The Facility, which is based on known and proven technology, will be interconnected to the Company’s distribution system at 12.4 kV.

The developer submitted its Notice of Intent to construct the Facility with the Department of Environmental Quality on January 26, 2021, and its Notice of Intent to construct the Facility with the Commission on September 29, 2021. If the Commission grants this Petition, and

³ Va. Code § 56-585.5 D 1 a.

⁴ Va. Code § 56-585.5 C.

Appalachian's subsequent request to purchase and operate the Facility, it is expected to be operational, and thus contributing to the Company's VCEA RPS requirements, by 2023.

Appalachian will acquire SAE Solar, the project company that holds the Facility, from SolAmerica, when the Facility is at the point of mechanical completion, which will preserve the tax benefits for the Company's use.

After its acquisition, Appalachian will operate and maintain the Facility. Due to its size and that it is a fixed tilt technology (that is, there are no moving parts and maintenance requirements are generally low), no full-time onsite operators will be necessary.

D. Request for a Prudency Determination

Section 56-585.1:4 H of the Code permits the Company to seek a prudency determination from the Commission at any time regarding, among other things, the purchase of a solar generation facility located in the Commonwealth. Accordingly, the Company asks that the Commission determine that the purchase of the Amherst Facility is prudent, based on the following considerations, which are discussed more fully in the testimonies of Company witnesses Castle and Vaughan.

First, the purchase will help the Company comply with the GTSA Solar Mandate, the VCEA Solar Mandate, and the RPS requirements (by producing just over 10,000 RECs annually or about half that amount on a Virginia retail basis) at a reasonable cost. In fact, if the Public Service Commission of West Virginia ("WV PSC") approves cost recovery from Appalachian's West Virginia customers, the increase to retail rates in Virginia would only be 0.01%. If the WV PSC does not approve cost recovery from the West Virginia customers, the increase to Virginia customers' retail rates would only be 0.02%.

In addition, Mr. Vaughan's net present value analysis demonstrates that the cost of the Facility is competitive with market costs and that the benefits of Appalachian owning the Facility

over its 35-year useful life are greater than the costs of purchasing similar products in the market. The Facility will, for instance, help Appalachian avoid costs it would otherwise incur as a PJM participant. The Facility will help the Company to avoid purchasing energy from the PJM energy markets, which can be volatile. It will reduce the Company's load during the PJM five coincident peak hours, thus providing a capacity obligation benefit by allowing the Company to avoid an incremental purchase of capacity in the future. The Facility's generation will also reduce the amount of load based ancillary service charges and PJM load serving entity Open Access Transmission Tariff charges billed to the Company by PJM.

As it will produce carbon-free energy, the Amherst Facility will also advance the Commonwealth Energy Policy by

- increasing Virginia's reliance on sources of energy that, compared to traditional energy resources, are less polluting of the Commonwealth's air and waters, and
- [d]eveloping the carbon-free energy resources required to fully decarbonize the electric power supply of the Commonwealth, including deployment of 30 percent renewables by 2030 and realizing 100 percent carbon-free electric power by 2040.⁵

The Facility will also provide direct and indirect economic benefits to the communities in which it will be located: jobs during its construction and, then, contribution to the tax base, which will provide additional revenues for the county and town of Amherst for decades. In addition, the Company's review verified that the Facility does not disproportionately affect any environmental justice communities, as defined in Section 2.2-234 of the Code.

Finally, the purchase of the Amherst Facility is, by statute, in the public interest. Section 56-585.1:4 A states that prior to January 1, 2024, Appalachian's purchase of a solar generation facility located in the Commonwealth of at least one MW and less than 5,000 MW "is in the

⁵ Va. Code §§ 67-101, 67-102.

public interest, and the Commission shall so find if required to make a finding regarding whether such construction or purchase is in the public interest.” Similarly, Section 56-585.1:1.G states that Appalachian’s purchase of solar facilities located in the Commonwealth “is in the public interest, and in determining whether to approve such facility, the Commission shall liberally construe the provisions of this section.”

E. Additional Regulatory Proceedings

The GTSA Solar Mandate states:

If a Phase I Utility serves in more than one jurisdiction, and a jurisdiction other than the Commonwealth denies the Phase I Utility recovery of the costs of the generation facility or facilities utilizing energy from sunlight allocated to that jurisdiction, the Phase I Utility can recover all of the costs of the generation facility or facilities utilizing energy from sunlight from its Virginia jurisdictional customers, and all attributes of the generation facility or facilities utilizing energy from sunlight, including energy and capacity shall be assigned to Virginia.

Similarly, the VCEA states:

If a Phase I or Phase II Utility serves customers in more than one jurisdiction, such utility shall recover all of the costs of compliance with the RPS Program requirements from its Virginia customers through the applicable cost recovery mechanism, and all associated energy, capacity, and environmental attributes shall be assigned to Virginia to the extent that such costs are requested but not recovered from any system customers outside the Commonwealth.⁶

Appalachian is a Phase I Utility that serves customers in more than one jurisdiction, as it also serves customers in West Virginia. Accordingly, Appalachian will seek approval from the WV PSC to recover the West Virginia jurisdictional costs of the Amherst Facility from its West Virginia customers. If the WV PSC denies such recovery, the costs and benefits of the Amherst Facility that would have been assigned to the West Virginia jurisdiction will instead be assigned to Company’s Virginia customers, by operation of the Code.

⁶ Va. Code § 56-585.5 F.

Appalachian will include both scenarios in its 2021 VCEA filing, which will be made this fall and will include a proposal for VCEA associated cost recovery mechanisms. If the Company receives an order confirming the prudence of Appalachian's acquisition of the Amherst Facility and an order approving the cost recovery mechanisms, the Company will return to the Commission for approval of the acquisition of the Facility pursuant to the Utility Facilities Act⁷ before the transaction is completed.

F. Environmental Justice

In compliance with the Virginia Environmental Justice Act,⁸ the Company screened the Facility for any environmental justice concerns, as Mr. Castle testifies. The Company reviewed the Facility and the surrounding areas and verified that it would not disproportionately affect any environmental justice communities, as defined in Va. Code § 2.2-234. In addition, SolAmerica went through a lengthy local permitting process to receive and address concerns about the environmental impact of the Facility's construction, including community open houses and outreach. One of those commitments is to plant additional vegetation as part of a visual mitigation plan.

G. Compliance with Rate Case Rules and Request for Waivers

Rate Case Rule 20VAC5-204-40 states that for a prudence determination that does not request approval of an associated rate adjustment clause, such as this one, "shall include Schedule 46 as identified and described in 20VAC5-204-90, which shall be submitted with the utility's direct testimony." Rule 20VAC5-204-90 does not contain requirements that are directly applicable to this proceeding: the request for a prudence determination, pursuant to Section 56-

⁷ Va. Code § 56-265.1 *et seq.*

⁸ Va. Code § 2.2-234 *et seq.*

585.1:4, for a utility's acquisition of a solar generation facility that will be constructed by another entity. Accordingly, the Company has provided documents that it deemed to comply with the Rule's requirements.

The required components of Schedule 46 are sponsored by Company witnesses Castle and Vaughan and are attached to and/or incorporated into their testimonies, as set out in the Index of Schedule 46 Requirements, Attachment A to this Petition.

Finally, the Company requests, pursuant to Rule 20VAC5-204-10.E, that the Commission grant a limited waiver, for good cause shown, of the requirement to file the documents that comprise Schedule 46 in hard copy. Due to the size of some of these documents, as well as the current remote conditions under which many of the parties are working, it would be unduly burdensome and impractical to produce them in hard copy. Further, much of the supporting documentation is extraordinarily sensitive, and as such would not be posted to the Commission's online docket for public review. In lieu of a physical production, consistent with the Commission's *Order Granting Limited Reconsideration* in Case No. PUR-2021-00146,⁹ the Company requests a limited waiver of this Rule to permit it to file one hard copy of these extraordinarily sensitive documents, accompanied by three compact disks containing electronic versions of the documents. In addition, the Company has made available electronic copies of these documents to the Division of Utility Accounting & Finance and the Division of Public Utility Regulation, and will make them available for review by Staff and any respondents in an iManage folder established for this proceeding.

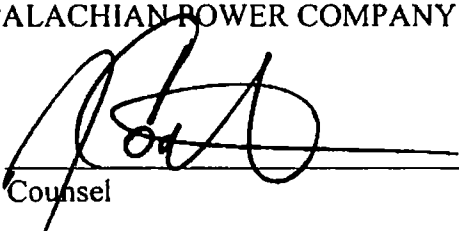
WHEREFORE Appalachian Power Company respectfully requests that the State Corporation Commission finds that the acquisition of the Amherst Facility is prudent; grant its

⁹ Order Granting Limited Reconsideration, *Petition of Virginia Electric and Power Company for Approval of the RPS Development Plan, approval and certification of the proposed CE-2 Solar Projects*

request for waiver to allow for the electronic production of certain extraordinarily sensitive and/or voluminous documents; and grant such other relief as it deems just and proper.

Respectfully submitted,

APPALACHIAN POWER COMPANY

By: 
Counsel

Noelle J. Coates (VSB #73578)
AMERICAN ELECTRIC POWER SERVICE CORPORATION
3 James Center
1051 E. Cary St., Suite 1100
Richmond, Virginia 23219
Tel: 804-698-5541
njcoates@aep.com

James R. Bacha (VSB #74536)
AMERICAN ELECTRIC POWER SERVICE CORPORATION
1 Riverside Plaza
Columbus, Ohio 43215
Tel: 614-716-3410
jrbacha@aep.com

James G. Ritter (VSB #82572)
Hunton Andrews Kurth LLP
Riverfront Plaza, East Tower
951 East Byrd Street
Richmond, VA 23219
Tel: 804-344-7907
RitterJ@hunton.com

Counsel for Appalachian Power Company

Dated: November 18, 2021

pursuant to §§ 56-580 D and 56-46.1 of the Code of Virginia, revision of rate adjustment clause, designated Rider CE, under § 56-585.1 A 6 of the Code of Virginia, and a prudence determination to enter into power purchase agreements pursuant to § 56-585.1:4 of the Code of Virginia, Case No. PUR-2021-00146, Doc. Con. Cen. No. 210830286 (Aug. 26, 2021).

Index of Schedule 46 Requirements
Case No. PUR-2021-00066

Attachment A	
Prudency Requirements	Description
1. The applicant shall provide the following information for any prudency determination filing pursuant to § 56-585.1 of the Code of Virginia:	
i. A detailed explanation of the justification for the proposed costs.	The Amherst Facility is needed to comply with Enactment Clause 21 of the Grid Transformation and Security Act, and Sections 56-585.5.C and D. of the Code. Please see the testimony of Company witnesses Will Castle and Alex Vaughan for a discussion of the justification of the proposed costs.
ii. Key documents supporting the projected and actual costs of the project for which the applicant seeks a prudency determination, such as economic analyses, support used by senior management for major cost decisions as determined by the applicant, contracts, studies, investigations, results from requests for proposals, cost-benefit analyses, and other items supporting the costs.	Please see the following key documents supporting the projected and actual costs: APCo Exhibit No. __ (WKC) Schedule 3 - Request for Proposals APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (WKC) Schedule 4 - RFP Preliminary Results APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (WKC) Schedule 5 - Amherst Contract APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (WKC) Schedule 6 - Economic Impact Study Summary APCo Exhibit No. ___ (WKC) Schedule 7 - Interconnection Study APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 1 - Economic Analysis APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 2 - Amherst Cost of Service APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 3 - Solar Production Report
3. The applicant shall provide the following additional information for any prudency determination filing for the construction of new generating facilities pursuant to § 56-585.1:4 of the Code of Virginia:	
i. A schedule of all projected and actual costs by type of cost and year, and by month to the extent available. The applicant shall provide such information by project if applicable for the specific prudency determination filing.	Please see APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 2 - Amherst Cost of Service for a schedule of projected costs.
ii. The estimated annual revenue requirement over the duration of the proposed project by year on a total company basis, including all supporting calculations and assumptions. The applicant shall provide such information by project if applicable for the specific prudency determination filing.	Please see APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 2 - Amherst Cost of Service.
iii. The information required by subdivision b 2 of these instructions.	
i. Information relative to the need or justification for the proposed generating unit.	The Amherst Facility is needed to comply with Enactment Clause 21 of the Grid Transformation and Security Act, and Sections 56-585.5.C and D. of the Code. Please see the testimony of Company witnesses Will Castle and Alex Vaughan for a discussion of the need or justification for the proposed generating unit.
ii. Feasibility and engineering studies that support the specific plant type and site selected.	Please see APCo Exhibit No. ___ (WKC) Schedule 1 - Aerial View of Project Site and APCo Exhibit No. ___ (WKC) Schedule 2 - Demographic View of Project Site for support of plant type and site.
iii. To the extent the generating unit requires fuel, fuel supply studies that demonstrate the availability and adequacy of the selected fuels.	N/A
iv. Support for planning assumptions regarding plant performance and operating costs, including historical information for similar units.	Please see the following Exhibits: APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 1 - Economic Analysis APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 2 - Amherst Cost of Service APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 3 - Solar Production Report
v. Economic studies that compare the selected alternative with other options considered, including sensitivity analyses and production costing simulations of the applicant's overall generating resources that demonstrate that the selected option is the best alternative.	Please see the testimony of Company witness Will Castle.
vi. Detailed cost estimates for the facility, including projected costs of construction, transmission interconnections, fuel supply related infrastructure improvements and project financing.	Please see APCo EXTRAORDINARILY SENSITIVE Exhibit No. ___ (AEV) Schedule 2 - Amherst Cost of Service for a schedule of projected costs.

**DIRECT TESTIMONY OF
WILLIAM K. CASTLE
FOR APPALACHIAN POWER COMPANY
IN VIRGINIA S.C.C. CASE NO. PUR-2021-00066**

SUMMARY OF DIRECT TESTIMONY OF WILLIAM K. CASTLE

My direct testimony addresses the following topics:

1. I support the Company's request that the Commission determine the prudence of the Company's proposed investment in the 4.875 MW Amherst solar project, located in the Company's service territory in Amherst, Virginia (Amherst Facility or Facility).
2. I address environmental justice considerations of the Facility.
3. I describe the Request for Proposal (RFP) process for this Facility as well as the relationship of the Facility the Company's 2020 VCEA Plan.
4. I describe how the Amherst Facility will enable the Company to meet requirements for renewable energy described in the Code of Virginia.
6. I describe the regulatory approval process in West Virginia and the implications for Virginia customers.

**DIRECT TESTIMONY OF
WILLIAM K. CASTLE
FOR APPALACHIAN POWER COMPANY
IN VIRGINIA S.C.C. CASE NO. PUR-2021-00066**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.**

2 A. My name is William K. Castle. I am the Director of Regulatory Services-VA/TN for
3 Appalachian Power Company (APCo or the Company), and my business address is 1051
4 East Cary St., Suite 1100, Richmond, Va. 23219.

5 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND
6 BUSINESS EXPERIENCE.**

7 A. I earned a Bachelor of Science degree in Mechanical Engineering from Tulane University
8 in 1988, and a Masters of Business Administration degree from the University of Texas –
9 Austin in 1998. I hold the Chartered Financial Analyst (CFA) designation. I served in
10 the U.S. Navy from 1988-1996. I have worked in the utility industry since 1998,
11 beginning with the Columbia Energy Group, Herndon, Virginia, where I held positions in
12 financial planning and corporate finance. Subsequent to the acquisition of Columbia
13 Energy Group by Merrillville, Indiana-based NiSource in 2000, I performed financial
14 planning and analysis functions. In 2004 I was employed by American Electric Power
15 Service Corporation (AEPSC) in the Resource Planning group. In 2014, I accepted my
16 current position.

17 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY AS A WITNESS
18 BEFORE ANY REGULATORY COMMISSION?**

19 A. Yes. I have presented testimony on behalf of APCo before the Virginia State
20 Corporation Commission in several proceedings, most recently in Case No. PUR-2020-
21 00165. I have also presented testimony for Indiana Michigan Power Company, Public

1 Service Company of Oklahoma, Ohio Power Company, Columbus Southern Power
2 Company, and Southwestern Electric Power Company. I have testified in the states of
3 Ohio, Oklahoma, Indiana, West Virginia, Arkansas, and Virginia.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

5 A. The purpose of my testimony is to:

1. I support the Company's request that the Commission determine the prudence of the Company's proposed investment in the 4.875 MW Amherst solar project, located in the Company's service territory in Amherst, Virginia (Amherst Facility or Facility).
2. I address environmental justice considerations of the Facility.
3. I describe the Request for Proposal (RFP) process for this Facility as well as the relationship of the Facility the Company's 2020 VCEA Plan.
4. I describe how the Amherst Facility will enable the Company to meet requirements for renewable energy described in the Code of Virginia.
6. I describe the regulatory approval process in West Virginia and the implications for Virginia customers.

6 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

7 A. Yes. I am sponsoring:

- 8 APCo Exhibit No. __ (WKC) Schedule 1 - Aerial View of Project Site
- 9 APCo Exhibit No. __ (WKC) Schedule 2 - Demographic View of Project Site
- 10 APCo Exhibit No. __ (WKC) Schedule 3 - Request for Proposals
- 11 APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (WKC) Schedule 4 -
12 RFP Preliminary Results
- 13 APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (WKC) Schedule 5 -
14 Amherst Contract
- 15 APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (WKC) Schedule 6 -
16 Economic Impact Study Summary
- 17 APCo Exhibit No. __ (WKC) Schedule 7 - Interconnection Study
- 18 APCo Exhibit No. __ (WKC) Schedule 8 - Sol America DEQ Notice of Intent
- 19 APCo Exhibit No. __ (WKC) Schedule 9 - Sol America SCC Notice of Intent

1 **Q. WHAT IS THE COMPANY REQUESTING IN THIS APPLICATION?**

2 A. The Company is requesting that the Commission find that the Company's proposed
3 purchase of the Amherst Solar project company¹ (which I will refer to as the purchase of
4 the Facility) for the purpose of complying with Enactment Clause 21 of the Grid
5 Transformation and Security Act, and Sections 56-585.5.C and D. of the Code is prudent.
6 The Company is not seeking cost recovery in this filing and thus issues of rate design are
7 deferred until it makes its annual VCEA filing. If the Commission should determine that
8 the purchase of the Amherst Facility is prudent in the instant case, the Company will
9 deem that determination sufficient to proceed with the acquisition.

10 **Q. WILL THE COMPANY PRESENT ANY OTHER WITNESSES IN THIS**
11 **PROCEEDING?**

12 A. Yes. Company witness Vaughan will describe the economic value to Virginia
13 jurisdictional customers of the Amherst Facility, a distribution-level project. Mr.
14 Vaughan will explain that, in addition to providing capacity and energy benefits and
15 RECs necessary for compliance with the requirements in § 56-585.5C, the Facility will
16 result in lower PJM transmission costs for APCo that will accrue largely to its Virginia
17 customers. Further, Mr. Vaughan will demonstrate that the Amherst Facility is
18 competitive with market costs, has a positive net present value, and will have a negligible
19 impact on rates in its first year of operation.

¹ If approved, APCo will purchase 100% of the Equity Interests of Amherst County VA S1, LLC, a Delaware limited liability company.

1 **Q. PLEASE DESCRIBE THE AMHERST FACILITY.**

2 A. The proposed Facility is a 4.875 MW, fixed-tilt design, photovoltaic solar facility
3 located in Amherst County, Virginia, approximately three miles southeast of the town of
4 Amherst. The site is in a sparsely populated and largely wooded area. The panels will be
5 largely obscured by vegetation on all sides. The Facility will be interconnected to the
6 Company's distribution system at 12.4 kV and is expected to go in-service in December
7 2022 and contribute to the Company's VCEA requirements in earnest beginning in 2023.
8 The Company will operate and maintain the facility.

9 **Q. DESCRIBE THE PROPOSED TRANSACTION.**

10 A. The Company will be purchasing the project company that holds the Facility from the
11 developer, SolAmerica, at the point of mechanical completion. The sale at this point,
12 which is prior to producing electricity, preserves the tax benefits for use by the Company.
13 Additionally, the developer primarily bears the risk of construction costs and customers
14 will not accrue financing costs prior to the transaction.

15 **Q. HAS THE COMPANY SCREENED THE AMHERST FACILITY FOR**
16 **ENVIRONMENTAL JUSTICE CONCERNS?**

17 A. Yes. The Facility was subject to a local permitting process that addressed the concerns of
18 property owners and citizens of the surrounding area. SolAmerica participated in this
19 process, which included a public notice, a community open house where members of the
20 community were able to ask questions about visual impact, glare, flooding, and the
21 potential impact on property values, and a subsequent community meeting where
22 concerns with the Facility could be heard by the planning board. Both events were
23 attended by the adjacent property owner and resulted in the commitment by the developer
24 to plant additional vegetation as part of a visual mitigation plan. In addition, the

1 Company completed its own review of the materials regarding the public process and
2 conducted further screening using satellite imagery and the Environmental Protection
3 Agency's Environmental Justice screening tool to ensure that the policy objectives in §
4 2.2-235 of the Code of Virginia will be met by the project.

5 **Q. DID THE COMPANY FIND THE FACILITY TO MEET THE OBJECTIVES OF**
6 **THE POLICY ON ENVIRONMENTAL JUSTICE?**

7 A. Yes. In addition to the permitting process which addressed issues around vegetation
8 screens, the Company's review verified that the Facility does not disproportionately
9 affect any communities defined in § 2.2-234 of the Code. APCo Exhibit No. __ (WKC)
10 Schedule 1 shows the aerial view of the proposed Facility and APCo Exhibit No. __
11 (WKC) Schedule 2 shows the surrounding demographic data.

12 **Q. PLEASE DISCUSS THE RFP PROCESS THAT RESULTED IN THIS PROJECT.**

13 A. The Company issued this RFP on January 22, 2020, prior to the passage of the Virginia
14 Clean Economy Act, for the purpose of meeting the twenty-first enactment clause
15 contained in the 2018 Grid Transformation and Security Act. This clause requires that
16 APCo construct or acquire not less than 200 MW of solar sited in the Commonwealth by
17 July 1, 2028, subject to Commission approval. The Company received multiple bids for
18 projects, and short-listed three projects. Two projects subsequently withdrew and
19 ultimately the Company only pursued the Amherst Facility. The Facility initially started
20 as a 10 MW project, but during the development process, the developer adjusted the
21 Facility to its current configuration and size of 4.9 MW, as I explain below. The RFP is
22 attached as APCo Exhibit No. __ (WKC) Schedule 3 and the initial screening economics
23 are APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (WKC) Schedule 4.

1 **Q. WHY IS THE FACILITY NOW 4.875 MW ?**

2 A. The Facility was initially bid as a 10 MW project. During the detailed due diligence
3 phase, it was determined that certain parcels of the land initially identified for the Facility
4 could not be developed in a cost-effective way. The developer then modified the design
5 on land that could accommodate a smaller project. Additionally, the Facility design was
6 changed from a single-axis tracking design to a fixed-tilt design.

7 **Q. WHILE THE FACILITY WAS CONTEMPLATED FOR COMPLIANCE WITH**
8 **PROVISIONS OF THE GRID TRANSFORMATION ACT, WILL IT COUNT**
9 **TOWARDS COMPLIANCE WITH THE VIRGINIA CLEAN ECONOMY ACT?**

10 A. Yes. The Amherst Facility will produce energy derived from sunlight using known and
11 proven technology and thus meets the definition of renewable set out in § 56-576,
12 § 56-585.5.C and § 56-585.5.D of the Code. The project was included as a 10 MW
13 project in the Company's initial VCEA plan, which the Commission found to be
14 reasonable and in the public interest.

15 **Q. DID THE COMPANY CONSIDER ALTERNATIVES?**

16 A. The Company is pursuing a portfolio of projects to meet the various requirements in the
17 VCEA. The Amherst Facility meets the requirements in § 56-585.5.D of the Code for the
18 Company to petition the Commission for approval of (at least) 130 MW of in-state
19 renewable resources constructed or acquired by the utility prior to December 31, 2023.
20 Similarly, in separate petitions, the Company will petition the Commission for the
21 resources owned by persons other than the utility.

1 **Q. DOES THE COMPANY NEED ADDITIONAL RENEWABLE ENERGY TO**
2 **COMPLY WITH THE VCEA?**

3 A. Yes. The Company's current and projected renewable portfolio generates, on a Virginia
4 retail basis which includes the local jurisdictions (the Public Authority and
5 Commonwealth) subject to the VCEA, approximately 1.0 million VCEA-eligible RECs
6 annually. The Company estimates its annual Virginia retail REC requirement to be
7 approximately 1.2 million in 2023 just after this resource will go in-service. This project
8 is expected to produce approximately 10,000 RECs annually or about half that amount on
9 a Virginia retail basis.

10 **Q. WILL THE PROJECT CONTRIBUTE TO THE ECONOMY OF SOUTHWEST**
11 **VIRGINIA?**

12 A. Yes. In addition to construction jobs, the facility will contribute to the tax base, providing
13 additional revenues for the county and town of Amherst for decades. See APCo
14 EXTRAORDINARILY SENSITIVE Exhibit No. __ (WKC) Schedule 6 for the
15 Economic Impact Study Summary.

16 **Q. HAS THE DEVELOPER PROVIDED NOTICE OF ITS INTENT TO**
17 **CONSTRUCT THE FACILITY?**

18 A. Yes, the developer notified the Department of Environmental Quality and the
19 Commission of its intent to construct the Facility by letters; a copy of each is included as
20 APCo Exhibit No. ____ (WKC) Schedule 8 and APCo Exhibit No. ____ (WKC) Schedule
21 9, respectively.

22 **Q. IS THE COMPANY CURRENTLY EVALUATING OTHER PROJECTS?**

23 A. To meet the requirements contained in the VCEA, the Company issued an RFP for
24 ownership projects in February 2021 and is currently evaluating multiple bids.

1 Additionally, the Company issued a separate RFP for both PPA and REC purchases in
2 May 2021 and is evaluating bidder responses. Agreements approved as a result of those
3 RFP processes will not be in-service until 2024 in most cases.

4 **Q. IS THE COMPANY SEEKING APPROVAL AND COST RECOVERY FOR THIS**
5 **RENEWABLE FACILITY IN ITS WEST VIRGINIA JURISDICTION?**

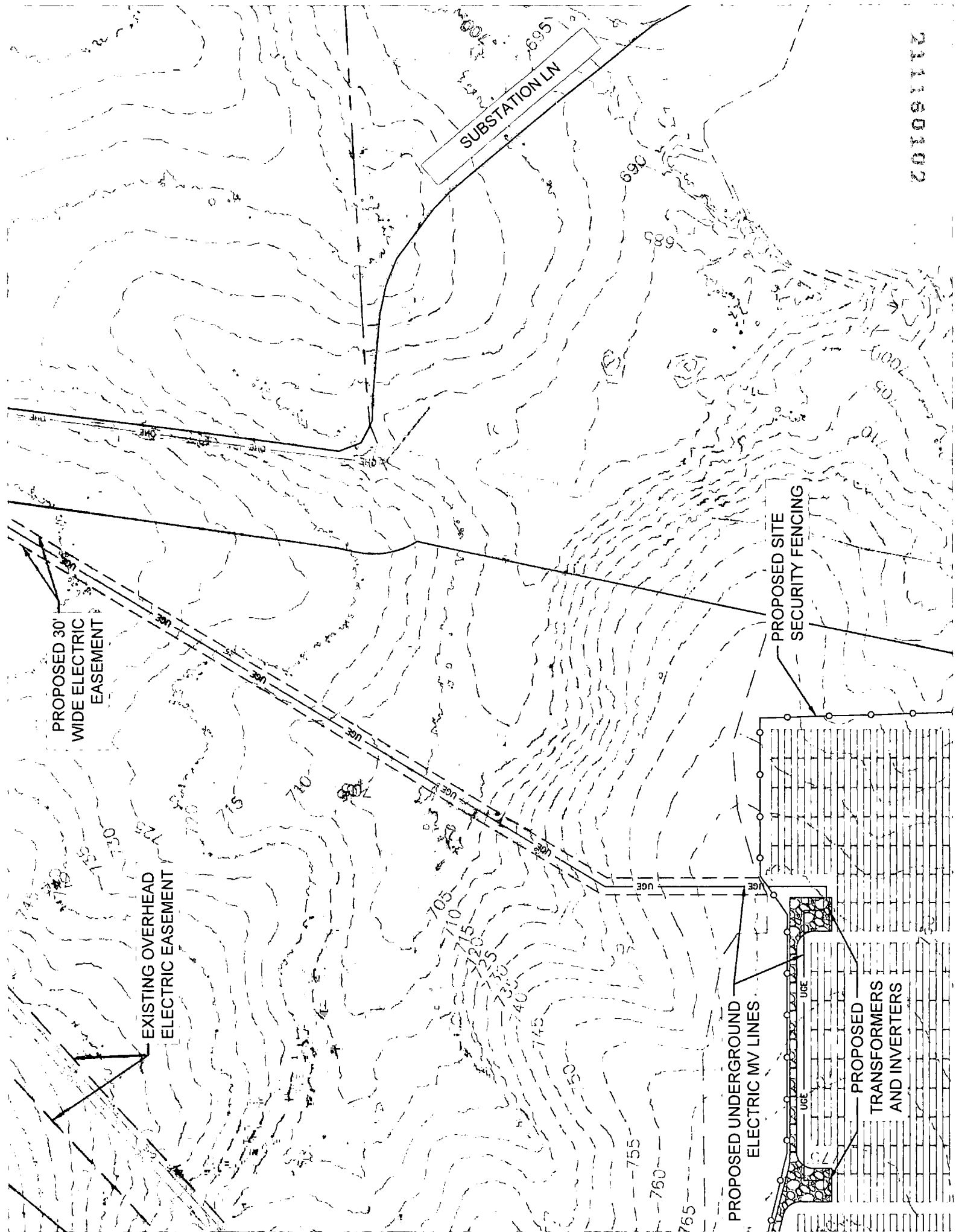
6 A. Yes. The Company will file for recovery from the Public Service Commission of West
7 Virginia (WVPSC) at or around the time the Company makes its required annual VCEA
8 filing in Virginia. The Commission's determination of prudence in this instant case will
9 be sufficient for the Company to issue a notice to proceed to the developer. The
10 Company will calculate revenue requirements that include West Virginia and one that
11 does not, which will be included in the VCEA filing. The Company will ask the
12 Commission to approve each revenue requirement in lieu of an order from the WVPSC,
13 with the appropriate revenue requirement and tariff sheet adopted once the West Virginia
14 order is issued, if not issued prior to the Commission's final order in this proceeding.

15 **Q. IF THE COMMISSION APPROVES THIS APPLICATION BUT THE WVPSC**
16 **DENIES COST RECOVERY FROM APCO'S WEST VIRGINIA CUSTOMERS,**
17 **WILL VIRGINIA RETAIL CUSTOMERS RECEIVE ALL OF THE BENEFITS**
18 **OF THE FACILITY?**

19 A. Generally so. The Virginia jurisdiction will receive all of the environmental attributes
20 (RECs), energy benefits, an allocated share of the PJM generating capacity value, and
21 essentially all of the avoided transmission benefits. This is reflected in the analysis of
22 Company witness Vaughan.

23 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

24 A. Yes. It does.



PROPOSED 30'
WIDE ELECTRIC
EASEMENT

EXISTING OVERHEAD
ELECTRIC EASEMENT

SUBSTATION LN

PROPOSED SITE
SECURITY FENCING

PROPOSED UNDERGROUND
ELECTRIC MV LINES

PROPOSED
TRANSFORMERS
AND INVERTERS

20210519



EJSCREEN Report (Version 2020)

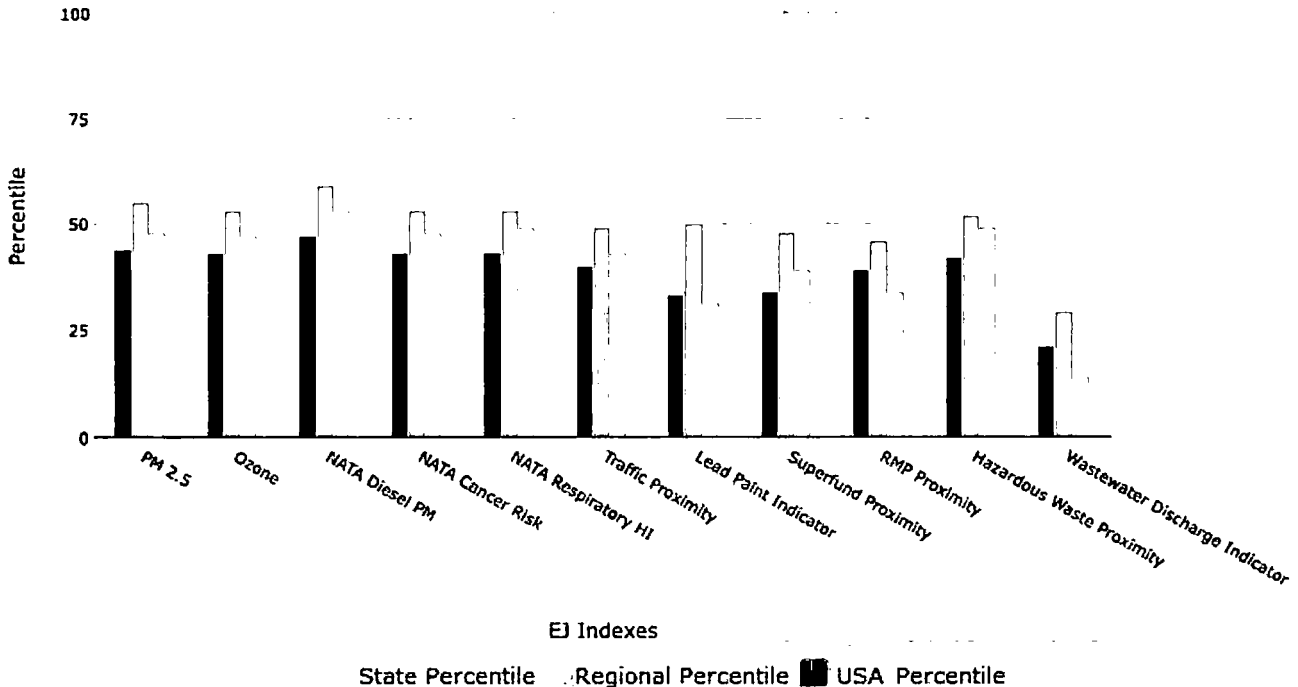
5 miles Ring Centered at 37.558111,-79.013889, VIRGINIA, EPA Region 3

Approximate Population: 7,222

Input Area (sq. miles): 78.53

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	48	55	44
EJ Index for Ozone	47	53	43
EJ Index for NATA* Diesel PM	53	59	47
EJ Index for NATA* Air Toxics Cancer Risk	48	53	43
EJ Index for NATA* Respiratory Hazard Index	49	53	43
EJ Index for Traffic Proximity and Volume	43	49	40
EJ Index for Lead Paint Indicator	31	50	33
EJ Index for Superfund Proximity	39	48	34
EJ Index for RMP Proximity	34	46	39
EJ Index for Hazardous Waste Proximity	49	52	42
EJ Index for Wastewater Discharge Indicator	14	29	21

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/US



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

2111010102



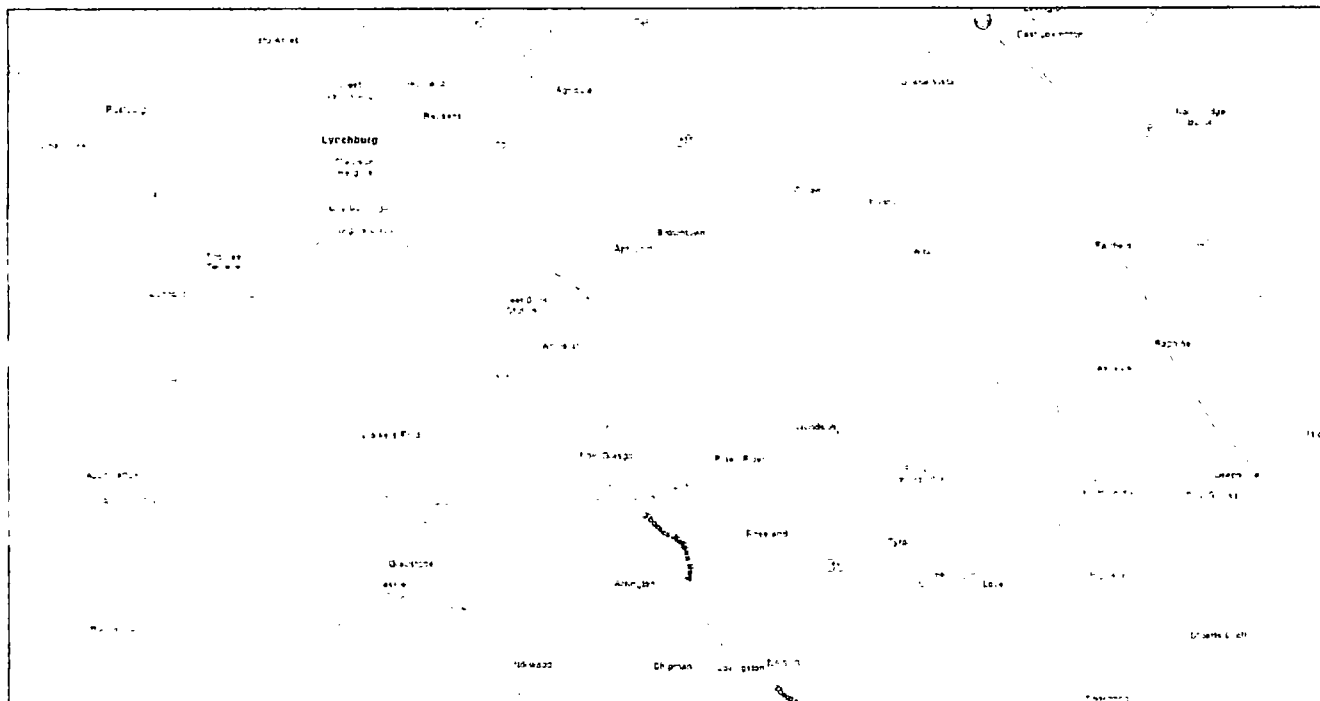
EJSCREEN Report (Version 2020)



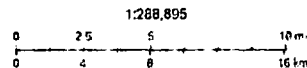
5 miles Ring Centered at 37.558111,-79.013889, VIRGINIA, EPA Region 3

Approximate Population: 7,222

Input Area (sq. miles): 78.53



May 19, 2021
 Project 3



Source: Esri, HERE, DeLorme, Mapbox, IBM, Intel, © OpenStreetMap contributors, and the GIS User Community

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1



EJSCREEN Report (Version 2020)

5 miles Ring Centered at 37.558111,-79.013889, VIRGINIA, EPA Region 3

Approximate Population: 7,222

Input Area (sq. miles): 78.53



211100102

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	7.29	7.87	13	8.63	5	8.55	16
Ozone (ppb)	40.8	42.4	8	43.2	8	42.9	34
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.171	0.425	11	0.477	<50th	0.478	<50th
NATA* Cancer Risk (lifetime risk per million)	27	31	18	31	<50th	32	<50th
NATA* Respiratory Hazard Index	0.34	0.41	13	0.4	<50th	0.44	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	120	570	42	650	36	750	38
Lead Paint Indicator (% Pre-1960 Housing)	0.2	0.21	64	0.36	41	0.28	53
Superfund Proximity (site count/km distance)	0.068	0.11	54	0.15	43	0.13	53
RMP Proximity (facility count/km distance)	0.42	0.38	74	0.62	61	0.74	56
Hazardous Waste Proximity (facility count/km distance)	0.47	1.6	33	2	36	5	37
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.0004	3.1	73	34	56	9.4	60
Demographic Indicators							
Demographic Index	28%	32%	50	30%	58	36%	47
People of Color Population	25%	38%	37	33%	53	39%	43
Low Income Population	32%	25%	66	27%	64	33%	55
Linguistically Isolated Population	0%	3%	52	3%	55	4%	45
Population With Less Than High School Education	16%	11%	75	10%	78	13%	70
Population Under 5 years of age	3%	6%	23	6%	25	6%	23
Population over 64 years of age	21%	15%	78	16%	74	15%	78

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

American Electric Power Service Corporation

as agent for

Appalachian Power Company

Request for Proposals

from Qualified Bidders

Totaling up to 200 MW_{ac} of nameplate rated

Solar Energy Resources

(with Optional Battery Energy Storage Systems)

(10 MW_{ac} minimum bid size)

RFP Issued: January 22, 2020

Proposals Due: March 12, 2020

Web Address: <http://www.appalachianpower.com/rfp>

Table of Contents

	Page
1) Introduction	1
2) RFP Overview	2
3) Product Description and Requirements	3
4) Bid Price and Structure.....	5
5) RFP Schedule and Proposal Submission.....	6
6) Proposal Submittal.....	7
7) Proposal Content	7
8) RFP Proposal Evaluation.....	9
9) Reservation of Rights	11
10) Confidentiality.....	12
11) Bidder's Responsibility	12
12) Contacts	12

Attachments

Solar Project Summary	Appendix A
Bidder's Credit-Related Information	Appendix B
Bidder Profile	Appendix C
Form Purchase and Sale Agreement.....	Appendix D
Project Labor Agreement.....	Appendix E
AEP Solar Generation Facility Standard	Appendix F
Projected O&M Costs.....	Appendix G
Proposal Content Check Sheet.....	Appendix H

BACKGROUND

The Company issued a Request for Proposals (RFP) for solar energy resources on November 15, 2018, which did not result in any executed Purchase and Sale Agreements (PSA). The Company has decided to issue a new RFP with the following key changes:

- 1) Minimum solar project size is 10 MWac
- 2) Projects may interconnect directly to the APCo distribution system in Virginia
- 3) Expected commercial operation date by 12/15/2022
- 4) Bidders may include, as an add-on option, a battery energy storage system (BESS)

1. Introduction

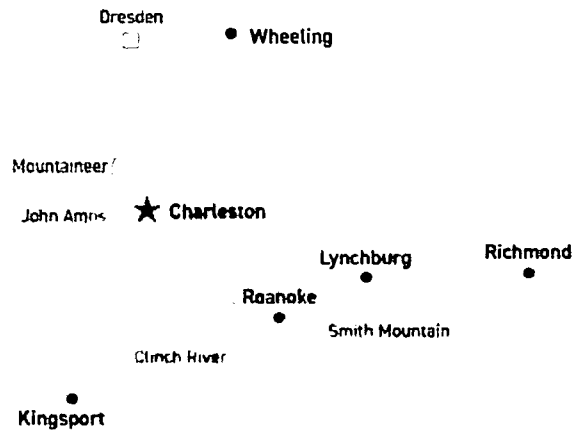
American Electric Power Service Corporation (AEPSC) and Appalachian Power Company (APCo or Appalachian Power) are subsidiaries of American Electric Power Company, Inc. (AEP).

AEPSC is administering this Request for Proposals (RFP) on behalf of APCo. Affiliates of AEP and APCo (Affiliate) are permitted to participate in this RFP, and APCo reserves the right to offer one or more self-build projects.

Appalachian Power serves about 1 million customers in West Virginia, Virginia and Tennessee. Its headquarters is in Charleston, W. Va., with regulatory and external affairs offices in both Charleston, W. Va. and Richmond, Va.

Appalachian Power is part of the American Electric Power system, one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states. AEP ranks among the nation's largest generators of electricity, owning nearly 32,000 megawatts of generating capacity in the U.S. AEP also owns the nation's largest electricity transmission system, a nearly 39,000-mile network that includes more 765-kilovolt extra-high voltage transmission lines than all other U.S. transmission systems combined. AEP's transmission system directly or indirectly serves about 10 percent of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central U.S. states and eastern Canada, and approximately 11 percent of the electricity demand in ERCOT, the transmission system that covers much of Texas. AEP's utility units operate as AEP Ohio, AEP Texas, Appalachian Power (in Virginia and West Virginia), AEP Appalachian Power (in Tennessee), Indiana Michigan Power, Kentucky Power, Public Service Company of Oklahoma, and Southwestern Electric Power Company (in Arkansas, Louisiana and eastern Texas). AEP's headquarters are in Columbus, Ohio. For more information, see our corporate web site, www.aep.com.

APCo Service Territory



2. RFP Overview

- 2.1. This RFP is being issued to support, in part, the requirements of Enactment Clause 21 of the Virginia Grid Transformation and Security Act that APCo own and operate 200 MW of solar generation facilities in Virginia. Solar facilities may become part of certain customer programs in Virginia that require Virginia-domiciled solar generation. Bidders may include for consideration any of the factors listed in that Section including, for example, any quantifiable economic development benefits associated with their project.
- 2.2. APCo is seeking Projects that are located in the Commonwealth of Virginia, interconnect to PJM Interconnection L.L.C. (PJM) RTO or APCo's distribution electrical system, will qualify for the Federal Investment Tax Credit (ITC), and have an expected Commercial Operation Date (COD) by December 15, 2022.
- 2.3. This RFP is not a commitment by the Company to acquire any Project and it does not bind the Company or its affiliates in any manner. The Company in its sole discretion will determine which Bidders, if any, it wishes to engage in negotiations with that may lead to definitive agreements for the acquisition of a selected Project.
- 2.4. APCo is requesting bids that will result in obtaining up to approximately 200 MWac of nameplate rated Solar Energy Resources (Solar Project, Project) via one or more Purchase and Sale Agreements (PSA) for purchase of 100% of the equity interest of the Project's limited liability company (Project LLC). APCo will not consider proposals that do not meet these criteria, including proposals for renewable energy power purchase agreements.

- 2.5. The minimum nameplate rated bid size for a Solar Project is 10 MWac.
- 2.6. Bidders may include in their proposals, as an option, a solar energy resource with a battery energy storage system (BESS) no larger than 10 megawatts of capacity. Standalone BESS proposals will not be accepted in this RFP.
- 2.7. Appropriate RFP procedures and a Code of Conduct Policy are in place to safeguard against AEPSC, APCo and Affiliates from receiving preferential or discriminatory treatment or preferential access to information.
- 2.8. If Affiliate proposals are offered, they will (i) be submitted in the same format and under the same rules, (ii) be evaluated in the same manner, and (iii) use the same Form PSA (Appendix D) as a basis for contract negotiations as all other Proposals submitted into this RFP.
- 2.9. Any Project with which APCo moves forward as a result of this RFP will be subject to APCo's receipt of all necessary regulatory approvals.
- 2.10. All questions regarding this RFP should be emailed to:

APCoSolarRFP2020@aep.com

APCo will post a list of the non-confidential "Questions and Answers" at its website on a weekly basis following the issuance of the RFP until the Proposal Due Date.

3. Product Description and Requirements

- 3.1. Completed Project. Each Project must be a complete, commercially operable, integrated solar-powered electric generating plant, including all facilities that are necessary to generate and deliver energy into PJM or APCo's distribution electrical system by the expected COD.
- 3.2. Existing Projects: Existing Projects will be permitted to participate in this RFP but must have a commercial operation date (placed-in-service) on or after July 1, 2017.
- 3.3. Size: The APCo RFP is seeking a total of up to 200 MWac nameplate rated solar energy resources. The minimum acceptable Solar Project size is 10 MWac. APCo will also consider optional BESS devices up to 10 MW.
- 3.4. Location: Project must be located in the Commonwealth of Virginia. Distribution-level projects that do not also interconnect with PJM must be in the APCo Virginia service territory.

- 3.5. Local Content: APCo requires the use of local goods or services sourced, in whole or in part, from one or more Virginia businesses in the construction and/or operation of the Project. The bidder should identify these Virginia resources in its proposal.
- 3.6. Project Development:
- 3.6.1. Bidder must have established site control of the proposed Project. Site Control must be in the form of direct ownership, land lease, land lease option or easement. A letter of intent will not be an acceptable form of site control.
 - 3.6.2. Project must meet the AEP Solar Generation Facility Standard (See Appendix F). This Standard has been updated since the 2018 APCo Solar RFP. See Section 5.3 for instructions to obtain the AEP Solar Generation Facility Standard.
 - 3.6.3. Project must have a minimum design life of 30 years.
 - 3.6.4. A Building and Construction Trades Unions approved project labor agreement must be initiated prior to commencement of physical work activities and utilized for the construction of the Project (see Exhibit E – “Project Labor Agreement”).
- 3.7. ITC Qualification: Each Project must qualify for the ITC in accordance with Section 45 of the Internal Revenue Code of 1986, as amended.
- 3.8. Interconnection:
- 3.8.1. The Solar Project must be interconnected to:
 - 1) PJM in the Commonwealth of Virginia, or
 - 2) APCo’s distribution electrical system in the Commonwealth of Virginia.
 - 3.8.2. Projects interconnected to PJM must have a completed PJM System Impact Study. A copy of the study shall be included with the Bidder’s Proposal.
 - 3.8.3. Projects interconnecting to APCo’s distribution electrical system must have an existing interconnection application (submitted prior to January 1, 2020) with the APCo Distribution Planning Group.
 - 3.8.4. If Bidder is pursuing interconnection to the APCo distribution electrical system only, Bidder must provide documentation that it is not required by the PJM Rules to interconnect with PJM.

3.8.5. Bidders are responsible for following the established policies and procedures that are in effect regarding facility interconnection and operation with the interconnecting utility and PJM, as applicable.

3.8.6. The Bidder is responsible for all costs associated with transmission or distribution interconnections and system upgrades as required by the interconnecting utility and PJM, as applicable.

3.9. Expected Commercial Operation Date: The Company is soliciting proposals for Projects that can achieve a COD by December 15, 2022. See Section 5.1 for RFP Schedule. A notice to proceed to Bidder will be issued, in APCo's discretion, following the receipt of a satisfactory regulatory approval order.

4. Bid Price and Structure:

4.1. Proposal pricing must be for the Company's acquisition of a turnkey Project that is complete, commercially operable, integrated solar-powered electric generating plant designed for a minimum of a 30-year life; including, but not limited to, solar modules, inverters, power stations, balance of plant equipment, operations and maintenance ("O&M") facilities,¹ SCADA and all facilities required to deliver energy into the APCo distribution electrical system or PJM. In addition, pricing must include costs associated with ALTA/title insurance and construction financing.

4.2. In addition to Section 4.1, Proposal pricing must include the costs associated with the following:

4.2.1. a minimum of two-year comprehensive warranty from a creditworthy entity for all non-module balance of plant equipment including design, labor and materials, and fitness for purpose;

4.2.2. post-commercial operation testing activities and associated costs, including the installation and removal of any temporary test meteorological stations; and

4.2.3. distribution, transmission and interconnection facilities required for the Project, including system or network upgrades, as required by APCo or PJM, as applicable, for the Project to interconnect to APCo or PJM.

4.2.4. Pricing shall include ALL costs associated with the development, engineering, procurement, construction, commissioning and applicable testing of the facility.

¹ O&M facilities are not required for Projects less than 50 MW. See Section 6.19 of the AEP Solar Generation Facility Standard for additional details.

4.2.5. Pricing shall include transfer of all property rights and/or any land lease(s) / easements, if any.

- 4.3. The PSA will be for the purchase of 100% of the equity interest of the Project LLC. Three payments under the PSA will be made at Mechanical Completion², Substantial Completion, and Final Completion (See Appendix D – Form Purchase and Sale Agreement for definitions and additional details). The Company will not make any progress payments prior to Mechanical Completion.
- 4.4. Prices must be firm, representing best and final bid. Proposals and bid pricing must be valid for at least 90 days after the Proposal Due Date.

5. RFP Schedule and Proposal Submission

- 5.1. The schedule and deadlines set out in this section apply to this RFP. APCo reserves the right to revise this schedule at any time and at its sole discretion.

RFP Issued	01/22/2020
Proposal Due Date	03/12/2020
RFP Short-List Identified	04/17/2020
Bidder(s) Selected for Final Contract Negotiations	05/22/2020
Contract Execution	Sep 2020
Submit Petition to State Regulatory Commissions for Approval	Sep 2020
Receipt of Satisfactory Regulatory Approval Order(s)	Apr 2021
Commercial Operation Date by	12/15/2022

- 5.2. Proposals must be complete in all material respects and received no later than 3 p.m. EST on the Proposal Due Date at AEPSC's Columbus, OH location as defined in Section 6 of this RFP.
- 5.3. Bidders will be required to sign a Confidentiality Agreement (CA) (See Section 5.4) prior to receiving the following documents:
- AEP Design Criteria for BESS Fire Safety (Section 7.1.3)
 - SolarDataReviewForm_APCo.xls (Appendix A – Solar Resource Data)
 - SolarEnergyInputSheet_2020.xls (Appendix A – Energy Input Sheet)
 - Form Purchase and Sale Agreement (Appendix D)
 - AEP Solar Generation Facility Standard (Appendix F)

² Mechanical Completion means the Project has been mechanically completed, assembled, erected and installed (and ready for backfeed) in accordance with the terms and conditions of the PSA.

- Projected O&M Costs spreadsheet (Appendix G)

- 5.4. Bidder should request APCo's Form CA by emailing (APCoSolarRFP2020@aep.com) and including the following documentation:
- Supporting documentation of Bidder's experience in developing, engineering, procuring equipment, constructing and commissioning solar powered electric generation facilities (> Project bid size) in the United States or any portion of Canada and/or otherwise have demonstrated appropriate experience.
 - Verification of site control as required by Section 3.6.1.
 - Completed PJM System Impact Study as required by Section 3.8.2 or a copy of the distribution interconnection application with APCo as required by Section 3.8.3.
- 5.5. APCo reserves the right to solicit additional proposals, if it deems necessary to do so, and the right to submit additional information requests to Bidders during the evaluation process.
- 5.6. Proposals and bid pricing must be valid for at least 90 days after the Proposal Due Date at which time Proposals shall expire unless the Bidder has been notified that its Proposal has been included in the Short-List.
- 5.7. A Proposal should be as comprehensive as possible to enable the Company to make a definitive and final evaluation of the Proposal's benefits to its customers without further contact with the Bidder.

6. Proposal Submittal

One hard copy and two electronic thumb drive copies of the Bidder's Proposal shall be submitted by the Proposal Due Date to:

American Electric Power Service Corporation
Attn: 2020 APCo Renewable RFP Manager
1 Riverside Plaza – 14th Floor
Columbus, OH 43215

7. Proposal Content

The Bidder is encouraged to provide as much information as possible to aid in the evaluation of the offer. Bidders must submit the following information:

- 7.1. A completed Appendix H (Proposal Content Check Sheet).
- 7.2. An executive summary of the Project's characteristics and timeline, including any unique aspects and benefits.

- 7.3. Summary documentation demonstrating what percentage of the ITC the Project will qualify for under Section 45 of the Internal Revenue Code of 1986, as amended.
- 7.4. A completed Appendix A (Solar Project Summary), including general Company and Project Information, Proposal Bid Pricing, Interconnection information, Permit summary, Solar Resource Data, Energy Input Sheet, summary of Virginia "Goods and Services" to be used, and confirmation that Bidder will use a Project Labor Agreement for the construction of the Project.
- 7.5. Detailed information regarding the module and inverter manufacturer's warranty offering including parts and labor coverage and other key terms.
- 7.6. The identity of all persons and entities that have a direct or indirect ownership interest in the Project.
- 7.7. A completed Appendix B (Bidder's Credit-Related Information).
- 7.8. A completed Appendix C (Bidder Profile). Bidders must provide a general description of its (including its affiliates) background and experience in the development and construction of at least three solar projects similar to the Projects sought by the Company in this RFP. In addition, Bidders should provide at least three third-party references for such projects.
- 7.9. Any exceptions to the Form Purchase and Sale Agreement (Appendix D).
- 7.10. Bidder shall provide a list of any exceptions it takes to the AEP Solar Generation Facility Standard (Appendix F).
- 7.11. Bidder's Proposal shall include expected annual land lease costs for a 35-year operating period.
- 7.12. Bidder's Proposal shall include expected routine and non-routine operations and maintenance (O&M) costs by year for a 35-year operating period, including, but not limited to, property tax, operations and maintenance costs (See Appendix G for "Projected O&M Costs").
- 7.13. Battery Energy Storage System (BESS) Option: Bidder's providing an alternate Proposal for a "solar energy resource with a BESS" shall provide this option separate from the base solar energy resource only Proposal. This optional Proposal shall include all applicable information from this Section 7 in addition to technical, operating, performance, and warranty details associated with the BESS. Any BESS offered shall comply with the AEP Design Criteria for Battery Energy

211130102

Storage Systems Fire Safety (Document Number: DC-FP-BATT). This document will be provided to Bidders subsequent to execution of a CA (See Section 5.3).

8. RFP Proposal Evaluation

Proposals must include ALL applicable content requirements as described in Section 7 – Proposal Content. APCo will consider bids that are reliable, feasible and represent the reasonable cost means of satisfying the requirements of this RFP. The Evaluation Process, which includes four main steps, is central to the success of APCo’s RFP process.

- Section 8.1: Eligibility and Threshold Requirements
- Section 8.2: Economic Analysis
- Section 8.3: Short List
- Section 8.4: Final Project(s) Selection

8.1. Eligibility and Threshold Requirements: If the Bidder does not qualify under any one of the Sections 8.1.1 – 8.1.12, the Bidder will not qualify for this RFP and will be notified accordingly.

- 8.1.1. Proposal must be for a Purchase and Sale Agreement (§2.4).
- 8.1.2. Existing Projects must have a COD (placed-in-service) on or after July 1, 2017 (§3.2).
- 8.1.3. Project must have a minimum nameplate rating of 10 MWac (§3.3).
- 8.1.4. Project must be located in the Commonwealth of Virginia (§3.4).
- 8.1.5. Bidder must have established Site Control of the proposed Project (§3.6.1).
- 8.1.6. Project life must be designed for a minimum of 30 years (§3.6.3).
- 8.1.7. Bidder must commit to using a Project Labor Agreement (§3.6.4).
- 8.1.8. Project must qualify for the Federal Investment Tax Credit (§3.7).
- 8.1.9. Bidder must have 1) a completed PJM System Impact Study (§3.8.2) and be active in the PJM queue, or 2) have an existing interconnection application pending with APCo (§3.8.3).
- 8.1.10. Project must have an expected COD by December 15, 2022 (§3.9).
- 8.1.11. Bidder or its affiliates shall have completed the development, engineering, equipment procurement and construction of a solar project within the

United States or Canada of size equal to or greater than the Bidder's proposed Project and/or have demonstrated appropriate experience (§5.4).

8.1.12. Proposal must include detailed exceptions, if any, to the Form Purchase and Sale Agreement (Appendix D) (§7.9).

8.2. Economic Analysis: During the Economic Analysis phase, the Company will determine the Levelized Cost of Electricity (LCOE) and the net economic impact to APCo when evaluating Solar Projects. The Company will evaluate battery projects based on their installed cost/MW as well as their ability to meet one or more of the objectives of Enactment Clause 9 of the Grid Transformation and Security Act.

8.3. Short-List: APCo will identify one or more Short-Listed Bidders for further discussions. Bidders not selected to the Short-List will be notified promptly. During the Short-List evaluation process, the Company will consider all applicable factors including, but not limited to, the following to determine the viability of the Proposal:

8.3.1. Levelized Cost of Energy.

8.3.2. The terms of the Proposal.

8.3.3. Environmental / Wildlife impact.

8.3.4. Bidder's financial wherewithal.

8.3.5. Bidder's experience.

8.3.6. Bidder's plan to utilize goods or services sourced, in whole or in part, from one or more Virginia businesses.

8.3.7. Proposed commercial operation date (on-line).

8.3.8. Status of interconnection process with PJM or APCo.

8.3.9. Permitting plan / status.

8.3.10. Project nameplate capacity.

8.3.11. Regulatory, community relations, and economic development considerations.

8.3.12. The development status of Bidder's Solar Project.

8.3.13. Bidder's exceptions to the AEP Solar Generation Facility Standard.

- 8.4. Final Project(s) Selection: APCo will consider bids that are reliable, feasible and represent a reasonable cost means of satisfying the requirements of this RFP. APCo will identify one or more Short-Listed Bidders for further discussions and negotiations of one or more executable agreements. Bidders not selected during the Final Project(s) Selection will be notified promptly.

9. Reservation of Rights

A Proposal will be deemed accepted only when the Company and the successful Bidder have executed definitive agreements for the Company's acquisition of the Project. The Company has no obligation to accept any Proposal, whether or not the stated price in such Proposal is the lowest price offered, and the Company may reject any Proposal in its sole discretion and without any obligation to disclose the reason or reasons for rejection.

By participating in the RFP process, each bidder agrees that any and all information furnished by or on behalf of the Company in connection with the RFP is provided without any representation or warranty, express or implied, as to the usefulness, accuracy, or completeness of such information, and neither the Company nor its Affiliates nor any of their personnel or representatives shall have any liability to any bidder or its personnel or representatives relating to or arising from the use of or reliance upon any such information or any errors or omissions therein.

The Company reserves the right to modify or withdraw this RFP, to negotiate with any and all qualified Bidders to resolve any and all technical or contractual issues, or to reject any or all Proposals and to terminate negotiations with any Bidder at any time in its sole discretion. The Company reserves the right, at any time and from time to time, without prior notice and without specifying any reason and, in its sole discretion, to (a) cancel, modify or withdraw this RFP, reject any and all Proposals, and terminate negotiations at any time during the RFP process; (b) discuss with a Bidder and its advisors the terms of any Proposal and obtain clarification from the Bidder and its advisors concerning the Proposal; (c) consider all Proposals to be the property of the Company, subject to the provisions of this RFP relating to confidentiality and any confidentiality agreement executed in connection with this RFP, and destroy or archive any information or materials developed by or submitted to the Company in this RFP; (d) request from a Bidder information that is not explicitly detailed in this RFP, but which may be useful for evaluation of that Bidder's Proposal; (e) determine which Proposals to accept, favor, pursue or reject; (f) reject any Proposals that are not complete or contain irregularities, or waive irregularities in any Proposal that is submitted; (g) accept Proposals that do not provide the lowest evaluated cost; (h) determine which Bidders are allowed to participate in the RFP, including disqualifying a Bidder due to a change in the qualifications of the Bidder or in the event that the Company determines that the Bidder's participation in the RFP has failed to conform to the requirements of the RFP; (i) conduct negotiations with any or all Bidders or other persons or with no Bidders or other persons; (j) execute one or

more definitive agreements with any Bidder, and (k) utilize a Bidder's completed Appendices and any supplemental information submitted by the Bidder in any its regulatory filings.

10. Confidentiality

APCo will take reasonable precautions and use reasonable efforts to maintain the confidentiality of all bids submitted. Bidders should clearly identify each page of information considered confidential or proprietary. APCo reserves the right to release any proposals to agents or consultants for purposes of proposal evaluation. APCo's disclosure policies and standards will automatically bind such agents or consultants. Regardless of the confidentiality, all such information may be subject to review by or in proceedings before the appropriate state authority, or any other governmental authority or judicial body with jurisdiction relating to these matters and may be subject to legal discovery. Under such circumstances, APCo and AEPSC will make reasonable efforts to protect Bidder's confidential information.

11. Bidder's Responsibilities

- 11.1. It is the Bidder's responsibility to submit all requested material by the deadlines specified in this RFP.
- 11.2. The Bidder should make its proposal as comprehensive as possible so that APCo may make a definitive and final evaluation of the proposal's benefits to its customers without further contact with the Bidder.
- 11.3. Bidders are responsible for the timely completion of the project and are required to submit proof of their financial and technical wherewithal to ensure the successful completion of the project.
- 11.4. The Bidder will be responsible for any expenses Bidder incurs in connection with the preparation and submission of a Proposal and/or any subsequent negotiations regarding a Proposal in response this RFP. APCo will not reimburse Bidders for their expenses under any circumstances, regardless of whether the RFP process proceeds to a successful conclusion or is abandoned by APCo at its sole discretion.

12. Contacts

- 12.1. General RFP Questions: All correspondence and questions, with the exception of interconnection related questions, regarding this RFP should be directed to:
APCoSolarRFP2020@aep.com
- 12.2. PJM Interconnection: All correspondence and questions regarding the PJM Interconnection process can be found at:
[PJM Interconnection](#)

12.3. APCo Distribution Interconnection: All correspondence and questions regarding interconnection to the APCo distribution electrical system should be directed to:
APCoDGCoordinator@aep.com

Appendix A

Solar Project Summary

Company Information

Bidder (Company):		
Contact Name:		
Contact Title:		
Address:		
City:	State:	Zip Code:
Work Phone:	Cell Phone:	
Email Address:		
<p>Is the Proposal being submitted through a partnership, joint venture, consortium, or other association? _____ If so, please identify all partners, joint ventures, members, or other entities or persons comprising same.</p>		

General Project Information

Project Name:		
Project site located (VA):		County:
Expected Commercial Operation Date:		ITC %:
Interconnection Path (select all that apply)	APCo (Y/N):	PJM (Y/N):
Module Manufacturer / Model:		Annual Degradation (%):
Configuration (Fixed Tilt / Single Axis):		
Inverter Manufacturer / Model:		
Nameplate (MWac):		Expected Annual Availability (%):
Nameplate (MWdc):		
Expected Capacity Factor (%):		Expected Annual Energy (MWh):

Proposal Bid Pricing (Solar)

Commercial Operation Date by	Module Manufacturer	Annual Energy	Capacity Factor	Bid Price, \$
December 15, 2022				\$
Other				\$

If Bidder has not finalized Module Manufacturer, they must identify the module options and provide the applicable production data (Expected Annual Energy, Capacity Factor) for each module mfg. Bidder shall attach module warranty information with its proposal.

Interconnection (PJM)

PJM Queue #:	Substation Name / Voltage:
Feasibility Study Complete (Y/N):	Feasibility Study Report Date:
System Impact Study Complete (Y/N):	System Impact Study Report Date:
Point of Interconnection with :	
PJM Interconnection Status (describe):	
<i>Please attach a copy of all interconnection studies and/or the expected completion date(s).</i>	

Interconnection (APCo Distribution)

Interconnection Cost Estimate:	
Application #:	Substation Name / Voltage:
Status (describe):	
<i>Please attach a copy of all interconnection studies and/or the expected completion date(s).</i>	

Site Information

Site Legal Description:		
Address:		
City:	State:	Zip Code:
County	Longitude:	Latitude:
Site Control (lease, own, site purchase pending, etc.):		
Please attach a copy of all leases, easements or other ownership documentation.		
Land Lease Term (years):		
Site Acres:		
Is there potential for expansion (Y / N):		If Yes; acres available:
Please attach a copy of all leases, easements or other ownership documentation.		
Has the site been assessed for any environmental contamination (Y / N):		
<ol style="list-style-type: none"> 1. Attach a copy of all leases, easements or other ownership documentation. 2. Attach a diagram identifying anticipated placement of major equipment and other project facilities, including interconnection point. 3. Describe any known environmental issues. If necessary, please describe on a separate attachments: 		

Permits

Have you contacted all required permitting agencies regarding this project and identified all necessary permits?

City (Y / N):

County (Y / N):

State (Y / N):

Federal (Y / N):

- USF&W (Y/N):

- Other (Y / N):

On an additional sheet, list and describe all city, county, state and federal permits required for this project. Include: status, duration, planned steps, critical milestones and timeline.

Solar Resource Data

1. Proposal must provide the source and basis of the solar irradiance data used in the development of energy projections for the Project. Explain all assumptions used in forecasted generation calculations.
2. Populate the data required in the Company's "SolarDataReviewForm_APCo" spreadsheet.

Energy Input Sheet

Attach an 8760 calendar year hourly energy forecast, **net of all losses** using the Company's form spreadsheet (SolareEnergyInputSheet_2020.xls). The Company will provide the form upon execution of an NDA.

Virginia "Goods & Services"

Describe how the Bidder will be using local goods or services sourced whole or in part from one or more Virginia businesses, as applicable, to the extent practical in the purchase of equipment and material, or services for the Project.

Project Labor Agreement

Bidder confirms that it will use a project labor agreement as required in Section 3.6.4.

Name: _____

Date: _____

Appendix B

Bidder's Credit-Related Information

Full Legal Name of the Bidder:
Type of Organization (Corporation, Partnership, etc.):
Bidder's % Ownership in Proposed Project:
Full Legal Name(s) of Parent Corporation: 1. 2. 3.
Entity Providing Credit Support on Behalf of Bidder (if applicable): Name: Address: City: Zip Code:
Type of Relationship:
Current Senior Unsecured Debt Rating: 1. S&P: 2. Moodys:
Bank References & Name of Institution:
Bank Contact: Name: Title: Address: City: Zip Code: Phone Number:
Legal Proceedings: As a separate attachment, please list all lawsuits, regulatory proceedings, or arbitration in which the Bidder or its affiliates or predecessors have been or are engaged that could affect the Bidder's performance of its bid. Identify the parties involved in such lawsuits, proceedings, or arbitration, and the final resolution or present status of such matters.
Financial Statements: Please provide copies of the Annual Reports for the three most recent fiscal years and quarterly reports for the most recent quarter ended, if available. If available electronically, please provide link:

211190102

Appendix C

Bidder Profile

Please list Bidder's Affiliate companies:

- 1.
- 2.
- 3.
- 4.

Please attach a summary of Bidder's background and experience in Solar Energy projects.

References

1. Company
 - a. Contact Name:
 - b. Contact Number:
 - c. Project:
2. Company
 - a. Contact Name:
 - b. Contact Number:
 - c. Project:
3. Company
 - a. Contact Name:
 - b. Contact Number:
 - c. Project:
4. Company
 - a. Contact Name:
 - b. Contact Number:
 - c. Project:

Appendix D

Form Purchase and Sale Agreement

See Section 5.3 for instructions to obtain the Form Purchase and Sale Agreement .

Appendix E

Project Labor Agreement

Bidder shall provide an overview of its plan to initiate and utilize a Project Labor Agreement for the construction of the Solar Project. In addition, Bidder shall include a copy of the form Project Labor Agreement.

Appendix F

AEP Solar Generation Facility Standard

See Section 5.3 for instructions to obtain the AEP Solar Generation Facility Standard.

Appendix G

Projected O&M Costs

See Section 5.3 for instructions to obtain the Projected O&M Costs spreadsheet.

Appendix H

Proposal Content Check Sheet

Section	Item	Completed
7.2	Executive Summary	
7.3	Summary ITC Documentation	
7.4	Appendix A (Solar Project Summary)	
	- Company & Generation Project Information	
	- Bid Pricing	
	o Module warranty information	
	- Interconnection and Point of Delivery	
	o Attach copies of all interconnection studies / completion dates	
	- Site Information	
	o Site map	
	o Attach copies of site leases	
	o Describe any known environmental issues.	
	- Permits	
	- Solar Resource Data (source, basis, assumptions, etc.)	
	- Solar Resource Data (SolarDataReviewForm_APCo.xls)	
	- Energy Input Sheet (electronic only)	
	- Virginia "Goods and Services" (if applicable)	
	- PLA Confirmation	
	- Solar Projects Completed	
7.5	Module and Inverter warranty information	
7.6	Identity of Persons / Ownership	
7.7	Appendix B (Bidder's Credit Related Information)	
7.8	Appendix C (Bidder Profile)	
7.9	Appendix D (Exceptions to Form PSA)	
7.10	Appendix F (Exceptions to AEP Solar Generation Standard)	
7.11	Land Lease Costs	
7.12	Projected O&M Costs	
7.13	BESS Information (Optional)	

211180102

Distribution Impact Study
For SoLAmerica Energy LLC
Distributed Generation Interconnection Request
For 4.875 MW of Solar Generation
Located at
US Hwy 60, Amherst, VA

Confidential

Paul A. Hanson, P.E.
Distribution System Planning
October 26, 2020

Distribution List (via e-mail attachment):

- C. R. Huffman
- J. M. Neal
- R. S. Eubank
- B. W. Clemo
- T. J. Johnson
- D. M. Nance
- J. W. Maynor
- D. W. Kessler
- B. W. Wagner
- J. H. Crocker
- R. J. Valerio

Request

SoLAmerica Energy LLC (Generator) has requested an impact study for a proposed 4,875 kW solar generation interconnection with the Appalachian Power Company (APCO) distribution system. The proposed distributed generation (DG) will be installed on US Hwy 60 near Amherst, VA in close proximity to the APCO owned Amherst substation and will generate electricity by solar. It is the Generator's intention to parallel with the utility grid via primary connections to an existing APCO 12.47 kV (nominal) distribution circuit and to export real power (kW) to the utility grid. According to the application, data sheets, and one-line provided by the Generator, the DG installation will consist of photovoltaic modules connected to dc/ac inverters with a total maximum output of 4.875 MW and whose output will be stepped up to 12.47 kV by way of customer owned transformers. The DG plant will be operated as a single 4.875 MW installation connected to Generator owned underground cables and overhead primary lines which will terminate on an APCO primary meter pole just outside APCO's Amherst substation. The system will have the capability to operate continuously during daylight hours for seven days a week. Pending results of the impact study and appropriate testing, the Generator's requested in-service date is Dec. 15, 2021.

The APCO 12.47 kV circuit that will connect with the proposed generator is the Rutledge Circuit originating from the Amherst substation in Amherst, VA. Applicable APCO maps will include notes regarding the DG installation.

Disclaimer

The contents of this impact study apply only to the installation described in SoLAmerica's Level 3 Interconnection Request Form for APCO. All modeling is based solely on the requested primary metered installation near APCO pole 38791092C00145 near the Amherst substation, Amherst, VA.

This review is limited to equipment affecting the APCO system operations. The Generator must take all necessary steps to assure compliance with all laws, ordinances, building codes and other applicable regulations. APCO granting approval of the requested connection is not an endorsement of a particular design nor does it assure fitness of the DG to accomplish an intended function.

Modeling and Assumptions

The Generator is expected to understand and comply with IEEE 1547 concerning the DG installation and its requirements for interconnection with the utility grid.

It is assumed the Generator has received a copy of the Customer Guide To The Interconnection Of Distributed Resources To The American Electric Power (AEP) Distribution System document to guide them through the application process.

The proposed DG will be served by the Rutledge 12.47 kV circuit from the Amherst 69-12.47 kV, 25 MVA substation transformer. The Rutledge circuit is a radial configured, three-phase, four-wire, grounded-wye systems with a nominal primary voltage of 12.47 kV L-L, 7.2 kV L-G. The DG system will be operated in parallel with the APCO System and the Generator intends to export power to the utility grid.

The proposed solar generator will consist of Jinko Solar JKM460M-7RL3-V solar panels rated 460 WDC each. The module strings will be connected to two Power Electronics HEMK FS3190K dc/ac

inverters whose output will be stepped up to 12.47 kV by way of two 2500 kVA, 600v-12.47 kV padmount transformers connected grounded wye-grounded wye and will be connected to the existing APCO 12.47kV distribution circuit by Generator owned conductor. The maximum DG output at the Point of Common Coupling (PCC) will be 4,875 kW (4.875 MVA @ 100% pf). The Generator's facilities will include a G&W Viper recloser with SEL-651R controls with appropriate protection settings and a three phase, gang operated disconnect switch installed as close to the PCC as practical to minimize exposure for existing customers on the Amherst/Rutledge circuit.

The PCC will be an APCO owned overhead primary meter installation located within one span of the existing overhead distribution circuit and connected to the Generator owned load break switch. APCO will also install a 3-phase, 600 Amp, GOAB switch on the APCO side of the PCC. The PCC will also be the point of demarcation between APCO and Generator owned facilities. See Figure 1 (next page).

The Amherst substation 12.47 kV bus at Amherst substation is regulated by a three-phase, automatic, Load Tap Changer (LTC) on the substation transformer which is presently programmed to regulate load side voltage by monitoring of phase 1 and adjusting to 12.99 kV (125v). The LTC is a three-phase device and all three phases will utilize to the same tap as dictated by the monitored phase. Due to the single phase nature of the electric system served by the Amherst Substation, some slight voltage imbalance is to be expected but APCO strives to maintain the voltage imbalance to less than 2.5%.

CYMDIST Version 8.1 r7 was utilized to model the generator's effect on the distribution system. A high level analysis was performed to determine if there are any apparent steady state load flow or fault current deficiencies caused by the interconnection of the proposed DG.

211002

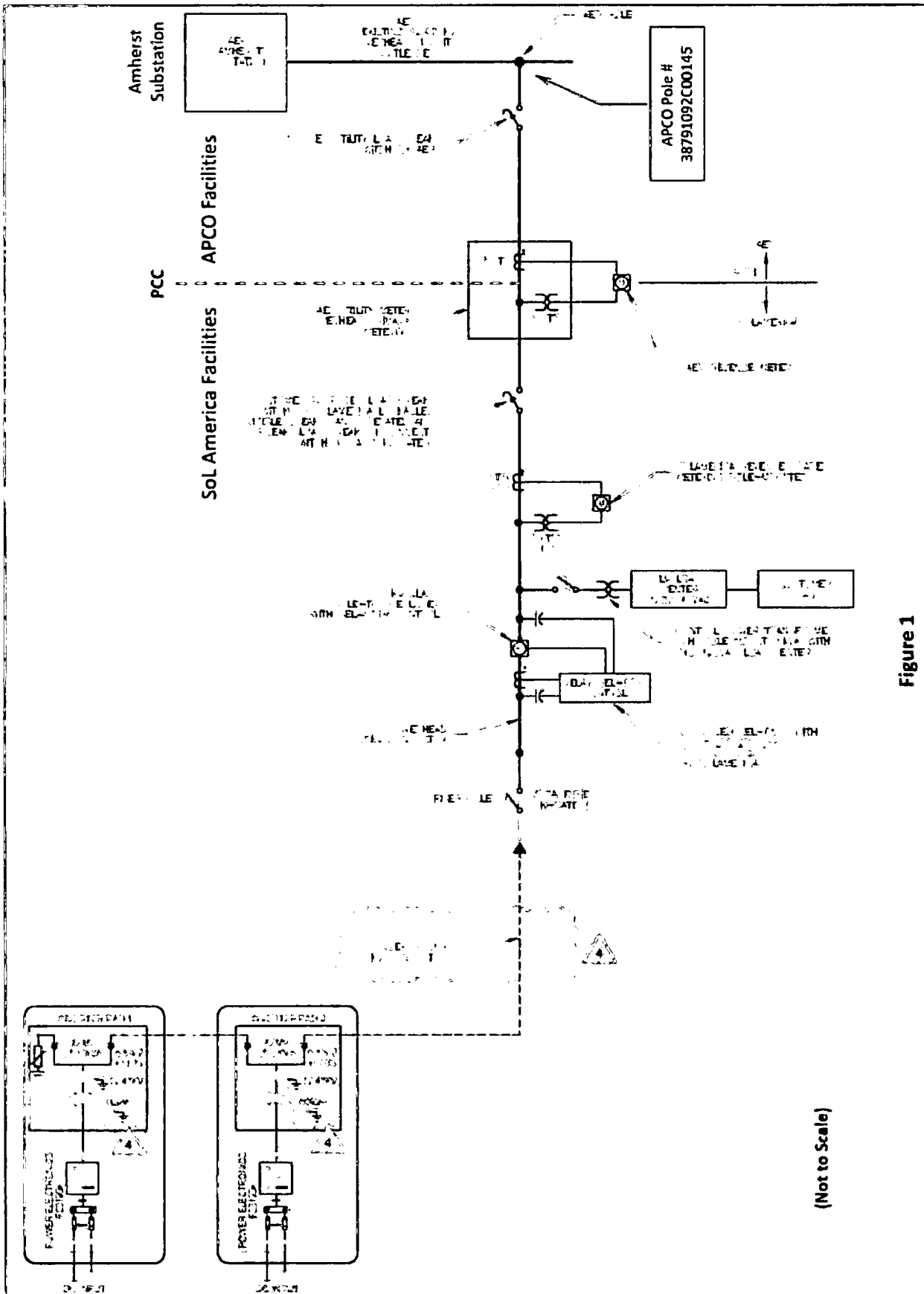


Figure 1

(Not to Scale)

Analysis

The system conditions of concern are:

1. Generator interconnection location and line exposure.
2. Generator fault current contribution.
3. Generator effect on voltage and power flow for the utility system during peak and light load.

Generator Location and Line Exposure

The DG point of interconnection for this impact study model is approximately 100' southwest of APCO pole 38791092C00145 near the head of the Amherst/Rutledge 12.47 kV distribution circuit and approximately 800' from the substation bus. The DG will be connected through the aforementioned Generator owned facilities and a primary meter installation located within one span of the APCO circuit. The DG impact was modeled at the 12.47 kV PCC on the Rutledge circuit.

The Amherst substation is connected in-line to an AEP 69 kV transmission line which is protected by 69 kV breakers on both lines connected to the Amherst Substation. The Amherst 69-12.47 kV transformer is a 25 MVA, LTC protected by an automatic, 69 kV circuit-switcher on the high side. The existing circuit protection scheme for the Rutledge distribution circuit utilizes a three phase, ABB 1200A breaker with electronic controls. Even with a three phase operated circuit breaker, APCO cannot guarantee against single phase conditions and thus three phase customers are expected to maintain their own loss-of-phase protection. Outage records indicate that there have been no forced sustained outages to the Amherst substation in the past 36 months. Outage records do indicate four (4) forced sustained outages to the Rutledge distribution circuit breaker in the past 36 months. The Rutledge circuit breaker also experiences multiple momentary outages each year as is typical for overhead distribution circuits. In addition to the up-stream outage performance, the Generator should be aware that the Amherst area typically experiences numerous, smaller, forced outages on downstream devices located throughout the Amherst distribution system that this generator protection might detect. Please note that past performance is no guarantee of future performance.

Generator Fault Current Contribution

The highest maximum available APCO contribution to a three-phase bolted fault (LLL) at 12.47 kV at the proposed PCC on the Rutledge circuit is 5,769 amps symmetrical. The maximum available APCO contribution to a single-phase fault (LG) at the same location is 5,853 amps. When the Generator's maximum proposed generation of 4.875 MW is connected to the APCO distribution circuit, the total maximum three-phase bolted fault (LLL) at the PCC at 12.47 kV is 5,995 amps symmetrical and the total maximum single-phase bolted fault (LG) at the same location is 6,079 amps. The maximum fault current contribution of the DG installations to the APCO distribution circuit is negligible and well within the tolerance level of the Amherst/Rutledge 12.47 kV distribution circuit equipment.

The maximum available APCO contribution to a three-phase bolted fault (LLL) at the Amherst substation 12.47 kV bus is 6,314 amps symmetrical and the maximum available APCO contribution to a single-phase fault (LG) at the same location is 6,851 amps. When the Generator's maximum proposed generation of 4.875 MW is connected to the APCO distribution circuit, the total maximum three-phase bolted fault (LLL) at the Amherst substation 12.47 kV bus is 6,539 amps symmetrical and the total maximum single-phase bolted fault (LG) at the same location is 7,079 amps. The

maximum fault current contribution of the DG installations to the APCO distribution circuit is negligible and well within the tolerance level of the Amherst substation equipment.

These values are subject to change if APCO distribution system enhancements and/or substation enhancements are made in the future. These values are also subject to change if the Generator changes their equipment.

The Generator responsibilities include providing adequate protection to APCO facilities due to events arising from the operation of the generation under all APCO distribution system operating conditions. The Generator is responsible for protecting their own facility under all APCO distribution system operating conditions, whether the generator is connected to the APCO grid or not, including but not limited to:

1. Abnormal voltage or frequency
2. Loss of a single phase of supply
3. Equipment failure
4. Distribution system faults
5. Lightning and switching surges
6. Excessive harmonic voltages
7. Excessive negative sequence voltages
8. Separation from supply
9. Loss of synchronization

The Generator shall provide adequate protection to comply with IEEE 1547 to clear a generation source for all types of faults on the APCO system including any breaker failure events. Adequate protection requires that all fault types are cleared before equipment damage occurs to APCO facilities. Automatic reclosing is applied to APCO transmission and distribution circuits serving the area. When the APCO source breakers trip, the Generator shall ensure that their generation equipment is disconnected from APCO facilities in accordance with requirements established in IEEE 1547 prior to automatic reclosure by APCO. The Generator is solely responsible for the protection of their equipment during automatic reclosing by APCO.

Generator Effect on Utility System Steady State

The output of the proposed 4.875 MW generator has negligible effect on the Rutledge circuit steady state voltage at peak and light load demand levels. The generation effect on power flow does not adversely impact any local APCO distribution facilities during peak or light steady state loading. However, a relatively small section of the existing APCO distribution facilities between the proposed PCC and the Rutledge circuit station exit are inadequate. Approximately 600' of existing APCO single phase 7.2 kV, small conductor will have to be multi-phased and restructured in order to connect the Generator to the Rutledge circuit.

The Amherst Substation is lightly loaded during the fall and spring months. Depending on the output of the solar generation, there may be days during light load periods that the maximum output of the Generator will be more than the load on the Amherst transformer and will result in reverse power flow onto the AEP 69 kV transmission system. The existing LTC control on the Amherst substation transformer is capable of reverse power flow but will need a firmware upgrade and be reprogrammed to operate in "Co-Generation" mode.

The maximum generator output has negligible effect on the substation bus voltage at peak and light steady state loading. The maximum output of the Generation does not adversely impact any substation or 138 kV transmission facilities during peak or light steady state loading.

Monitoring

APCO will install communication at the PCC in order to monitor real-time connection status, voltage, and power at the point of DG interconnection as stated in section 4.1.6 of IEEE-1547. The Generator can provide the required information from their recloser controls near the PCC.

Summary

The contents of this impact study apply only to the units described in the interconnection application submitted by SoLAmerica Energy LLC for one 4.875 MW DG interconnection on APCO's Amherst/Rutledge 12.47 kV distribution circuit on APCO's Amherst substation near Amherst, VA. All modeling is based on assumed generation location near APCO pole 38791092C00145 near the head of the Rutledge circuit. The cost to repair any damage resulting from system conditions caused by the installation and/or operation of the DG will be borne by the owner of the generation facility. The proposed generation interconnection consists of solar panels and two ac/dc inverters with a total combined maximum output of 4.875 MW (4.875 MVA @ 100% pf). Customer owned transformation will step the DG 600v output up to 12.47 kV and connect to existing APCO distribution via customer installed and owned primary conductor, three phase electronic switchgear, and GOAB switch. APCO will also install a GOAB switch and a 12.47 kV primary meter installation which will also serve as the PCC. The DG interconnection will be metered at 12.47 kV and will include appropriate communications for real-time monitoring by the APCO Distribution Dispatch Center. No adverse system impact on circuit voltage regulation or system loading was found as a result of this impact study. It has been determined that the fault current contributions from the proposed generators are within the tolerance levels of the aforementioned APCO distribution circuits and substation. Minor deficiencies to approximately 600' of APCO's local area distribution system near the proposed point of interconnection were identified. Necessary improvements to those facilities are included in the facilities study below.

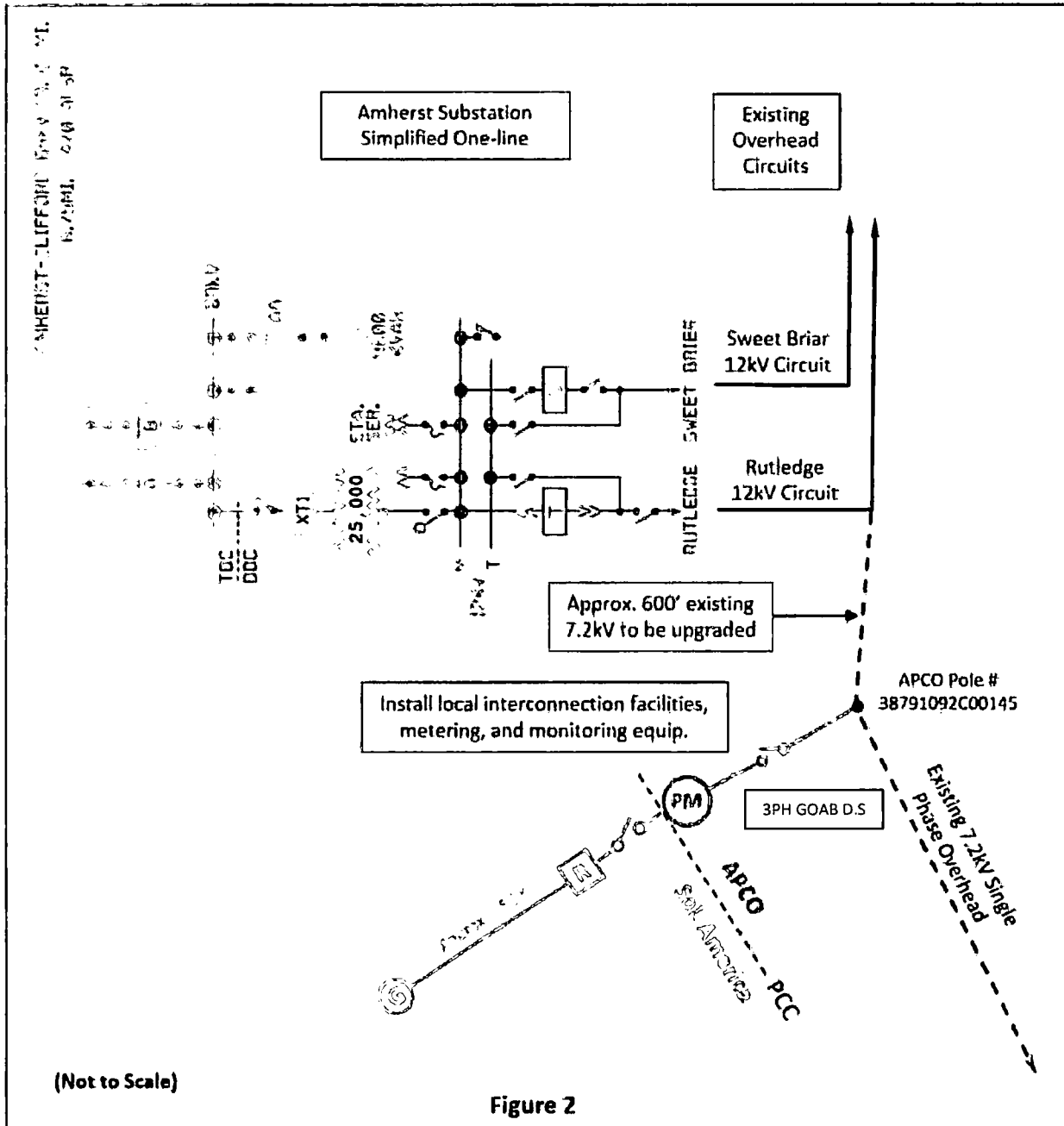
Facilities

To accommodate the proposed DG output on the APCO distribution system, the following improvements to the Amherst/Rutledge 12.47 kV distribution circuit will be required. See Figure 2 (next page):

- Replace three poles and reconductor 600' of existing 1-#4AS & 1-#2AA with 3-#556AL & 1-#4/0AA between poles 38791092C00154 and 38791092C00145
- Install pole and approximately 100' of 3-#556AL & 1-#4/0AA to new switch pole.
- Install 3-phase, 12.47 kV, 600 A, GOAB switch.
- Install pole and approximately 100' of 3-#556AL & 1-#4/0AA to new Primary Meter pole.
- Install 12.47 kV Primary Meter.
- Install communication to the PCC for real-time monitoring of DG interconnection.
- Update firmware and reprogram existing Amherst transformer LTC controls for Co-Generation mode operation.

Note that the required improvements and associated cost provided here do not include taxes and do not include any of the work required by the Generator to extend and connect their generation to the

PCCs. The total preliminary estimate of all APCO distribution circuit improvements listed above for both circuits is: \$33,000 (circuit interconnect) + \$15,000 (primary metering) + \$30,000 (monitoring) + \$5,000 (LTC improvements) = \$83,000.



Abnormal distribution system events will be addressed on an individual basis through the APCO system operator. Corrective action shall be based on the judgment of the APCO system operator. Possible corrective action can include but is not limited to generation isolation from the distribution system.

This review has been limited to items which may affect the APCO system. The Generator must take all necessary steps to assure compliance with all laws, ordinances, building codes and other applicable regulations. Approval of this connection by APCO, when granted, is not an endorsement of a particular design nor does it assure fitness to accomplish an intended function.



Ryan Peters
Environmental Engineer
SolAmerica Energy
1072 W Peachtree Street #79098
Atlanta, Georgia 30357

January 26, 2021

Ms. Mary E. Major
Renewable Energy Program
Department of Environmental Quality
PO Box 1105
Richmond, VA 23218
Mary.major@deq.virginia.gov

RE: Notice of Intent for Solar Energy Project – “de minimis” Section 130 Projects

Ms. Major:

On behalf of SolAmerica Energy, LLC, I am hereby providing notice to the Department of Environmental Quality of our intention to construct a small renewable energy project (solar) in Amherst County, VA, pursuant to Virginia Regulation 9VAC15-60-130.B. This project will be subject to provision 9VAC15-60-130.B because the rated capacity of the project will be 4.875 megawatts-AC.

The proposed solar energy generation facility is located approximately 3 miles southeast of the City of Amherst, VA, on Union Hill Road approximately 0.4 miles south of Richmond Highway intersection. The existing property is used for farming purposes, specifically cattle grazing, and is surrounded by other agricultural zoned properties and wooded areas. The array area within the security fence will be approximately 25 acres in size with an additional 25 acres around the perimeter of the facility to account for stormwater control measures. The proposed array design will utilize approximately 13,494 solar modules with a nominal production wattage of 460 watts per module. The solar energy project will tie directly into Appalachian Power Company’s existing three-phase power lines located approximately 1,600 feet north of the project on the same parcel as the proposed solar energy project.

If the Department has questions regarding this project, please contact me at rpeters@solamericaenergy.com or 404-351-8175 x18.

Sincerely,

A handwritten signature in black ink that reads "Ryan Peters". The signature is written in a cursive, flowing style.

Ryan Peters
SolAmerica Energy, LLC

Virginia Department of Environmental Quality Small Renewable Energy Projects (Solar) Local Governing Body Certification Form	
Facility Name and Location: Amherst Mays Solar Farm - Union Hill Road, Amherst, VA	
Applicant's Name: SolAmerica Energy,	
Applicant's Mailing Address:	Telephone Number and Email Address: rpeters@solamericaengery.co m
<p>The applicant or his representative is submitting an application for a small renewable energy permit by rule from the Virginia Department of Environmental Quality. In accordance with § 10.1 - 1197.6 B 2 of the Code of Virginia, before such permit application can be considered complete, the applicant must obtain a certification from the governing body of the locality or localities in which the small renewable energy project will be located that the project complies with all applicable land use ordinances.</p> <p>The undersigned requests that a responsible official of the local governing body sign the certification statement below. In addition, by signing below, the applicant affirms that he has also submitted this form to other localities, if any, in which the proposed project will be located.</p>	
Applicant's signature:	Date:
<p><i>The undersigned local government representative certifies that the proposed small renewable energy project complies with all applicable land use ordinances, as follows:</i></p> <p>(Check one block)</p> <p><input type="checkbox"/> The proposed facility complies with all applicable land use ordinances.</p> <p><input type="checkbox"/> The proposed facility does not comply with all applicable land use ordinances.</p>	
Signature of authorized local government representative:	Date:
Type or print name:	Title:
County, City or Town: Amherst County,	

**DIRECT TESTIMONY OF
ALEX E. VAUGHAN
FOR APPALACHIAN POWER COMPANY
IN VIRGINIA S.C.C. CASE NO. PUR-2021-00066**

SUMMARY OF DIRECT TESTIMONY OF ALEX E. VAUGHAN

My direct testimony addresses the following topics:

1. I describe the economic analysis for the proposed Amherst solar project (Amherst Facility or Facility) that demonstrates in part why it is a prudent utility investment for the Company and its Virginia customers.
2. Discuss the Company's proposed treatment of the Amherst Facility's load reduction in regards to the allocation of existing Company assets and their costs to serve.

**DIRECT TESTIMONY OF
ALEX E. VAUGHAN
FOR APPALACHIAN POWER COMPANY
IN VIRGINIA S.C.C. CASE NO. PUR-2021-00066**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND PRESENT**
2 **POSITION.**

3 A. My name is Alex E. Vaughan. I am employed by AEPSC as Director-Regulated Pricing
4 and Renewables. My business address is 1 Riverside Plaza, Columbus, Ohio 43215.
5 AEPSC is a wholly-owned subsidiary of AEP, the parent company of APCo.

6 **Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.**

7 A. My responsibilities include the oversight of cost of service analyses, rate design, special
8 contracts, and renewables for the AEP System operating companies. I am directly
9 responsible for assisting APCo and other AEP electric utility operating companies in the
10 preparation of filings before the Commission and other commissions under whose
11 jurisdiction these companies provide electric service.

12 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND**
13 **EDUCATIONAL BACKGROUND.**

14 A. I graduated from Bowling Green State University with a Bachelor of Science degree in
15 Finance in 2005. Prior to joining AEPSC I worked for a retail bank and a holding
16 company where I held various underwriting, finance, and accounting positions. In 2007,
17 I joined AEPSC as a Settlement Analyst in the RTO Settlements Group. I later became
18 the PJM Settlements Lead Analyst, where I was responsible for reconciling AEP's
19 settlement of its activities in the PJM market with the monthly PJM invoices and for
20 resolving issues with PJM. In 2010 I transferred to Regulatory Services as a Regulatory

1 Analyst and was later promoted to the position of Regulatory Consultant. My
2 responsibilities included supporting regulatory filings across AEP's eleven state
3 jurisdictions and at the FERC. I also performed financial analyses related to AEP's
4 generation resources and loads, power pools, and PJM. In September 2012, I was
5 promoted to Manager, Regulatory Pricing and Analysis, where I was responsible for cost
6 of service, rate design, and special contract analysis for the AEP east operating
7 companies. In September of 2018, I was promoted to my current position.

8 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?**

9 A. Yes. I presented testimony on behalf of the AEP Operating Companies numerous times
10 before the regulatory bodies in Virginia, West Virginia, Kentucky, Tennessee, Michigan
11 and Indiana. In Virginia, I last testified before the Commission on APCo's behalf in
12 Case No. PUR-2020-00015.

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 A. The purpose of my testimony is:
15 • To describe the economic analysis for the proposed Amherst Facility that
16 demonstrates it is a prudent utility investment for the Company and its Virginia
17 customers; and
18 • To discuss the Company's proposed treatment of the Amherst Facility's load
19 reduction in regards to the allocation of existing Company assets and their costs to
20 serve.

21 **Q. ARE YOU SPONSORING ANY EXHIBITS OR SCHEDULES?**

22 A. I am sponsoring the following exhibits:
23 • APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (AEV) Schedule 1 –
24 Economic Analysis
25 • APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (AEV) Schedule 2 –
26 Amherst Cost of Service

- 1 • APCo EXTRAORDINARILY SENSITIVE Exhibit No. __ (AEV) Schedule 3 – Solar
2 Production Report

3 **I. AMHERST ECONOMIC ANALYSIS**

4 **Q. PLEASE BRIEFLY DESCRIBE THE AMHERST FACILITY.**

5 A. Amherst is a 4.875 MW (installed capacity) solar generation project located within the
6 Company's Virginia service territory. The Facility interconnects to the Company's
7 distribution system at the existing 12.4 kV Amherst substation. Because of the Facility's
8 distribution level connection and size, it will not be a PJM market facing resource but,
9 rather, will act as a load reducer. As a load reducer, the Facility will cause the Company
10 to avoid and/or shift certain PJM RTO obligations and costs away from its customers.

11 **Q. PLEASE DESCRIBE THE ECONOMIC ANALYSIS YOU CONDUCTED
12 REGARDING THE AMHERST FACILITY.**

13 A. To help facilitate the Commission's decision regarding the prudence determination the
14 Company is requesting in this proceeding, I prepared a net present value (NPV) analysis
15 that takes into account the estimated costs and benefits of the proposed Amherst solar
16 project. The cost side of the equation is the estimated cost of service resulting from the
17 Company owning the Facility. This includes operating and maintenance expenses,
18 depreciation expense, a return on ratebase, applicable tax expense and tax credits. The
19 benefits included in the NPV analysis are avoided generation capacity costs, avoided
20 energy costs, avoided PJM ancillary service costs, avoided REC purchase costs, shifted
21 PJM LSE OATT charges, and the societal cost of carbon as specified in Va. Code § 56-
22 585.1.A.6. I performed this economic analysis at the total Company (total project) level.

1 **Q. WHAT WERE THE RESULTS OF THE ECONOMIC ANALYSIS?**

2 A. On a net present value basis, the utility cost of service benefits and statutorily mandated
3 benefits of the project are greater than the costs of purchasing and operating the project
4 over its 35-year useful life.

5 **Q. ASIDE FROM ITS FAVORABLE ECONOMICS, IS THERE A NEED FOR THE**
6 **AMHERST FACILITY?**

7 A. Yes. Beyond its favorable economics, the acquisition of the Facility will help the
8 Company meet mandates in the Grid Transformation and Security Act and the Virginia
9 Clean Economy Act (VCEA) that the Company seek the Commission's approval to
10 acquire and operate solar facilities, and will aid the Company in complying the
11 mandatory renewable portfolio standards established by the VCEA (the VA RPS). It is
12 also the least cost resource resulting from a competitive request for proposals as
13 described by Mr. Castle.

14 **Q. PLEASE PROVIDE ADDITIONAL DETAILS REGARDING THE COST OF**
15 **SERVICE CALCULATIONS.**

16 A. The cost of service calculations reflect a return on and of the Company's investment in
17 the Amherst Facility as well as the costs to operate the facility inclusive of any applicable
18 taxes. The return on ratebase calculation utilizes the Company's last approved capital
19 structure and authorized Virginia retail ROE.¹ The 26% investment tax credit (ITC) is
20 normalized over the 35-year useful life of the Amherst asset. Because APCo has elected

¹ Final Order at 24, *Application of Appalachian Power Company for a 2020 triennial review of its base rates, terms and conditions pursuant to § 56-585.1 of the Code of Virginia*, Case No. PUR-2020-00015, Doc. Con. Cen. No. 201140127 (Nov. 24, 2020).

1 to normalize ITCs under the method prescribed in U.S.C. § 46(f)(1)(F1 normalization),
2 the amount of un-amortized ITC is a reduction to the calculated amount of ratebase upon
3 which the Company earns a return. The ITC amortization itself, which is a credit to
4 deferred tax expense, is excluded from the cost of service calculations. Note that the cost
5 of service calculations assume the current law on ITCs and do not include any potential
6 upside from pending federal legislation on renewable tax benefits.

7 **Q. PLEASE PROVIDE ADDITIONAL DETAILS REGARDING THE**
8 **CALCULATION OF THE BENEFITS ASSOCIATED WITH THE COMPANY'S**
9 **OWNERSHIP OF THE AMHERST FACILITY**

10 **A.** The Company calculated the following benefits pertaining to the Amherst Facility:

- 11 1. ***The avoided cost of energy*** – When the Facility generates energy that flows onto
12 the Company's distribution system, the Company avoids purchasing energy from
13 the PJM energy markets. It should be noted that the fundamental energy price
14 forecast used for the avoided costs of energy benefit seems to be conservative in
15 the near term, based on natural gas and LMP prices at the time of this filing.
- 16 2. ***The value of generation capacity*** – The Amherst Facility will reduce the
17 Company's load during the PJM five coincident peak (5CP) hours and thus
18 provide a capacity obligation benefit. Because of this, the Company will avoid an
19 incremental purchase of capacity or make an incremental sale of capacity in the
20 future.
- 21 3. ***Avoided ancillary service charges*** – As a load reducer for the Company, the
22 Facility's generation will reduce the amount of load based ancillary service
23 charges billed to the Company by PJM.
- 24 4. ***PJM load serving entity open access transmission tariff (LSE OATT) charges*** –
25 Because the Facility will reduce the Company's load settled by PJM, zonal LSE
26 OATT charges will be shifted to other LSEs in the zone, reducing the billing to
27 APCo.
- 28 5. ***Societal cost of carbon*** – As required by Section 56.585.1.A.6, the Company
29 included the societal cost of carbon in the economic analysis for the Facility as it
30 will produce carbon-free energy.

1 These estimated benefits in total are greater than the estimated cost of acquiring and
2 operating the Amherst Facility. The same is true without including the societal cost of
3 carbon.

4 **Q. BECAUSE OF THE FAVORABLE PROJECT ECONOMICS, IS AMHERST A**
5 **LOW COST SOURCE OF VA RPS-COMPLIANT RECS?**

6 A. Yes, when the estimated cost of service from the Amherst Facility is compared to the
7 estimated avoided utility costs over the life of the asset, the present value implied REC
8 cost is \$0. This simply illustrates that customers will benefit from the project without
9 taking into account the value of VA RPS compliance, which is simply an added benefit.
10 Furthermore, this means that the Facility is a more-economic RPS compliance resource
11 than a REC-only purchase at any positive value.

12 **Q. ARE THE RELATIVE ECONOMICS OF THE AMHERST FACILITY THE**
13 **SAME WHETHER OR NOT WEST VIRGINIA APPROVES RECOVERY OF**
14 **COSTS FROM APCO'S WEST VIRGINIA CUSTOMERS?**

15 A. Yes, the relative economics do not change. All that would change based on West
16 Virginia's decision regarding cost recovery is the amount of project costs and benefits
17 allocated to the APCo Virginia retail jurisdiction. If West Virginia denies cost recovery
18 of the Facility from APCo's West Virginia customers, the entire APCo retail share of the
19 project will be allocated to the Company's Virginia retail jurisdiction.

1 **II. AMHERST GENERATION IMPACT ON LEGACY COST ALLOCATION**

2 **Q. HOW WILL THE LOAD REDUCTIONS FROM THE AMHERST FACILITY**
3 **AFFECT THE DEMAND AND ENERGY ALLOCATORS USED TO ALLOCATE**
4 **OTHER APCO GENERATION COSTS?**

5 A. The load reductions from the Amherst Facility will be excluded from the APCo demand
6 and energy allocation factors used to allocate cost responsibility for various cost of
7 service items across the APCo jurisdictions.² Although the load reductions from the
8 Facility will reduce the Company's billed wholesale load in PJM, it is not appropriate for
9 this new generation resource to affect the jurisdictional allocation of costs from the
10 Company's other owned and contracted for generating resources or transmission
11 infrastructure. As costs and benefits of the Amherst solar project will be allocated to the
12 approving APCo jurisdictions using the same demand and energy allocators, allowing
13 Amherst to affect them would become circular to a degree.

14 Also, the Amherst Facility is a distribution level load reducer, due to its size and
15 the desire to avoid additional time and expenses associated with making the Facility a
16 PJM market facing resource. Thus, it is not a load, which is what the APCo demand and
17 energy allocators are meant to quantify, and which is the basis for the longstanding multi-
18 jurisdictional allocators. In summary, it is the Company's position that it is reasonable
19 for Amherst's generation that manifests as an APCO Virginia load reducer to affect costs
20 allocated to APCO, but not costs allocated within APCO to its various jurisdictions.

² Virginia retail, West Virginia retail, FERC wholesale customers, Virginia non-retail.

1 **Q. WHAT IS THE YEAR 1 RATE IMPACT ON CUSTOMER RATES RESULTING**
2 **FROM THE PROPOSED AMHERST FACILITY?**

3 A. The year 1 impact on rates would be an increase of 0.01% if APCo is permitted to
4 recover costs from its West Virginia customers, and 0.02% if it is only permitted to
5 recover costs from its Virginia customers.

6 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

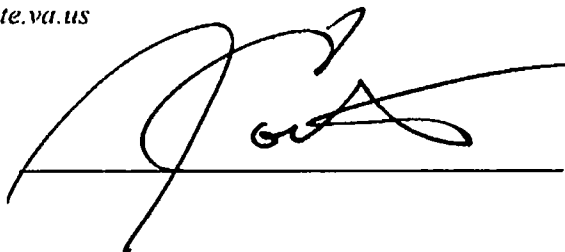
7 A. Yes it does.

CERTIFICATE OF SERVICE

I hereby certify that on this 18th day of November 2021 a true copy of the foregoing
Petition of Appalachian Power Company was delivered by electronic mail to the following:

William H. Chambliss, Esq.
Office of General Counsel
State Corporation Commission
1300 East Main Street
Richmond, Virginia 23219
william.chambliss@scc.virginia.gov

C. Meade Browder, Jr., Esq.
Senior Assistant Attorney General
Division of Consumer Counsel
Office of Attorney General
mbrowder@oag.state.va.us

A handwritten signature in black ink, appearing to be 'C. Meade Browder, Jr.', is written over a horizontal line. The signature is stylized and cursive.