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Rate Design for Commercial and Industrial Customers in Southwest Virginia

April 2, 2020

The Solar Workgroup of Southwest Virginia (SWG) seeks to utilize the development of solar energy as an economic catalyst in the seven-county region of far Southwest Virginia. The SWG is co-convened by the UVa-Wise Office of Economic Development & Engagement, People Incorporated and Appalachian Voices, with facilitation assistance from Dialogue + Design Associates policy and legal analysis from Southern Environmental Law Center, and technical assistance from paleBLUEdot. This document provides an overview of rate designs available to commercial- and industrial-scale customers in Southwest Virginia, for context as part of the 2020 Solar Co-Developer Request for Interest, available online at: <http://swvasolar.org/solar-rfi/>. The information in this document is subject to change and should be verified before any financial decisions are made.

Background Information on Demand Charges and Solar

For large commercial or industrial buildings, the cost of energy is not just measured by how much is used, but by when and how fast it is used. Electric utilities typically have different rates applicable to different sizes or types of commercial-scale customers. For commercial and industrial buildings that consume larger amounts of energy at times of high electricity demand on the overall grid, utilities often charge a “demand charge” that is based on a customer’s highest rate of electricity usage during a specific length of time. Nearly all medium and large commercial customers in every state are obligated to pay some form of a demand charge on their electricity bills. Smaller commercial customers are typically not charged with a demand charge. Demand charges can amount to 50% or more of a commercial electric bill. Depending on the utility, customers may have different choices.

Demand charges can harm the potential cost effectiveness of solar. With demand charges, the portion of a bill that is avoidable with solar energy may be reduced because a household’s peak energy consumption may not align with peak output from a solar array if a business uses their appliances in the morning and at night when the sun isn’t shining as much or at all. As such,

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solar may not help reduce a business's maximum hourly demand. Additionally, net metering becomes less of a benefit on a demand charge rate because the energy from the solar panels that is placed back onto the grid would be compensated at a lower rate.

Battery storage is often used in combination with solar energy to help customers shift their energy usage to avoid triggering higher demand charges. Batteries can store electricity during times of lower-energy usage, and customers can draw that electricity from the battery during periods of high electricity demand instead of drawing that electricity from the grid and increasing their demand charges.

In the coalfield region of Southwest Virginia, there are 5 utilities, including Appalachian Power (APCo), Old Dominion Power (ODP), Powell Valley Electric Cooperative (PVEC), Richlands Municipal Utility, and Bristol Valley Utilities (BVU). The rate options for commercial- and industrial-scale customers for Appalachian Power, Bristol Valley Utilities, Old Dominion Power, and Powell Valley Electric Cooperative are summarized below. (Rates for Richlands Municipal Utility are not available online.)

A Note about Non-Jurisdictional Customers in Virginia

In Virginia, the State Corporation Commission (Commission) does not have the authority to set electricity rates for governmental customers of investor-owned utilities. These customers, referred to as "non-jurisdictional" or "public authorities," negotiate a tariff as a group with the investor-owned utility directly. Old Dominion Power and Appalachian Power's rates for these "non-jurisdictional customers" are not publicly available but over time, some details of these tariffs have been made public.

Old Dominion Power

ODP offers four rate schedules for jurisdictional commercial-scale and industrial-scale customers. Demand charges apply as follows:

- General Service -- no demand charge
- Time-of-Day Secondary Service -- demand charges apply
- Time-of-Day Primary Service -- demand charges apply
- Power Service -- demand charges apply

Detailed rates are available online at: <https://lge-ku.com/sites/default/files/odpelecrates.pdf>

Note that Old Dominion Power filed a rate case in 2019 which is still pending before the Commission as of April 1, 2020. In the case, parties to the case requested the utility create an alternative rate option for commercial customers that charges customers on a time-of-use rate instead of charging demand rates. A decision is expected in April 2020, but the coronavirus crisis may delay a decision in the case. The case information can be found online at: <http://www.scc.virginia.gov/docketsearch#caseDocs/139679>

Appalachian Power Company

APCo offers six rate schedules for jurisdictional commercial-scale and industrial-scale customers.

- Small General Service -- no demand charge
- Medium General Service -- demand charges apply
- General Service -- demand charges apply
- Large General Service -- demand charges apply
- Large Power Service -- demand charges apply
- Sanctuary Worship Service -- no demand charge

Detailed rates are available online at:

<https://www.appalachianpower.com/global/utilities/lib/docs/ratesandtariffs/Virginia/Tariff%2025-MASTER-OAD-1-1-2020-Sales%20and%20Use%20Tax%20Rider%20clean.pdf>

Note that APCo filed a rate case with the Commission on March 31, 2020. The SWG will be closely monitoring the APCo rate case throughout 2020.

Additionally, for non-jurisdictional customers, the tariff requires that “Net Metering Service Customers must take service under a rate schedule that includes an on-peak demand charge.” These tariffs are being actively negotiated and Appalachian Power has expressed a willingness to negotiate individual tariffs for customers interested in installing solar. It is expected that a new rate schedule for non-jurisdictional customers in APCo territory should come into effect in early 2021.

Powell Valley Electric Cooperative and Bristol Valley Utilities

PVEC and BVU offer four rate schedules for commercial-scale and industrial-scale customers.

- Customers with demand of < 50 kW -- no demand charge
- Customers with demand 51 - 1,000 kW -- demand charges apply
- Customers with demand > 1,001 kW -- demand charges apply
- BVU only: Manufacturing & Data Centers using > 5,000 kW -- demand charges apply

Detailed rates for PVEC are available online at: <http://www.pve.coop/rates/march-2020/>

Detailed rates for BVU are available online at:

<https://www.bvua.com/pdfs/UtilityCustomerInformationPacket.pdf>