PUR-2023-00069

Ex Parte In the matter of revising the Commission's Regulations Governing Interconnection of Small Electrical Generators

All Responses To Questionnaire

Table of Contents

Appalachian Power

PUR-2023-00069 Rulemaking

Comments from Appalachian Power Company – December 15, 2023

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1. Material Modification

APCo is largely supportive of the existing Material Modification language in Section 20 VAC-314-100 and its current practices align to this. We suggest the following updates to make the process more efficient without diminishing the value of the rules:

- In 20VAC5-314-39, B1, reads:
  A change in point of interconnection to a new location, unless the change in a point of interconnection is on the same circuit less than two poles away from the original location, and the new point of interconnection is within the same protection zone as the original location".
  - It is our belief that "less than two poles away from the original location" is rather arbitrary and an actual linear distance would be more justified
- In 20VAC5-314-39, B6 and B7, reads: An increase of the maximum generating capacity of an SGF; or A change reducing the maximum generating capacity of the Small Generating Facility (SGF) (i) by more than 25% before the Feasibility Study Agreement or Combined Study Agreement has been executed or (ii) by more than 10% after the Feasibility Study Agreement or Combined Study Agreement has been executed.
  - APCo believes that any increase or reduction of the maximum nameplate capacity of the DER facility is a material modification
  - APCo believe that any change to the original use of the facility, as outlined in a legacy interconnection agreement, is a material modification
  - APCo also believes that an increase to a stated Limited Export capacity amount should be deemed a material modification
  - APCo recommends that existing items B2-5 are retained

- In 20VAC5-314-39, C1, reads that changes that do not qualify as material modifications:

"1. A change in ownership of an SGF; the new owner, however, will be required to execute a new Interconnection Request Form and study agreements for any study that has not been completed and the report issued by the utility;"

  - APCo believes that change of ownership to an existing in-service SGF would not be a material modification if the new owner (IC) operates and executes the terms of the existing legacy Interconnection Agreement, under direct contract assignment or re-execution. However, if the new IC intends to change the use of the existing in-service SGF, then this is considered a material modification, requiring re-submission of the SGF, with potential new equipment, additional study, new tariff, and new modeling of the SGF across the planning and operating systems of both distribution or transmission entities.

2. Dispute Resolution

APCo has no recommended changes to the dispute language in Section 20 VAC-314-100 and uses similar language in its agreements with customers.

3. Insurance Requirements

APCo recommends the following changes to section 20 VAC 5-314-160 to reduce the administrative burden of tracking insurance requirements for Level 1 Interconnections.

- The utility shall be permitted to periodically obtain proof of current insurance coverage from the IC in order to verify continuing proper liability insurance coverage. The utility reserves the right to refuse to commence or continue interconnected operations unless evidence is provided that required insurance coverage is in effect at all times.

4. Cybersecurity

Cybersecurity is a growing concern and must be addressed as DER ownership expands. APCO recommends adopting the following standards to maintain a secure network of assets.

The DER facility owner should follow the guidance provided in the applicable standards, including IEEE Std 1547.3™-2018, Draft Guide for Cybersecurity of Distributed Energy Resources Interconnected with Electric Power Systems and keep firmware up to date. AEP reserves the right to disconnect DER from the Area EPS for any cyber related concern until the concern is remediated. Ultimately, the DER facility owner is responsible for the Cyber Security of the DER facility.

5. Definition of DER

The lack of a clear and consistent DER definition leaves ambiguity around what systems are covered. Establishing a clear definition will help ensure interconnection rules and standards can be developed and applied properly to the corresponding technologies. It will also help streamline the interconnection process for all types of covered DERs. APCo recommends adopting the IEEE 1547-2018 definition for consistency across the industry. It is worth noting that FERC expands the definition below by stating "DERs are located on the distribution system, a distribution subsystem, or behind a customer meter. They range from electric storage and intermittent generation to distributed generation, demand response, energy efficiency, thermal storage and electric vehicles and their charging equipment."

IEEE 1547-2018 Definition - A source of electric power that is not directly connected to the bulk power system. A Distributed Energy Resource (DER) includes both generators and energy storage facilities operating in parallel to the distribution system and capable of exporting active power to an EPS. An interconnection system or a supplemental DER device that is necessary for compliance with IEEE Std 1547™-2018 is part of a DER.

6. DER Performance Standards

Consistent with the Company's prior comments filed in Case No. PUR-2022-00073, APCo agrees that all new interconnections should utilize hardware that complies with IEEE 1547-2018. According to the National Renewable Energy Laboratory, the IEEE Standard 1547-2018 provides functional technical

requirements that are universally needed to help ensure a technically sound interconnection. Functional requirements "allow flexibility and innovation and state the required outcome, not how to achieve that or the equipment or methods that must be used to satisfy the requirements."

Further, adoption of *IEEE Std 1547™-2018* is in alignment with the Feb 12, 2020, resolution from the National Association of Regulatory Utility Commissioners (NARUC) titled "Resolution Recommending State Commissions Act to Adopt and Implement Distributed Energy Resource Standard *IEEE 1547-2018*".

Beyond the capabilities mandated for the 1547-2018 certification, we agree with how IEEE defined its standard, in that the utility should have discretion in defining specific performance standards for devices connected to its electric grid. We support utilities publishing their own Technical Interconnection and Interoperability Requirements documents (TIIR) to provide transparency for customers as to what standards the utility has set and what conditions will be defined in the DER interconnection service agreement.

Recommended language:

> "The utility may place restrictions upon the interconnection of an SGF to a distribution feeder depending upon the characteristics of that feeder and the potential for upgrading it, as well as the nature of the loads and other generation on the feeder relative to the proposed point of interconnection. Interconnecting DERs with inverters or energy storage equipment shall use equipment that is certified by Underwriters Laboratories or other national testing laboratories in accordance with IEEE 1547, Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, 2018 for compliance with IEEE 1547-2018.
>
> Each utility shall have a publicly available Technical Interconnection and Interoperability Requirements document (TIIR) which specifies the performance standards that DER equipment must meet in accordance with the IEEE 1547-2018 standard and per the utility's own technical specifications for protection of its grid assets and electric system reliability. The utility shall have the right to specify the performance capabilities necessary to allow DERs to operate without negative impacts to the safety and performance of the utility's grid for other customers and the utility's personnel. Utilities also have the right to verify settings for DER devices, controllers, and sites, and to perform commissioning activities as it deems necessary in accordance with good practices such as in IEEE Std 1547-2018 Clause 11 – Test and Verification Requirements and IEEE Std 1547.1-2020 Clause 8 - DER evaluations and commissioning tests.
>
> The interconnection agreement between the IC and the utility to which they've requested to interconnect should reference the TIIR and the performance standards defined for the particular DER as needed. The IC shall be responsible to operate and maintain the DER in accordance with these rules and the terms of the approved and executed interconnection agreement. If an IC's DER device fails to perform in accordance with the standards defined in the utility's TIIR and the IC's interconnection agreement, the utility is permitted to take corrective action for the protection of staff, customers, and the reliability of the grid, including disconnecting the DER. The utility may request testing and verification of DER device settings at any time to confirm the IC's equipment is performing in compliance with the applicable standards."

Appalachian Voices

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December 15, 2023

VIA ELECTRONIC MAIL

Mr. Michael Cizenski, Deputy Director
Division of Public Utility Regulation
State Corporation Commission
Tyler Building – Fourth Floor
1300 East Main Street
Richmond, Virginia 23219

RE: Ex Parte: In the matter of revising the Commission's Regulations Governing Interconnection of Small Electrical Generators

Case No. PUR-2023-00069

Dear Mr. Cizenski:

Please find enclosed for submission in the above-referenced docket the Comments of Appalachian Voices. If you should have any questions regarding these comments, please do not hesitate to contact me at (434) 977-4090.

Regards,

Josephus M. Allmond

Josephus M. Allmond

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

COMMONWEALTH OF VIRGINIA, ex rel. STATE CORPORATION COMMISSION	)	
	)	Case No. PUR-2023-00069
RE: Interconnection Regulations Rulemaking	)	

ENVIRONMENTAL RESPONDENT'S COMMENTS ON DISTRUBTED ENERGY RESOURCE INTERCONNECTION QUESTIONS

Pursuant to Commission Staff's October 6, 2023 request for comments on issues and questions related to distributed energy resource ("DER") interconnection, Appalachian Voices ("Environmental Respondent") submits the following comments.

INTRODUCTION

On May 24, 2022, the State Corporation Commission ("Commission") opened a docket (Case No. PUR-2022-00073) to explore interconnection issues related to utility distributed energy resources ("DER") in a comprehensive manner. In its Order for Comment in that proceeding, the Commission, among other things, provided interested persons an opportunity to comment on DER interconnection issues and directed Commission Staff ("Staff") to file a report ("Report") on such issues. On March 3, 2023, the Commission issued an Order ("PUR-2022-00073 Order") which, among other things, recognized the number and complexity of these interconnection-related issues and identified multiple mechanisms to address them. These mechanisms included (i) Working Groups; (ii) a Staff Survey and Filing; and (iii) a Rulemaking. Environmental Respondent has participated in the Working Groups and expects to participate in the Rulemaking.

On May 2, 2023, the Commission opened a docket (Case No. PUR-2023-00069) for the Rulemaking and issued an Order Initiating Rulemaking Proceeding. In its Order, the Commission

directed Staff to solicit comments and schedule meetings (as necessary) with interested parties to determine whether amendments to the Regulations Governing Interconnection of Small Electrical Generators, 20 VAC 5-314-10 et seq. ("Interconnection Regulations") on topics listed in the PUR-2022-00073 Order are needed. These topics included the following:

i. language concerning material modifications;

ii. language concerning dispute resolutions;

iii. insurance requirements for Level 1 Interconnections;

iv. cybersecurity;

v. the definition of DER; and

vi. DER performance standards.

On October 6, 2023, Staff issued a questionnaire to solicit further input on each topic. Environmental Respondent hereby provides the following responses to the questionnaire.

20 VAC 5-314-39, ***Modification of the Interconnection request.***

Environmental Respondent offers no edits to the existing language, but looks forward to other parties' edits and comments, and expects to participate in the Rulemaking on this topic.

20 VAC 5-314-100, ***Disputes.***

Environmental Respondent offers no edits to the existing language, but looks forward to other parties' edits and comments, and expects to participate in the Rulemaking on this topic.

20 VAC 5-314-160 ***Insurance, liability, and indemnification.***

Environmental Respondent offers no edits to the existing language, but looks forward to other parties' edits and comments, and expects to participate in the Rulemaking on this topic.

Cybersecurity.

Environmental Respondent neither endorses nor rejects the need for a DER interconnection rule related to cybersecurity. However, should the Commission determine that minimum cybersecurity standards for DER interconnection are needed, Environmental Respondent recommends that such standards be limited to those that address legitimate cyberthreats, but present little or no impediment to DER proliferation. For example, cybersecurity requirements for Level 1 (<500kW) interconnections could be limited to a requirement that only inverters in compliance with Underwriters Laboratory standards be installed (UL standard 2941 addresses minimum inverter cybersecurity). Cybersecurity requirements for Level 2 and 3 interconnections could consider additional minimum requirements, but these should be limited to standards for domains already in common application in business environments, including 1) DER software user management (authentication and access); 2) DER software configuration management (change management, system settings, and cloud security); and 3) DER system/device management (software integrity, encryption, and system/device protection).

Definition of DER.

Environmental Respondent neither endorses nor rejects the need for a DER definition. However, should the Commission determine that a DER definition is needed, Environmental Respondent recommends the simple definition employed in Institute of Electrical and Electronics Engineers ("IEEE") DER Interconnection Standard 1547-2018: "a source of electric power that is not directly connected to a bulk power system (BPS). DER includes both generators and energy storage technologies capable of exporting active power to an electric power system." Environmental Respondent notes that the North American Electric Reliability Corporation ("NERC") has adopted this definition.

DER Performance Standards

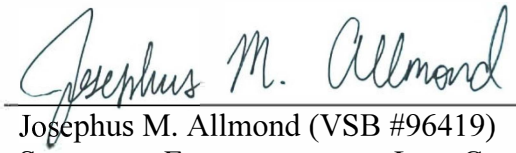
Environmental Respondent neither endorses nor rejects the need for DER Performance Standards. However, should the Commission determine that DER Performance Standards are needed, Environmental Respondent recommends these be consistent with DER performance requirements specified in IEEE Standard 1547. Environmental Respondent generally believes that no DER performance standards beyond those specified in IEEE 1547 should be required. However, to the extent that the Commission deems additional performance requirements to be necessary, Environmental Respondent recommends that these additional requirements be patterned after performance standards already present in most utility tariffs. For example, most utility tariffs include standards for voltage, power factor ("VAR"), and customer responsibilities. These could be easily edited to apply to DER. In general, Environmental Respondent believes DER should not be held to any standard higher than those to which a utility is held, nor should DER be held to any standard higher than those to which other types of utility customers are held.

CONCLUSION

Environmental Respondent thanks Commission Staff for this opportunity to provide comments and hopes Commission Staff and stakeholders have found them valuable.

December 15, 2023

Respectfully submitted,



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Counsel for Environmental Respondent

Dominion Energy Virginia

Responses to Rulemaking Questionnaire due December 15, 2023
Dominion Energy Virginia ("DEV")

Material Modification:

1. For section 20 VAC 5-314-39, *Modification of the interconnection request*, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report, and any additional concerns.
2. Please provide a detailed explanation of each change made to the existing language.

Confusion related to downsizing a project before and after the Feasibility Study

Section 20VAC5-314-39.B.7 describes one of the changes that qualifies as a Material Modification as follows:

> A change reducing the maximum generating capacity of the SGF (i) by more than 25% before the Feasibility Study Agreement or Combined Study Agreement has been executed or (ii) by more than 10% after the Feasibility Study Agreement or Combined Study Agreement has been executed.

The language currently states that i) or ii) would qualify as a Material Modification. Per the Staff Report, some confusion existed relating to downsizing a project before and after the Feasibility Study in that some Developers read that both i) and ii) would need to be triggered before a Material Modification would exist.

While the existing language incorporates an "or" and not an "and" when observing the Material Modification triggers described, some clarification might be achieved by adding the following sentence at the end of B.7:

> The reduction for the conditions described in i) and ii) will be in comparison with the maximum generating capacity reflected in the completed interconnection request originally submitted.

Changes in the maximum generating capacity of interconnection requests submitted directly impact information provided for pre-application requests and the results of interconnection studies. To reduce the potential for re-studies which can slow queue administration, minimizing reductions of maximum generating capacity compared to the magnitude originally submitted can be as critical as considering the increase in maximum generating capacity a Material Modification, as defined in 20VAC 5-314-B.6. For instance, if both a 25% reduction before the initial study agreement and a 10% reduction after the initial study agreement were enabled, the reduction would reflect a 32.5% reduction from the magnitude originally submitted.

Changing of the point of interconnection on the same property

Section 20VAC5-314-39.B.1 describes the following additional change that qualifies as a Material Modification:

> A change in point of interconnection to a new location, unless the change in a point of interconnection is on the same circuit less than two poles away from the original location, and the new point of interconnection is within the same protection zone as the original location;

The Staff Report included a developer's request to modify this language to accommodate a change in the point of interconnection (POI) on the same property without triggering a Material Modification. A modification that may enable this accommodation is to remove the two-pole distance reference such that 20VAC5-314-39.B.1 would read:

> A change in point of interconnection to a new location, unless the new point of interconnection is within the same protection zone as the original location, and the change in the point of interconnection is agreeable to the Utility.

The Utility is responsible for identifying the electrical infrastructure to which a proposed generating facility is to be interconnected using Good Utility Practice. Determination of a proposed point of interconnection on property owned or controlled by the Interconnection Customer generally occurs during the Feasibility study; however, conditions may materialize where it is prudent for both parties to pursue a change in the point of interconnection, if the re-study required to accommodate this change is limited. Generally, retention of the proposed point of interconnection within the same zone of protection as the original location will require limited re-study to accommodate. However, to reduce the potential for a change in point of interconnection to a location that would result in constructability issues for the Utility, Utility agreement with the change in POI by the Interconnection Customer should also be incorporated.

Restrictions on the ability to incorporate energy storage into an existing interconnection application by not allowing for changes to the daily production profile

Section 20VAC5-314-39.C.5 describes the following change that does *not* qualify as a Material Modification:

> A change in the DC system configuration to include additional equipment that does not impact the maximum generating capacity, daily production profile, or the proposed AC configuration of the SGF or energy storage device, including DC optimizers, DC-DC converters, DC charge controllers, powerplant controllers, and energy storage devices such that the output is delivered during the same periods and with the same profile considered during the system impact study.

This section provides that a Material Modification exists if a change in the DC system configuration impacts the parameters listed. DEV proposes to retain the language "as is." Changes to the production profile, for example, will necessitate a re-study if the existing interconnection application was studied using a different production profile, as grid and protection modifications required to accommodate the change may also be different. Energy storage retrofits may be pursued by either withdrawing the existing interconnection application and submitting a new request including the energy storage or retaining the existing application and submitting a new separate request for the addition of energy

storage. The separate energy storage interconnection application may have to wait to be studied depending upon its interdependency status. DEV would be amenable to discussing language modifications that would not consider the addition of energy storage as a Material Modification if submitted prior to the execution of the Feasibility or Combined Study Agreement, as long as the addition did not trigger Material Modifications listed in 20VAC5-314-39.B.

Dispute Resolution:

1. For section 20 VAC 5-314-100 *Disputes*, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report, and any additional concerns.
2. Please provide a detailed explanation of each change made to the existing language.

Implementation of an expedited dispute resolution process for Level 2 Interconnections

Section 20VAC5-314-100 does not currently differentiate dispute protocol on the basis of the level of Interconnection Request submitted. DEV supports the existing provisions in this Code section providing for a standardized dispute protocol, regardless of the level of Interconnection Request submitted, to promote consistency and effectiveness in dispute administration.

Provision of easy-to-find contact information for parties involved in the dispute resolution process

DEV agrees that contact information for parties involved in the dispute resolution process should be easy to find. However, language modifications to 20VAC5-314-100 are not required to facilitate contact information. Most disputes are expected to occur after submission of an Interconnection Request where existing interconnection regulations require a response from the Utility, which includes contact information for the Utility should a dispute develop. Similarly, the Interconnection Request form provides contact information for the Interconnection Customer submitting the request should the Utility have a dispute with the Interconnection Customer.

A mechanism to discuss study results and cost estimates prior to scheduling a construction call

The time period between the issuance of a study report and the completion of the next compliance activity is designed as the time frame in which the Interconnection Customer reviews the study report and addresses any questions with the Utility. Study report review is needed after the Feasibility, System Impact, and Facilities Studies have been completed if administered individually, or after a Combined Study if all three studies are combined. DEV is receptive to addressing questions about study reports and generally addresses these inquiries similar to disputes, where tolling of compliance timelines is reasonable until the dispute or question is addressed.

Tolling of time and milestones when a dispute has been initiated

As previously indicated, DEV has been tolling compliance actions while a dispute is being addressed as representative of a good faith effort to pursue resolution of the dispute. DEV is receptive to language being incorporated in 20VAC5-314-100 documenting that compliance actions can be reasonably tolled while a dispute is being addressed.

Appointing an ombudsperson to facilitate escalated disputes and avoid further regulatory action

20VAC5-314-100.C contains the following provision:

> Alternatively, the parties may, upon mutual agreement, seek resolution through the assistance of a dispute resolution service. The dispute resolution service will assist the parties in either resolving the dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the parties in resolving their dispute. Each party shall conduct all negotiations in good faith and shall be responsible for one-half of any costs paid to neutral third parties.

With this clause, the interconnection regulations already contain a provision by which an ombudsperson or other dispute resolution service, upon mutual agreement, may be utilized to assist in resolving the dispute or in selecting an appropriate dispute resolution venue. DEV supports this provision but emphasizes that mutual agreement of the parties to use a dispute resolution service is critical.

Insurance Requirements:

Eliminating the proof of liability insurance requirement for Level 1 Interconnections

Liability insurance protects the Interconnection Customer from claims for bodily injury and property damage. The requirement and amount of such insurance should be sufficient to insure against all reasonably foreseeable liabilities given the parameters of the interconnection for as long as the generating facility is interconnected with the Utility's system. DEV does not support eliminating the proof of liability insurance requirement for Level 1 interconnections.

Cybersecurity:

The increasing need for a minimum standard for cybersecurity and more robust security protocols for all DERs

DEV does not have cyber visibility into nor cyber controls over interconnected assets not owned by the Company. Those assets are generally too small, individually, for current regulations to require cyber security measures and because they are not owned by DEV, DEV cannot deploy its security suite at those sites. For assets that DEV owns, the Company adheres to an internal "Minimum Cyber Security Standard." DEV also places those sites within our security perimeter, behind layers of defenses.

Regarding whether third-party protocols should be adopted, DEV believes there is a risk to the Bulk Electric System ("BES") due to the aggregate of non-utility owned interconnected assets on DEV's system. Over the next five years, DEV forecasts that approximately one-third of the power flowing through the BES in Virginia will be generated by privately owned assets with which DEV has executed a Power Purchase Agreement ("PPA"). These sites are typically 'internet connected' and most often contain no cyber security defenses. Many of the facilities lack a basic firewall and any malware detection or patching process, which may leave them vulnerable to cyber-attacks on the BES. Hostile nation states

are actively developing and maintaining cyber weapons explicitly targeting those highly vulnerable assets.

To mitigate against such attacks, DEV recommends a baseline of cyber security controls be required for all interconnected generation assets, regardless of size or type. The Company has developed a model for a standard that could be adopted and implemented by third-party generators at a relatively low cost, which is attached hereto as **Attachment 1**.

Definition of DER:

The lack of a clear definition of DER and the types of systems covered, and whether a common definition of DER could provide a consistent framework for future discussions and policy advancements

DEV does not object to the inclusion of a formal definition of DER within the context of Chapter 314 and would be willing to participate in discussions with stakeholders to develop such as definition. Generally, DEV applies Chapter 314 to state jurisdictional interconnections of distributed energy resources (DER) that would result in the export of energy to DEV's electric power system.

DER Performance Standards:

Ensuring that reliability is not degraded by DERs being interconnected without meeting reliability requirements

IEEE-1547-2018 is the product of efforts from various stakeholders, including several members of DEV's engineering team. The objective of the standard is to establish minimum DER performance requirements to which certified inverter-based DERs must adhere to ensure such DERs do not negatively affect the EPS. The process of updating existing standards and preparing the industry to integrate them is not a simple task. DEV remains committed to facilitating a better understanding of the impacts of DER ride-through and grid support capability requirements, as specified in IEEE-l547-2018, on the EPS.

DEV supports IEEE-1547-2018 and its ride-through and grid support capability requirements for DER. Still, DEV believes that any utilization of DER ride-through or voltage regulation functionalities should be at DEV's discretion and evaluated based on system needs on a case-by-case basis. This will ensure DEV maintains the requirements for safe and reliable operation of the EPS with respect to the planning, design, operation, and maintenance of the Area EPS2, which IEEE-1547-2018 does not address.

Also, DEV's current system protection standards do not support anti-islanding capabilities of DER inverter-based resources as an alternative to DEV-owned and maintained system protection schemes for direct transfer trip (DTT). Anti-islanding functions of DER inverter-based resources alone do not replace the multiple functions and layered protection that DTT provides to the EPS beyond anti-islanding. DTT's proven history in ensuring system disturbances are cleared in the required time intervals, regardless of system conditions, gives DEV confidence that the system will continue to be operated reliably and ensure safety to the general public and DEV's employees.

DEV does not believe that any revisions to the Regulations are currently necessary with respect to IEEE - 1547-2018 because existing rules and procedures, in requiring that Level 1 and 2 interconnections meet

the IEEE-1547 requirements, sufficiently address this issue. The Commission may, however, provide clarification where it is appropriate, including the following:

(1) Reaffirm that maintaining the safety and the reliability of the EPS takes precedence over utilization of DER ride-through and grid support capabilities.
(2) Usage of IEEE - 1547-2018 compliant inverters is welcomed but will need to follow existing interconnection rules and procedures and good utility practices, including DER certification to UL 1741 Edition 3 standard.
(3) Proper integration of all DER on the distribution system requires review of the impact of DER on the safety and reliability of the EPS, including determining when it is appropriate to enable grid support functionalities as defined in IEEE - 1547-2018.

Modeling:

Additionally, DEV agrees with APCo's request that Modeling be added as a topic of discussion to the Rulemaking effort. Without accurate and validated inverter models, distribution planning studies cannot be complete to potentially engineer alternative protection schemes for isolating DERs during fault conditions. Without accurate and validated models, transient studies can only be conducted with oversimplified circuit models, which leads to erroneous computer-based simulations. Protection schemes engineered with inaccurate models can lead to mis-operations and can ultimately challenge system reliability, security, and safety. As DER penetration increases, the need for more sophisticated analysis will increase, which further emphasizes the need for policy additions to ensure utilities are receiving accurate and validated inverter models during the interconnection study process.

The requirements in this document are only applicable to EXTERNAL (i.e. third-party/vendor-owned) systems that provide products or services to Dominion Energy (e.g. Power Purchase Agreement, Interconnect Agreement).

All ICS assets must be physically secured against unauthorized access.

DEV reserves the right to restrict or prohibit the use of hardware or software developed in certain foreign countries.

Category	Control Description
POLICIES	Policies that enforce strict cyber security controls and limit unauthorized use or access must be in place for the following areas: Security patching, removable media, transient cyber assets (unmanaged devices), account inventory and management, credential management, physical access control, change management, and system backup and recovery.
LOGGING AND MONITORING	Firewall communications for all sites must be logged and centrally reviewed (e.g. by a Security Operations Center (SOC)); alerts and anomalous activities must be investigated, and remediated if necessary.
	ICS devices and network communications at all sites must be evaluated for security log and security event generation capabilities. If log capability exists, the logs must be centrally aggregated and reviewed (e.g. by a Security Operations Center (SOC)); alerts and anomalous activities must be investigated, and remediated if necessary.
REMOTE ACCESS	Remote interactive/administrative access to all ICS assets must be restricted to authorized entities and utilize multi-factor authentication (jump host / trusted host). Direct remote access from the Internet (ex. RDP, TeamViewer, LogMeIn, etc.) is prohibited.
LIFECYCLE MANAGEMENT	Supported Operating Systems and software versions (security patches are available) must be installed and maintained on all hosts.
MALWARE PREVENTION	Supported (security updates are available) anti-virus software and/or application whitelisting must be installed on all applicable devices at all sites, with anti-virus software definitions updated at least quarterly when technically feasible.
CREDENTIAL MANAGEMENT	Individual user accounts must be created and utilized with complex passwords (in accordance with NIST SP 800-63) when technically feasible; accounts should be configured with the least privilege and access necessary to accomplish the function; non-administrative accounts should be utilized for non-administrative functions when technically feasible.
	Default credentials (e.g. usernames, passwords, PINs) must be changed upon system and device deployment when technically feasible.
	When technically feasible and applicable, individual, system, and shared credentials must be changed when the individual no longer performs the role requiring the credentials.
NETWORK ARCHITECTURE	A perimeter firewall must be installed to protect the Industrial Control System (ICS) network, with ports and services limited to those necessary for business functionality. Dual homed machines that bypass firewall protections and promiscuous rules (ex. ANY source to ANY destination) are prohibited.
	Devices outside of the ICS network must be logically separated from the ICS network by a hardware firewall, with ports and services limited to those necessary for business functionality.
	Devices on the ICS network must not be directly accessible from the Internet (e.g. direct http or ftp connection) or have access to the Internet.
	ICS data leaving the site must be encrypted during transit.
	Wireless communications associated with the ICS network (including but not limited to traditional wireless LANs, 3G/4G/5G connections, Bluetooth, and RF) must be evaluated for security risks, and appropriately secured using the latest available security configuration (Reference https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-82r2.pdf section 6.2.1.5).
SYSTEM HARDENING	Applications installed on all ICS systems must be restricted to those essential for business functionality.
	Security patches must be applied to all digital assets at least semi-annually where operationally and technically feasible.
	Unused network ports on ICS assets not inside a physically secured area must be physically or logically disabled.
PORTABLE DEVICES AND REMOVABLE MEDIA	Portable devices and removable media (laptops, thumb drives) shall utilize drive encryption to protect ICS data when technically feasible, and shall be scanned for malware with up-to-date anti-malware software and verified to be "clean" (malware-free) before physically connecting to an ICS asset.
	Laptops used to connect to ICS assets shall have malware prevention software installed; malware definitions must be current before connecting to an ICS asset.
BACKUP AND RESTORATION	Backup files must be created for all devices, with the ability to restore the system to its last known good configuration, and a minimum of one copy securely stored and managed offline.

East Point Energy

December 12, 2023

VIA EMAIL

Michael A. Cizenski, P.E.
Deputy Director
Division of Public Utility Regulation
Virginia State Corporation Commission
mike.cizenski@scc.virginia.gov

Re: Distributed energy resource interconnection issues in connection with SCC Case Nos. PUR-2023-00069 and PUR-2023-00073

Dear Mr. Cizenski:

Please accept this letter as the comments of East Point Energy ("East Point") regarding distributed energy resource ("DER") interconnection matters. These comments are in response to your letter to interested parties dated October 6, 2023.

ABOUT EAST POINT ENERGY

Based in Charlottesville, Virginia, East Point is a development firm focused on the origination, construction, and operation of energy storage projects. Our team is currently developing gigawatts of energy storage projects throughout the country, helping to transform the grid into a renewable, resilient, and affordable system for generations to come. East Point is a wholly owned subsidiary of Equinor, a broad international energy company committed to long-term value creation in a low-carbon future.

East Point currently has over 3.3 gigawatts of energy storage projects in development, including projects in the service territories of multiple Virginia investor-owned and cooperative utilities. East Point is committed to delivering efficient and cost-effective projects to support a resilient electric grid while enabling Virginia's utilities to meet carbon reduction and other sustainability goals. East Point intends to continue developing projects that will support the objectives of the 2020 Virginia Clean Economy Act.

COMMENTS

East Point offers the following general comments regarding the treatment of battery energy storage system resources under the Virginia State Corporation Commission's ("Commission") interconnection regulations. East Point submits that it is appropriate for the Commission to address BESS as part of this rulemaking. Battery storage represents a relatively new technology that was not widespread when the Commission first promulgated its interconnection regulations.

East Point recommends that BESS resources should be treated as a unique DER type under the regulations. In particular, East Point recommends that BESS resources should be evaluated on a case-by-case basis and should be studied as a source of generation during times of peak demand, not as a source of load. As discussed below, these recommendations are consistent with recent findings by the Federal Energy Regulatory Commission ("FERC").

A. BESS should be treated as a unique DER type.

East Point recommends that BESS resources should be evaluated and studied as a unique type of DER under the regulations. BESS resources are unique in that they have the ability to inject energy during times of peak demand. Therefore, BESS should be considered as a source of generation during peak demand, as opposed to a source of load.

This treatment of BESS is consistent with recent FERC guidance to PJM and other grid operators. In its final rulemaking in Docket Number RM22-14-000, FERC recognized that, under current practices, "electric storage resources (whether standalone, co-located generating facilities, or part of a hybrid generating facility), may be studied under inappropriate operating assumptions (e.g., charging at full capacity during peak load conditions) that result in assigning unnecessary network upgrades and increased costs to interconnection customers."[1]

FERC also concluded that, "by more accurately reflecting the technical capabilities of electric storage resources in interconnection studies through the use of appropriate operating assumptions, this reform ensures the reliable interconnection of new electric storage resources without overestimating their impact on the transmission system." FERC concluded that this reform will help ensure "just and reasonable rates by avoiding excessive and unnecessary network upgrades that may hinder the timely development of new generating facilities that stifles competition in the wholesale market" and that using appropriate operating assumptions in interconnection studies for storage resources "reduces unduly discriminatory or preferential barriers to [their] interconnection."[2]

Accordingly, East Point recommends that BESS should be identified as a specific type of DER under the regulations. East Point recommends the following definition:

[1] FERC Order 2023, Docket Number RM22-14-000, Paragraph 52 (July 28, 2023).
[2] Id.

"Battery energy storage system ("BESS") means an electrochemical device interconnected to the utility's distribution system that has the ability to collect and store energy and subsequently discharge energy."

B. Technology requirements applicable to other DERs may not be applicable to BESS.

Additionally, East Point recommends that any utility requirement for direct transfer trip ("DTT") should not be a standard requirement for BESS since the technology has a built-in energy management system that tightly controls charging and dispatch. In addition, in most cases properly certified inverters do not require DTT and it can be cost prohibitive for generators. The need for DTT should be evaluated by the utility on a case-by-case basis for BESS interconnections.

To conclude, East Point appreciates the Commission's consideration of these issues. Please let not hesitate to contact me if you would like to discuss any of these issues further.

Sincerely,

/s/

Chris Meyer

East Point Energy

Joint Solar Parties

Comments of the Joint Solar Parties on Amendments to Regulations Governing Interconnection of Small Electrical Generators

The Coalition for Community Solar Access ("CCSA"), the Solar Energy Industries Association ("SEIA"), and the Chesapeake Solar and Storage Association (CHESSA) collectively described in this document as the "Joint Solar Parties," appreciate the opportunity to submit these comments in response to State Corporation Commission's Staff ("Staff") October 6, 2023 request for comments.

I. Overview

The Joint Solar Parties represent a diverse group of solar and energy storage industry companies working to interconnect distributed generation in the Commonwealth of Virginia. We have engaged in dockets PUR-2022-00073 and PUR-2023-00069 in an effort to improve the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage, 20 VAC 5-314-10 *et seq.* ("Interconnection Regulations"), in order to ensure the affordable and timely achievement of Virginia's energy goals. In the comments below, we provide answers to Staff's questions regarding revisions to the Interconnection Regulations, as well as propose additional areas for review.

II. Response to Staff Questions

Material Modification

As the Joint Solar Parties noted in their comments on August 1, 2022, the current interconnection rules, as implemented by Dominion, are extremely inflexible when it comes to providing customers and developers with the ability to reduce system size or move the point of interconnection without dropping from the queue. To improve flexibility for developers, the definition of material modification should be edited to more closely align with only compromise modifications that can significantly impact the study outcomes. In particular, while the non-material modifications section in Chapter 314 lists a change in DC configuration as a non-material modification, the daily production profile limitation would prevent any flexibility to incorporate storage without requiring a separate queue position. In the redlines below, the Joint Solar Parties provide edits to the Material Modification section of Chapter 314, borrowing language from the New York regulations.[1]

Proposed Redlines

20 VAC 5-314-39

B. Changes that qualify as material modifications are described as follows:

[1] https://dps.ny.gov/material-modifications-guidelines-december-2019

1. A change in point of interconnection to a location served by a different circuit, ~~unless the change in a point of interconnection is on the same circuit less than two poles away from the original location,~~ moved to a different line segment (i.e. 3-phase to 1-phase segment or change in zone of ~~and the new point of interconnection is within the same~~ protection ~~zone as the original location;~~), change in site control or any change in point of common coupling for projects interconnecting to network systems.

2. A change or replacement of generating equipment, such as generators, inverters, transformers, relaying, or controls, that is not a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original or preceding interconnection request;

3. A change from certified to noncertified devices ("Certified" means certified by an Occupational Safety and Health Administration recognized Nationally Recognized Test Laboratory, to relevant Underwriters Laboratories and Institute of Electrical and Electronics Engineers standards, authorized to perform tests to such standards.);

4. A change of transformer connections or grounding from that originally installed ~~proposed~~;

5. A change to certified inverters with different specifications or different inverter control specifications or set-up than originally proposed;

6. An increase of the maximum generating capacity of an SGF of more than 2%, or any increase causing adverse impact to subsequent applications' ability to interconnect; ~~or~~

~~7. A change reducing the maximum generating capacity of the SGF (i) by more than 25% before the Feasibility Study Agreement or Combined Study Agreement has been executed or (ii) by more than 10% after the Feasibility Study Agreement or Combined Study Agreement has been executed.~~

C. Changes that do not qualify as material modifications are described as follows:

1. A change in ownership of an SGF; the new owner, however, will be required to execute a new Interconnection Request Form and study agreements for any study that has not been completed and the report issued by the utility;

2. A change or replacement of generating equipment, such as generators, inverters, ~~solar panels,~~ transformers, relaying, or controls, that is a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original or preceding interconnection request;

3. A change of transformer connections or grounding from that originally proposed prior to or within the study period;

~~3~~4. An increase in the DC/AC ratio that does not increase the maximum AC output capability of the generating facility;

45. A decrease in the DC/AC ratio that does not reduce the AC output capability of the generating facility ~~by more than the amount specified in subdivision B 7 of this section.~~

~~5~~6. A change in the DC system configuration to include additional equipment that does not impact the maximum generating capacity, ~~daily production profile,~~ or the proposed AC configuration of the SGF or energy storage device, ~~including DC optimizers, DC-DC converters, DC charge controllers, powerplant controllers, and energy storage devices such that the output is delivered during the same periods and with the same profile considered during the system impact study~~.

Dispute Resolution

The Joint Solar Parties called on the Commission to enhance the existing dispute mechanism in Chapter 314 (20 VAC 5-314-100) in our August 1, 2022 comments. While the dispute mechanism outlined in the existing Interconnection Regulations provides a process for developers to dispute study outcomes or cost estimates, it does not provide a robust enough process to increase the chances of a resolution to the dispute. In the redlines offered below, the Joint Solar Parties attempt to bolster the dispute process by formalizing the dispute mechanism, ensuring persons of decision-making authority are leading the dispute on both sides, and placing greater requirements for evidence on the part of the utilities in these disputes. These amendments borrow largely from best practices across the country, most notably Massachusetts.[2]

The Joint Solar Parties respectfully recommend for the Commission's consideration the creation of a Distributed Generation and Clean Energy Ombudsman. An interconnection ombudsperson would hear the complaints of parties that have completed the "good faith effort" portion of the dispute without a sufficient resolution. This role has been immensely helpful in Massachusetts to facilitate resolution of interconnection disputes and was created in recognition of the importance of facilitating interconnection of distributed generation. The order establishing the Ombudsman role outlined the role as follows: "The interconnection ombudsperson role is to (1) be easily accessible; (2) review written documentation from the good faith negotiation process; (3) conduct independent interviews and investigations as she deems necessary; and (4) offer independent problem-solving assistance."[3] Should the Commission agree to proceed with such a role, the dispute resolution language below could incorporate that role into the dispute mechanism language.

Note that the proposed changes to Section 100 (below) will also need to be reflected in the Commission's Small Generator Interconnection Agreement form in Article 10 of Schedule 10, 20 VAC 5-134-170.

Proposed Redlines

[2] https://www.mass.gov/info-details/interconnection-dispute-resolution-guidance
[3] Massachusetts Department of Public Utilities, Order on Ombudsperson Role, April 22, 2020.

20 VAC 5-314-100 Disputes

A. The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this section.

B. In the event of a dispute, either party shall provide the other party with a written notice of dispute. Such notice shall describe in detail the nature of the dispute. The parties shall make a good faith effort to resolve the dispute informally within 10 business days. The parties will elevate the dispute to a Vice President or senior management with sufficient authority to make a decision.

C. If the dispute has not been resolved within 10 business days after receipt of the notice, either party may seek resolution assistance from the Division of Public Utility Regulation where the matter will be handled as an informal complaint.

Alternatively, either party may, upon mutual agreement, seek resolution through the assistance of a dispute resolution service. The dispute resolution service will assist the parties in either resolving the dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the parties in resolving their dispute. Each Party shall conduct all negotiations in good faith and shall be responsible for one-half of any costs paid to neutral third parties.

D. If the dispute remains unresolved, either Party may ~~petition the commission to handle the dispute as a formal complaint or may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.~~ file a petition requesting an evidentiary hearing.

The Commission will conduct an evidentiary hearing within 90 days of the request. The Commission will issue a final order within 20 days after the hearing. If it is unable to do so, the Commission will notify the Parties and provide a revised anticipated decision date. Disputes under this section shall pause from the date that the petition is filed until the completion of the evidentiary hearing process.

If an interconnection customer disputes a utility's technical requirements, the utility shall bear the burden of proving the necessity and reasonableness of such requirements. To satisfy its burden, the utility must, at a minimum, provide one or more studies demonstrating the need for the disputed requirements. Any studies provided by a utility must align with Good Utility Practice.

<u>Insurance requirements for Level 1 Interconnections</u>

In our August 1, 2022 comments, the Joint Solar Parties noted that the current insurance requirements for Level 1 customers can slow the process by creating another touchpoint and can potentially hobble a project where a customer is unable to locate or provide timely documentary evidence of the homeowner insurance policy.

We agree that it is prudent practice for a homeowner to carry sufficient insurance to cover potential liabilities that may arise for that person. In the context of interconnection, insurance requirements are typically intended to shield the utility–and thereby ratepayers who may bear the expense of any damage to utility property–from any potential hazard of the operation of the SGF might pose to the electric grid. We are not aware of any documented cases anywhere in the nation where a utility has made a claim against a homeowner's liability insurance policy for damage caused by a residential rooftop solar facility to an interconnected electric utility's grid. Insurance requirements, thus, appear to be a vestige of an earlier era when utilities had limited experience with customer-sited, inverter-based solar generation and most states no longer require liability insurance or proof of such insurance as a condition for interconnection.(See Table 1 and Attachment A) In light of the decades of operation without incident to the utility's grid, requirements for liability insurance as a condition of interconnection are now an unduly burdensome requirement that is out of step with prevailing national practice for residential rooftop solar facilities. *See* Va. Code Ann. 56-578(C).

TABLE 1. Summary of Liability Insurance Requirements for Small-Scale Residential Solar[4]

States w/out additional general liability insurance requirement for residential systems or systems < 20 kW	States that require $100,000 or more in general liability insurance for residential systems or systems < 20 kW	States with "per occurrence" language in insurance requirement
AL*, AZ, AR, CA, CO, DE, GA, HI, IL, IA, KS, KY, LA, ME, MD, MA, MI, MS, MT, NE, NV, NH, NJ, NY, OH, OK, OR, PA, RI, TX, UT, VT, WA,eWY	CT, FL**, IN, MN, MO**, NM**,NC, SC, SD**, VA, WV,eWI	ID*, NC, SC, WI, VA

These redlines exempt residential interconnection customers from the proof of insurance requirement categorically and gives utilities the discretion to not require proof of insurance for larger non-residential Level 1 systems.

Proposed Redlines

20 VAC 5-314-160

[4] * No statewide interconnection standard, but based on state's largest IOU practice

** Florida exempts 10 kW or less from insurance requirement, but requires up to $1M for Level 2 Systems; Missouri exempts 10 kW or less, but requires $100k for net metered systems over 10 kW; New Mexico does not require for 10 kW or less, but up to $1M for up to 250 kW; SD $500k if over 10 kW, homeowners policy suffices if 10 kW or less;

A. For an SGF with a rated capacity not exceeding 10 kW, the IC ~~at its own expense, shall~~ is not required to secure and maintain in effect during the term of the agreement, liability insurance with a combined single limit for bodily injury and property damage ~~of not less than $100,000 for each occurrence.~~

For an SGF with a rated capacity exceeding 10 kW but not exceeding 500 kW, the IC, at its own expense shall secure and maintain in effect during the term of the agreement, liability insurance with a combined single limit for bodily injury and property damage of not less than $300,000 for each occurrence.

For an SGF with a rated capacity exceeding 500 kW, the IC, at its own expense, shall secure and maintain in effect during the term of the agreement, liability insurance with a combined single limit for bodily injury and property damage of not less than $2 million for each occurrence.

An IC of sufficient creditworthiness, as determined by the utility, may propose to provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices, and such a proposal shall not be reasonably rejected.

For an SGF that is located on a residential premises, the homeowner is recommended to carry the appropriate level of liability insurance to cover potential bodily injury or property damage arising from the operation of the SGF, but shall not be required to provide proof of such insurance as a condition of initial or ongoing interconnection.

Cybersecurity

In comments filed in PUR-2022-00073 on August 1, 2022, a few parties filed comments suggesting the need for cybersecurity language to be included in the Chapter 314 regulations. The Joint Solar Parties respectfully disagree. Cybersecurity protocols are already captured in the national codes and standards for the technologies interconnecting to the utility distribution systems.

The definition of DER

In its comments to the Commission, Appalachian Power ("APCo") noted that adding greater clarity in the Interconnection Regulations regarding the definition of Distributed Energy Resources ("DERs") could streamline the interconnection process. The Joint Solar Parties support streamlining the interconnection process and look forward to further discussing with Staff and stakeholders how the addition of a definition of DERs could support that effort.

The Joint Solar Parties recommend using the Interstate Renewable Energy Council's ("IREC") definition of DERs. IREC's BATRIES (Building a Technically Reliable Interconnection Evolution for Storage) project, which is supported by a cooperative agreement with the U.S. Department of

Energy Solar Energy Technologies Office, provides a toolkit for policymakers to streamline interconnection.[5] The DER definition is provided below. The Joint Solar Parties also recommend adding a definition of energy storage, also provided by IREC, to supplement the definition of DERs in the Chapter 314 tariff.

Proposed Redlines

20 VAC 5-134-20

"Distributed Energy Resource" or "DER" means the equipment used by an interconnection customer to generate and/or store electricity that operates in parallel with the electric distribution system. A DER may include but is not limited to an electric generator and/or Energy Storage System, a prime mover, or combination of technologies with the capability of injecting power and energy into the electric distribution system, which also includes the interconnection equipment required to safely interconnect the facility with the distribution system.

"Energy Storage System" or "ESS" means a mechanical, electrical, or electrochemical means to store and release electrical energy, and its associated interconnection and control equipment. For the purposes of these Interconnection Procedures, an Energy Storage System can be considered part of a DER or a DER in whole that operates in parallel with the distribution system.

DER performance standards

In its August 1, 2022 comments, APCo recommended the inclusion of performance standards for DERs to ensure that reliability is not degraded by the interconnection of DERs. The Joint Solar Parties note that the current Chapter 314 regulations already include language that requires tests performed on interconnecting customers to be performed pursuant to all relevant codes and standards, including IEEE 1547. The Joint Parties believe such language ensures that if new standards are adopted, the regulations would require those new standards to be applied.

Utilities in the Commonwealth of Virginia already require Inverter based resources to be IEEE 1547-2018 compliant. This entails providing a UL -1741sb certification for inverters. These inverters are now capable of providing voltage support to the distribution grid, ride-through disturbances on the transmission grid and interoperability with ability to respond to utility communicated signals. Although the utilities require generators to have these capabilities, their current technical standards do not utilize these grid support functionalities. The linked report by National Renewable Energy Laboratory, *Highlights of IEEE Standard 1547-2018*, provides an overview of the latest capabilities of IBRs as per IEEE 1547-2018.[6]

[5] https://energystorageinterconnection.org/ii-updating-interconnection-procedures-to-be-inclusive-of-storage/b-recommendations/
[6] https://www.nrel.gov/docs/fy20osti/75436.pdf

If there are additional standards beyond the national standards that are specific to the utilities in the Commonwealth of Virginia related to the reliability of the system, as noted by APCo in their comments, the Joint Solar Parties believe such additional standards must be separately adjudicated and approved by the Commission subject to stakeholder input.

III. Additional Comments

The Joint Solar Parties respectfully submit these proposed redlines for the Commission Staff's consideration. We also note that the issue of SGIA refundability was mentioned in our August 1, 2022 comments and was not assigned to either Working Group or regulatory reform tracks of this docket. The Joint Solar Parties believe SGIA refundability may well fit into this first regulatory reform process. Current language in Chapter 314 regarding refundability is unclear, creating a patchwork of approaches to SGIA refundability across the utilities and coops in the Commonwealth. We believe further clarity and relief is needed with regards to how much of a deposit is returned to a customer in the case of a termination. We reserve the right to submit such redlines if the Commission Staff agrees to include it.

IV. Conclusion

The Joint Solar Parties appreciate the opportunity to provide these proposed revisions to the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage, and look forward to continuing to collaborate with the Commission and other stakeholders to develop interconnection standards that facilitate the deployment of distributed energy resources.

Charlie Coggeshall
Mid-Atlantic Regional Director
Coalition for Community Solar Access

Joan White
Director of Storage and Interconnection Policy
Solar Energy Industries Association

Robin Dutta
Executive Director
Chesapeake Solar and Storage Association

Kentucky Utilities / Old Dominion Power

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

COMMONWEALTH OF VIRGINIA, *ex rel.*

STATE CORPORATION COMMISSION **CASE NO. PUR-2023-00069**

***Ex Parte*: In the matter or revising the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage**

COMMENTS OF KENTUCKY UTILITIES COMPANY
D/B/A OLD DOMINION POWER COMPANY

Kentucky Utilities Company ("KU") doing business as Old Dominion Power Company in Virginia ("KU-ODP" or "Company") respectfully submits these comments in response to the October 6, 2023 letter from the Virginia State Corporation Commission's ("Commission") Public Utility Regulation Deputy Director Michael A. Cizenski requesting comments to Regulations Governing Interconnection of Small Electrical Generators, 20 VAC 5-314-10 *et seq.* KU-ODP supports the interconnection of distributed energy resources ("DER") to its system in a manner that enhances KU-ODP's safe and reliable service and supports the equitable allocation of costs associated with interconnection. To that end, KU-ODP is responding to the items identified by the October 6, 2023 letter. For ease of reference, the comments below include the relevant headings, text, and questions from Mr. Cizenski's letter as well as KU-ODP's responses.

1. Material Modification

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "material modification" concerned: (i) confusion related to downsizing a project before and after the Feasibility Study; (ii) changing of the point of interconnection on the same property; and (iii) restrictions on the ability to incorporate energy storage into

an existing interconnection application by not allowing for changes to the daily production profile.

1. For section 20 VAC 5-314-39, Modification of the interconnection request, please provide any pertinent changes (red-lines) to the existing language that would address the concerns.

   KU-ODP's Response

   KU-ODP recommends not making any changes to the existing text of 20 VAC 5-314-39 to address these issues.

   i. "[C]onfusion related to downsizing a project before and after the Feasibility Study [.]" KU-ODP does not believe there is any ambiguity in the existing text of 20 VAC 5-314-39(B)(7), which currently permits downsizing a project by up to 25% before the Feasibility Study *and* up to 10% after the Feasibility Study without becoming a material modification.

   ii. "[C]hanging of the point of interconnection on the same property[.]" KU-ODP believes the current text of 20 VAC 5-314-39(B)(1) reasonably protects all parties by allowing reasonable changes to the point of interconnection, both in terms of possible cost and electrical system impact, without becoming a material modification.

   iii. "[R]estrictions on the ability to incorporate energy storage into an existing interconnection application by not allowing for changes to the daily production profile." The current text of 20 VAC 5-314-39 does not *require* that incorporating energy storage into an existing interconnection application that changes the daily production profile be treated as a material modification;

rather, it *allows* a utility to treat such a change as a material modification. Depending on the circumstances, such treatment might be appropriate. Therefore, KU-ODP recommends against changing the text of 20 VAC 5-314-39 to address this issue.

2. Please provide a detailed explanation of each change made to the existing language.

   KU-ODP's Response

   Not applicable.

2. Dispute Resolution

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "dispute resolution" concerned: (i) implementation of an expedited dispute resolution process for Level 2 Interconnections; (ii) provision of easy-to-find contact information for parties involved in the dispute resolution process; (iii) a mechanism to discuss study results and cost estimates prior to scheduling a construction call; (iv) tolling of time and milestones when a dispute has been initiated; and (v) appointing an ombudsperson to facilitate escalated disputes and avoid further regulatory action.

1. For section 20 VAC 5-314-100 Disputes, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report, and any additional concerns.

   KU-ODP's Response

   KU-ODP is not aware of having had any difficulties in this regard, and therefore it does not believe any changes to the existing text of 20 VAC 5-314-100 are necessary.

2. Please provide a detailed explanation of each change made to the existing language.

KU-ODP's Response

Not applicable.

3. Insurance Requirements

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "insurance requirements" concerned eliminating the proof of liability insurance requirement for Level 1 Interconnections.

1. For section 20 VAC 5-314-160 Insurance, liability, and indemnification, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report and any additional concerns.

   KU-ODP's Response

   KU-ODP does not take a position on this issue. KU-ODP notes that the Kentucky Public Service Commission's Interconnection Guidelines applicable to net metering interconnections in Kentucky, including KU's Kentucky net metering customers, require such customers to "maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for Level 1 generating facilities," but they do not specify any per-occurrence insurance requirements.[1]

2. Please provide a detailed explanation of each change made to the existing language.

   KU-ODP's Response

   Not applicable.

[1] *Development of Guidelines for Interconnection and Net Metering for Certain Generators with Capacity up to Thirty Kilowatts*, Admin. Case No. 2008-00169, Order at Appx. A at 14 (Ky. PSC Jan. 9, 2009).

4. Cybersecurity

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "cybersecurity" concerned: (i) the increasing need for a minimum standard for cybersecurity and more robust security protocols for all DERs; and (ii) adopting appropriate, risked-based levels of cybersecurity and data management protocols to ensure the grid remains secure while not creating overly burdensome requirements for DER developers.

1. Please provide detailed comments on the subject of whether a minimum cybersecurity standard for DERs is necessary.

   KU-ODP Response

   KU-ODP does not believe the Commission should mandate a minimum cybersecurity standard for DERs; rather, the Commission should permit each utility to propose to include in its tariff such a standard consistent with the needs and obligations of the utility, e.g., vis-à-vis the utility's RTO, if any.

   If the Commission nonetheless determines to require all electric utilities to adhere to a minimum cybersecurity standard for DERs, the cybersecurity guidelines promulgated by the Institute of Electrical and Electronics Engineers ("IEEE") as IEEE 1547.3-2023, "IEEE Approved Draft Guide for Cybersecurity of Distributed Energy Resources Interconnected with Electric Power Systems," would be an appropriate standard because the Commission has already approved IEEE 1547 standards to be applied to net metering interconnections for KU-ODP.[2]

[2] *See, e.g.,* Old Dominion Power Company S.C.C. No. 19, Original Sheet No. 57.5 ("The grounding scheme of each generator will comply with IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems, July 2003 ….").

2. If you consider a minimum cybersecurity standard to be necessary:
   a. Please provide suggested language for inclusion in Chapter 314 establishing such a cybersecurity standard; and
   b. Please provide detailed comments on which entity, in your opinion, should be responsible for maintaining the cybersecurity standards.

   KU-ODP Response

   Not applicable.

5. Definition of DER

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to the "definition of DER" concerned the lack of a clear definition of DER and the types of systems covered, and whether a common definition of DER could provide a consistent framework for future discussions and policy advancements.

1. Please state whether you believe the inclusion of a formal definition of DER is necessary within the context of Chapter 314. If so:
   a. Please provide the reasons why it may be necessary.
   b. Please provide suggested language on what that definition of DER should be.

   KU-ODP's Response

   KU-ODP does not believe including a formal definition of DER in Chapter 314 is necessary precisely because Chapter 314 does not purport to apply to the full range of what might be considered DERs, e.g., non-generating resources. By its own terms, "[Chapter 314] establishes standardized interconnection and operating requirements for

the safe operation of *electric generating facilities* in Virginia."[3] Today, Chapter 314 does not use the term "DER" or "Distributed Energy Resource" except when stating the title of IEEE 1547, "Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, 2018."[4] Thus, because KU-ODP does not recommend that the Commission add any provisions to Chapter 314 to address DERs and because "DER" is not an ambiguous, undefined term currently used in Chapter 314, it is not necessary to add such a definition to Chapter 314.

6. DER Performance Standards

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "DER performance standards" concerned ensuring that reliability is not degraded by DERs being interconnected without meeting reliability requirements.

1. Please provide detailed comments on which DER performance standards should be included in Chapter 314.

   KU-ODP Response

   KU-ODP does not believe the Commission should include DER performance standards in Chapter 314; rather, the Commission should permit each utility to propose to include in its tariff such standards consistent with the needs and obligations of the utility, e.g., vis-à-vis the utility's RTO, if any.

[3] 20VAC5-314-10(A) (emphasis added).
[4] *See, e.g.*, 20VAC5-314-40(D)(3).

If the Commission nonetheless determines to include DER performance standards in Chapter 314, the IEEE 2030 Series standards, particularly the IEEE 2030.5-2018 communication protocol standard, would be appropriate to include in Chapter 314.

2. To what extent do you believe the existing regulations are deficient in meeting the standards identified in the previous question?

   KU-ODP Response

   Because KU-ODP does not believe the Commission should include DER performance standards in Chapter 314, KU-ODP does not believe the Commission's existing regulations are deficient in meeting the standards identified in KU-ODP's response to the previous question.

3. Please provide suggested language for inclusion in Chapter 314 regarding DER performance standards.

   KU-ODP Response

   Not applicable.

Virginia Distributed Solar Alliance

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A PROFESSIONAL CORPORATION

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December 15, 2023

Via Email mike.cizenski@scc.virginia.gov

Michael A. Cizenski, P.E.
Public Utility Regulation Deputy Director
State Corporation Commission
1300 East Main Street
Richmond, VA 23219

Re: Commonwealth of Virginia, Ex Rel. State Corporation Commission Ex Parte: In the matter of revising the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage
Case No. PUR-2023-00069

Dear Mr. Cizenski:

Pursuant to your October 6, 2023 letter ("October 6th Letter"), the Virginia Distributed Solar Alliance ("VA-DSA") hereby submits its comments ("VA-DSA Comments") to the questions set forth in that letter, with the understanding that after that date, all comments will be posted on the website of the State Corporation Commission ("Commission"), accessible at https://www.scc.virginia.gov/pages/Rulemaking, and the Commission Staff ("Staff") will convene a working group meeting to discuss the submitted comments, which is anticipated to take place in early 2024. VA-DSA appreciates this opportunity to submit comments and to participate in that working group meeting as the working group considers all of the submitted comments.

VA-DSA is a Virginia-based alliance of solar companies, customer generators and energy advocacy organizations with a shared purpose to promote distributed solar generation in Virginia. More specifically, VA-DSA remains a strong advocate for net-metered solar projects for public schools, universities, municipalities and businesses, and seeks to remove barriers to solar to support the Commonwealth objectives as enacted under the Virginia Clean Economy Act ("VCEA").

As noted in the October 6th Letter, on May 24, 2022, the Commission opened a docket (Case No. PUR-2022-00073) to explore interconnection issues related to utility distributed energy resources ("DER") in a comprehensive manner ("**DER Issues Docket**"). In its Order for Comment in the DER Issues Docket, the Commission, among other things, provided interested persons an opportunity to comment on DER interconnection issues and directed Staff to file a

report ("Report") on such issues. On March 3, 2023, the Commission issued an Order ("PUR-2022-00073 Order") which, among other things, recognized the number and complexity of these interconnection-related issues and identified multiple mechanisms to address them. These mechanisms included (i) Working Groups; (ii) Staff Survey and Filing; and (iii) a Rulemaking. The VA-DSA is currently an active participant in the DER Issues Docket, and generally supports the draft findings prepared by the consultant group selected by the Commission for the DER Issue Docket, Great Plains Institute ("GPI"). These draft findings are based on the December 4, 2023 meeting of all working group participants, and excerpts from these draft findings are attached as **Exhibit A ("Excerpts from GPI Draft Report")** and are incorporated as part of VA-DSA's Comments. The VA-DSA recognizes that the GPI Draft Report still remains to be finalized, and so the VA-DSA is using the GPI Draft Report simply as an illustration of the VA-DSA's position on the DER Performance Standards questions below; the VA-DSA is not relying on Exhibit A as the final report in the DER Issues Docket, because GPI has not net finalized that report.

As further noted in the October 6th Letter, on May 2, 2023, the Commission opened a docket (Case No. PUR-2023-00069) for the Rulemaking and issued an Order Initiating Rulemaking Proceeding. In that May 2, 2023 Order, the Commission directed Staff to solicit comments and schedule meetings (as necessary) with interested parties to determine whether amendments to the Regulations Governing Interconnection of Small Electrical Generators, 20 VAC 5-314-10 *et seq.* ("Interconnection Regulations") on topics listed in the May 2, 2023 Order are needed ("**Chapter 314 Rulemaking Docket**") . These topics included the following:

i. language concerning material modifications;
ii. language concerning dispute resolutions;
iii. insurance requirements for Level 1 Interconnections;
iv. cybersecurity;
v. the definition of DER; and
vie DER performance standards.

The October 6th Letter sets forth Staff's questions to solicit further input on each of these topics in the Chapter 314 Rulemaking Docket. These questions are shown in **bolded text** below, and the VA-DSA's responses are shown in *italicized text*. The VA-DSA's responses focus on these two topics: the Definitions of DER and the DER Performance Standards.

****

Material Modification:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "material modification" concerned: (i) confusion related to downsizing a project before and after the Feasibility Study; (ii) changing of the point of interconnection on the same property; and (iii) restrictions on the ability to incorporate energy storage into an existing interconnection application by not allowing for changes to the daily production profile.

1. **For section 20 VAC 5-314-39, *Modification of the interconnection request*, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report, and any additional concerns.**

The VA-DSA has no comments on this topic at this time.

2. **Please provide a detailed explanation of each change made to the existing language.**

Dispute Resolution:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "dispute resolution" concerned: (i) implementation of an expedited dispute resolution process for Level 2 Interconnections; (ii) provision of easy-to-find contact information for parties involved in the dispute resolution process; (iii) a mechanism to discuss study results and cost estimates prior to scheduling a construction call; (iv) tolling of time and milestones when a dispute has been initiated; and (v) appointing an ombudsperson to facilitate escalated disputes and avoid further regulatory action.

1. **For section 20 VAC 5-314-100 *Disputes*, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report, and any additional concerns.**
2. **Please provide a detailed explanation of each change made to the existing language.**

The VA-DSA has no comments on this topic at this time

Insurance Requirements:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "insurance requirements" concerned eliminating the proof of liability insurance requirement for Level 1 Interconnections.

1. **For section 20 VAC 5-314-160 *Insurance, liability, and indemnification*, please provide any pertinent changes (red-lines) to the existing language that would address the concerns identified in the Staff Report and any additional concerns.**
2. **Please provide a detailed explanation of each change made to the existing language.**

The VA-DSA has no comments on this topic at this time

Cybersecurity:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "cybersecurity" concerned: (i) the increasing need for a minimum standard for cybersecurity and more robust security protocols for all DERs; and (ii) adopting appropriate, risked-based levels of cybersecurity and data management protocols to ensure the grid remains secure while not creating overly burdensome requirements for DER developers.

1. **Please provide detailed comments on the subject of whether a minimum cybersecurity standard for DERs is necessary.**
2. **If you consider a minimum cybersecurity standard to be necessary:**
   a. **Please provide suggested language for inclusion in Chapter 314 establishing such a cybersecurity standard; and**
   b. **Please provide detailed comments on which entity, in your opinion, should be responsible for maintaining the cybersecurity standards.**

The VA-DSA has no comments on this topic at this time

Definition of DER:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to the "definition of DER" concerned the lack of a clear definition of DER and the types of systems covered, and whether a common definition of DER could provide a consistent framework for future discussions and policy advancements.

1. **Please state whether you believe the inclusion of a formal definition of DER is necessary within the context of Chapter 314. If so:**
   a. **Please provide the reasons why it may be necessary.**
   b. **Please provide suggested language on what that definition of DER should be.**

The VA-DSA believes there is a lack of clarity on what DERs will be addressed in this Chapter 314 Rulemaking Docket. A November 6, 2023 Hearing Examiner's Ruling in this Chapter 314 Rulemaking Docket adopted modified interconnection parameters that were unilaterally proposed by Virginia Electric Power Company ("Dominion") and that were opposed by all parties that commented on such modified interconnection parameters (Modified Parameters). These Modified Parameters are being applied to net energy metering ("NEM") projects, which are outside the scope of the existing regulations under Chapter 314 and are instead governed by Chapter 315. The November 6, 2023 Hearing Examiner's Ruling also determined that, since there was no evidentiary basis for adopting such Modified Parameters, the application of the Modified Parameters could be challenged in separate evidentiary proceedings, with Dominion bearing the burden of proof in such proceedings.

As a threshold issue, before the Staff even contemplates what, if any, formal definition of DER should be considered when revising the regulations in Chapter 314, the Staff should clarify whether (1) this Chapter 314 Rulemaking will be expanded to encompass NEM projects that are now governed by Chapter 315 and (2) whether interconnection issues associated with Chapter 314 (and, as applicable, Chapter 315) will also be subject to resolution via evidentiary proceedings within the scope of this Chapter 314 Rulemaking docket.

Due to the extreme hardship imposed on NEM projects by the Modified Parameters, and due to the unfinished nature of both this Chapter 314 Rulemaking Docket and the DER Issues Docket, the VA-DSA urges the Staff to determine that the Modified Parameters should be deemed inapplicable to NEM projects pending the outcome of an evidentiary hearing that is conducted to address DER interconnection to the grid which would encompass both Chapter 314 ("front of the meter") and Chapter 315 ("behind the meter" or "NEM") interconnections.

The confusion created by the November 6, 2023 ruling and the sudden imposition of the Modified Parameters in the midst of ongoing proceedings in the Chapter 314 Rulemaking Docket and the DER Issues Docket has put at least 56 NEM projects, representing 28 MW,[1] on indefinite hold, imposing significant harm to solar developers and also to public school districts, municipalities, hospitals, and other businesses who have invested considerable time and effort to

[1] *See* **Exhibit A-1** to these VA-DSA Comments listing 56 projects totaling 28.8 MW, which is the same Exhibit A-1 submitted by VA-DSA on December 6, 2023 in Case No. PUR-2023-00198 as part of VA-DSA's response to Dominion's Motion to Dismiss in that docket addressing the VA-DSA Enforcement Petition.

achieve the benefits of these and other NEM projects and now cannot proceed with such projects.

DER Performance Standards:

As summarized in the Staff Report in Case No. PUR-2022-00073, comments made pertaining to "DER performance standards" concerned ensuring that reliability is not degraded by DERs being interconnected without meeting reliability requirements.

1. **Please provide detailed comments on which DER performance standards should be included in Chapter 314.**
2. **To what extent do you believe the existing regulations are deficient in meeting the standards identified in the previous question?**
3. **Please provide suggested language for inclusion in Chapter 314 regarding DER performance standards.**

VA-DSA's position regarding DER Performance Standards is illustrated by excerpts from the GPI Draft Report enclosed as Exhibit A to these VA-DSA Comments, with the caveat that the VA-DSA recognizes that the GPI Draft Report is still being finalized in conjunction with the DER Issues Docket. As currently drafted, these excerpts address "ensuring that reliability is not degraded by DERs being interconnected without meeting reliability requirements."

VA-DSA supports the stakeholder majority on findings in Exhibit A that were presented as "Potential Solutions" prepared by GPI and reviewed on December 4, 2023 with stakeholders of Working Groups #1 and #2 in conjunction with the DER Issues Docket. The Potential Solutions address concerns about the safety and reliability of the grid with DERs being interconnected. VA-DSA is especially in agreement with Potential Solutions E and F from the GPI Draft Report that are set forth in Exhibit A to these VA-DSA Comments.

VA-DSA and the majority of stakeholders are in agreement especially with Potential Solution E.6 "To hold an evidentiary process evaluating the need for DTT, as opposed to other technologies." VA-DSA respectfully requests that the Commission move expeditiously to conduct an evidentiary process that addresses DER interconnection to the grid, and to address both Chapter 314 ("front of the meter") and Chapter 315 ("behind the meter" or "net-metered") interconnections, as we have stated under "Definitions of DER" above.

****

VA-DSA appreciates the opportunity to submit these VA-DSA Comments and looks forward to fully participating in any further Commission proceedings that address matters related to Chapter 314 ("front of the meter") and Chapter 315 ("behind the meter" or "net-metered") interconnections.

Sincerely,

Cliona Mary Robb,
Counsel to Virginia Distributed Solar Alliance

Exhibit A

Sections E and F of the draft "Potential Solutions"
discussed at the December 4, 2023 meeting facilitated by GPI
with stakeholders of Working Group #1 and Working Group #2 pursuant to
the DER Issues Docket (Case No. PUR-2022-00073)

Section E: Approaches to Meeting Safety and Reliability Requirements

Potential Solution E.1 Ask utilities proposing to require DTT to file information rationalizing this requirement with the Commission, including demonstrating that it is the least-cost solution to meet safety and reliability requirements in accordance with "Good Utility Practice."*

Direct utilities requiring that DTT be installed as part of the interconnection process for DER facilities to file information rationalizing this requirement with the Commission. The information should be filed at a cadence determined to be appropriate by the Commission (e.g., annually). Filed materials should include, but may not be limited to

- System-specific information,
- The contexts in which the utility requires DTT,
- Which safety and reliability requirement(s) the utility is seeking to meet
- The tests the utility conducted to determine the need for DTT (as opposed to other technologies including inverter-based solutions), and
- What other technologies the utility have pursued or evaluated to address the issues being solved by DTT and why those alternative technologies were found to be inadequate. This should include a discussion of risk of meeting safety and reliability requirements, including but not limited to the risk and probability of islanding and fault protection.

-This information should be available in a standardized format (report and/or table) to facilitate comparison between utilities using DTT vs. alternative technologies (e.g., inverter-based solutions) and should be shared with the Commission.

* "Good Utility Practice" means any of the practices, methods, and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods, and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was...(20VAC5-314-20. Definitions. - Virginia Law)

*Parties expressed a desire for language improvements to account for the fact that many parties do not support the notion that DTT should be required
*One party opposed

Context during this revision- From the Chat:
From Gridedge: *DER up to 20MW capacity does not pose a risk for sustaining an arc. For 34.5kV lines, a 1MW DER pushes 17A of fault current. A 20MW DER generates 340A fault current. This is worst case assuming there is no other load on the line. There is no risk of a DER fault current creating an arc flash since the DER under voltage element will trip it. I would like to see Dominion's calculations if they disagree.*

From Secure Futures to Everyone 11:17 AM *The dual cellular still requires a $250,000 DG panel, a deal stopper for smaller DER projects under 1 MW*

From GridEdge... to Everyone 11:18 AM
Small projects under 1MW should be exempt.

Potential Solution E.2: Conduct an analysis identifying ways to interconnect DERs safely and reliably at the rate necessary to meet State policy

Ask the Commission to conduct an analysis to determine how to interconnect DERs safely and reliably at a pace, scale, cost, and level of risk aligned with state policy mandates. This analysis should include consideration for the following.

- The safety and reliability issues that are (or are not) addressed via DTT, as compared to other potential technologies (including but not necessarily limited to inverter-based resources) that meet the appropriate standards,
- The cost effectiveness of using DTT (as opposed to the costs of conducting site-specific studies and/or pursuing other technologies that meet the appropriate standards) for this purpose, and
- An assessment of and guidance on the validity and efficacy of various anti-islanding and grid protection solutions, including inverter-based resources and other technologies that have been or are currently being explored via pilots.

*Most parties indicated support; One party opposed; Parties expressed desire for language revisions related to the use of the term "DTT"

Potential Solution E.3: Initiate a process to review and revise technical standards for inverter-based DERs.

The Commission should initiate a process (e.g., working group) through which the utilities review and revise technical standards for inverter-based DERs to take advantage of all inverter capabilities. This review and revision should be conducted in consultation with a qualified and impartial third party, such as a nationally recognized independent engineering association or laboratory and should take into consideration the technical standard needs for different-sized DERS.

As a result of the process, the Commission should direct the utilities to review and revise technical standards for inverter based DERs to take advantage of all inverter capabilities, and to propose those revised standards to the Commission.. This should not necessarily be applied to all utilities equally. The Commission should take into consideration utility type, size, and scale of DER interconnection when determining which utilities would be required to do this.

This review should take stakeholder input into consideration, including but not limited to utilities, developers, PJM, consumer advocates, and any relevant state agencies. It should also consider information from other regulatory or industry forums that are working on this issue.

*Parties expressed desire for language revisions related t use of the term "DTT"; Several parties expressed t they do not view the 160ms standard to be appropriate; Parties provided some tech considerations; One party opposed

Potential Solution E.4 : Comprehensive impact studies of considering the abilities of inverter-based resources

Require utilities proposing to require DTT to conduct comprehensive impact studies to be on the issues that they seek to address, with consideration for the abilities of inverter-based resources. The studies should identify the risk and reliability concerns that they seek to avoid by requiring DTT (including the probability of any risk or reliability concerns being realized) and should analyze whether inverter-based resources could address those concerns while meeting the technical standards as revised under Potential Solution E.3. A third party (contracted by the Commission) should help determine which studies are needed, and those studies should take into consideration the abilities of certified inverter-based resources.

*Parties expressed desire for language revisions related to the use of the term "DTT": Parties provided some technical considerations: One party opposed

Potential Solution E.5: Re-do studies that informed Dominion's 160 millisecond standard review and other security documentation

If the Commission does not wish to direct utilities to revise their technical standards for inverter-based DERS (Potential Solution E.3), or direct utilities to conduct comprehensive studies of the abilities of inverter-based resources (Potential Solution E.4), or hold an evidentiary process evaluating the need for DTT compared to alternative technologies, such as inverter-based solutions (Potential Solution E.6, New), they could instead review Dominion's security and dependability documentation and direct Dominion to re-do the study through which they established their 160 millisecond threshold to identify if this threshold remains necessary.

*Parties expressed desire for language revisions related t use of the term "DTT"; Several parties expressed they do not view the 160ms standard to be appropriate; One party opposed

Potential Solution E.6: New: Hold an evidentiary process evaluating the need for DTT, as opposed to other technologies

Ask the Commission to open an evidentiary process through which they will explore the need for DTT to support DER interconnection in Virginia, as opposed to other technologies (including inverter-based resources). The process should

explore what standards (if any) DTT meets that other technologies cannot meet, the reasons for these differences, and other key factors related to the use of DTT in Virginia for this purpose, as well as in other jurisdictions in which DTT has been used in the past (e.g., PHI's Delaware service territory, which has eliminated blanket DTT requirements while continuing to meet safety and reliability standards).

*This is a NEW potential solution developed with a combination participant feedback.

Section F: High-level Regulatory Changes

Potential Solution F.1: Explore and, if appropriate, implement a holistic approach to cost allocation that accounts for broad-scale societal benefits of DERS

Through an evidentiary process, the SCC should explore alternative cost sharing/cost allocation strategies enacted in other jurisdictions that better distribute costs across all beneficiaries of DER projects, including but not limited to the those included in the Grid Transformation and Security Act.

To the extent that an investor-owned utility is requiring upgrades that are determined to exceed good utility practice, the utility shareholders would be the beneficiaries of those investments and should therefore be required to pay those costs.

The SCC should use lessons learned from other jurisdictions to understand the potential implications of enacting this type of model in Virginia. If this approach to cost sharing is found likely to result in positive outcomes, the SCC should investigate how such an approach could be implemented in the Commonwealth.

*Feedback Takeaway: Mix of support for and opposition to F.1.

• Support: DERs have been established to be in the public interest, alternative cost allocation approaches would help make more projects viable

• Opposition: Not appropriate to allocate costs to customers if DER costs/benefits are not entirely known

Some participants requested that this occur through an evidentiary or adversarial Commission process

Potential Solution F.2: Consider regulatory changes that would incentivize DER interconnection

POTENTIAL SOLUTION: Ask the Commission to consider implementing regulatory changes (e.g., performance-based regulation or changes) that would incentivize utilities to support interconnecting more DERs, such as adoption of IEEE 1547-2018

Exhibit A-1

Partial Listing of NEM Projects Impacted by Modified Parameters

EXHIBIT A-1

Partial Listing of GAP Projects — Mid-Sized NEM Projects 250 KW to 1 MW													
Time Period		Project Stage											
		Project Stage 1		Project Stage 2		Project Stage 3		Project Stage 4		Project Stage 5		Project Stage 6	
		Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted
TIME PERIOD A: 8/30/23 to 9/14/23	Period after SCC Final Order of Aug 30 until Dominion filed for Interim Parameters			960	03/10/23	710	9/11/23	320	01/13/23	480	05/08/23		
				440	03/13/23			625	01/18/23	760	05/08/23		
				360	03/13/23			440	02/03/23	360	06/08/23		
				600	03/13/23			920	03/10/23	560	06/09/23		
				520	03/13/23			360	03/13/23	880	06/09/23		
				640	03/13/23			360	03/13/23				
				640	03/20/23			320	04/25/23				
				360	04/25/23			400	05/30/23				
				360	04/25/23								
				360	06/06/23								
				960	06/09/23								
				440	07/07/23								
				320	08/04/23								
Total KW (AC)		-		6,960		710		3,745		3,040		0	
Total # of Projects		0		13		1		8		5		0	
		Project Stage 1		Project Stage 2		Project Stage 3		Project Stage 4		Project Stage 5		Project Stage 6	
		Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted	Capacity (kWac)	Submitted
TIME PERIOD B: 9/15/23 to 11/6/2023 until Final SCC Rulemaking	Period after Dominion filed for and before Hearing Examiner Ruling on Interim Parameters			960	03/10/23			320	01/13/23	360	06/08/23		
				440	03/13/23			625	01/18/23	560	06/09/23		
				360	03/13/23			440	02/03/23	880	06/09/23		
				600	03/13/23			920	03/10/23				
				520	03/13/23			360	03/13/23				
				640	03/13/23			360	03/13/23				
				640	03/20/23			320	04/25/23				
				360	04/25/23			480	05/08/23				
				360	04/25/23			760	05/08/23				
				360	06/06/23			400	05/30/23				
				960	06/09/23			320	06/06/23				
				440	07/07/23								
				320	08/04/23								
				320	09/01/23								
Total KW (AC)		-		7,280		-		5,305		1,800		0	
Total # of Projects		0		14		0		11		3		0	
Grand Total KW (AC)		-		14,240		710		9,050		4,840		-	
Sub-Total #'s of Projects		0		27		2		19		8		0	
Grand Total KW of All Projects		28,840											
Grand Total # of All Projects		56											

Virginia Electric Cooperatives

Virginia, Maryland & Delaware
Association of Electric Cooperatives

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VIA ELECTRONIC MAIL ONLY

December 15, 2023

Michael A. Cizenski, P.E.
Public Utility Regulation Deputy Director
Division of Public Utility Regulation
State Corporation Commission
P.O. Box 1197
Richmond, Virginia 23218

Re: ***Ex Parte*: In the matter of revising the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage**
Case No. PUR-2023-00069
Rulemaking Questionnaire Response of Virginia's Electric Cooperatives

Dear Mr. Cizenski,

Please accept the enclosed response of Virginia's Electric Cooperatives to Staff's October 6, 2023, Rulemaking Questionnaire concerning the potential for revisions to the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage.

We thank the Staff for their work regarding this matter. Should you have any questions regarding these comments, please do not hesitate to contact me.

Regards,

Jacob R. Newton

cc: Neil Joshipura, P.E.
Samuel R. Brumberg, Esquire

Enclosure

4201 Dominion Blvd
Glen Allen, VA 23060

Comments of Virginia's Electric Cooperatives

PUR-2023-00069 Rulemaking Questionnaire

I. Introduction

A&N Electric Cooperative, BARC Electric Cooperative, Central Virginia Electric Cooperative, Community Electric Cooperative, Craig-Botetourt Electric Cooperative, Mecklenburg Electric Cooperative, Northern Neck Electric Cooperative, Northern Virginia Electric Cooperative, Prince George Electric Cooperative, Rappahannock Electric Cooperative, Shenandoah Valley Electric Cooperative, and Southside Electric Cooperative, through the Virginia, Maryland & Delaware Association of Electric Cooperatives (the "Association")[1] (collectively, with the Association, the "Cooperatives" or "Virginia's Electric Cooperatives")[2], by counsel, hereby submit Comments to Staff pursuant to Staff's request and the Commission's Order Initiating Rule Making dated May 2, 2023 (the "Order"). Virginia's Electric Cooperatives respectfully submit these comments in the matter of revising the Commission's Regulations Governing Interconnection of Small Electrical Generators and Storage, in response to the Staff questionnaire.

As the Staff is aware, Virginia's Electric Cooperatives are utility consumer services cooperatives organized under the laws of the Commonwealth of Virginia, and the Association is

[1] Powell Valley Electric Cooperative ("PVEC") is a member of the VMD Association. PVEC is a utility consumer services cooperative organized under the laws of the Commonwealth of Virginia, with service territories in Virginia and Tennessee. PVEC purchases its power wholesale from the Tennessee Valley Authority ("TVA"), an agency of the United States Government. Due to this arrangement, PVEC is unique among the Virginia Cooperatives and is governed by a combination of federal and Virginia law concerning its electric distribution operations. PVEC's rates are regulated by the TVA. PVEC is regulated as to service, but not as to rates, by this Commission. PVEC will not be participating in this proceeding because its DER interconnection services are issues of rates and not of service for PVEC. Federal law, PVEC's wholesale power contract with the TVA, and its tariff are the governing authorities for all interconnected facilities within PVEC's certificated service territory. To the best of the knowledge of the VMD Association, the Commission Staff does not object to PVEC's interpretation of these distinctions.

[2] The Virginia Cooperatives are strengthened by the membership of Choptank Electric Cooperative and Southern Maryland Electric Cooperative in Maryland and Delaware Electric Cooperative in Delaware as members of the VMD Association.

their statewide service organization. Virginia's Electric Cooperatives are owned by and operated for the benefit of their member-consumers, and their operations are conducted on a not-for-profit basis. As such, our primary focus in these proceedings is to (1) ensure the safety and reliability of the electric infrastructure serving our member-consumers and (2) protect our member-consumers from subsidizing the private development of distributed energy resources.

II. Rulemaking Questionnaire Responses

a. Material Modification

The electric grid is inherently sensitive, as any modifications or operational changes within interconnecting generating facilities significantly impact the overall safety, stability, and performance of the grid itself. Any material modifications can potentially disrupt this interoperability. Any significant modifications in the interconnected ecosystem can introduce risks, such as security vulnerabilities, operational issues, safety concerns, or performance problems. Clearly defining these types of material modifications helps ensure that all parties involved understand the changes and their potential impact on the interconnections. These types of material modifications are defined in 20 VAC 5-314-39.

In the open comment period of PUR-2022-00073, some developers expressed some confusion as to the types of material modifications under the Administrative Code and the underlying purpose for the regulations surrounding material modifications. The Commission should take this opportunity to clarify the following specific points of confusion and reiterate the importance of disallowing such material modifications.

i. *Downsizing*

Some developers expressed confusion about the definition of material modification in 20 VAC 5-314-39 in regard to the language related to the ability to downsize a project before and

after the Feasibility Study.[3] 20 VAC 5-314-39(B)(7) provides "[a] change reducing the maximum generating capacity of the [small generating facility ("SGF")] (i) by more than 25% before the Feasibility Study Agreement or Combined Study Agreement has been executed **or** (ii) by more than 10% after the Feasibility Study Agreement or Combined Study Agreement has been executed."

Developers expressed a belief that an IC is permitted to downsize its project by up to 25% prior to execution of the Feasibility Study Agreement **and** up to 10% after the Feasibility Study Agreement without such downsizes being considered a material modification. The regulation specifically and expressly denotes the allowable downsizing situations as either one **or** the other, not both. Since this is already expressly stated in the regulation, the Commission should not need to clarify this point. However, we still respectfully request the Commission take this opportunity to clarify this point for the developers.

ii. *Changing of Point of Interconnection ("POI")*

One developer requested a revision to the material modification section related to changing the POI to a new location.[4] Specifically, the developer requested added language that would allow a change in the POI on the same property to not trigger a material modification.[5]

20 VAC 5-314-39(B)(1) provides a change that qualifies as a material modification is "[a] change in point of interconnection to a new location, unless the change in a point of interconnection is on the same circuit less than two poles away from the original location, and the new point of interconnection is within the same protection zone as the original location[.]" The existing

[3] 20 VAC 5-314-39(B)(7); PUR-2022-00073, Staff Report of Division of Public Utility Regulation (September 19, 2022) (hereinafter, 9/19/22 Staff Report) at 28.

[4] 20 VAC 5-314-39(B)(1); 9/19/22 Staff Report at 29.

[5] *Id.*

limitations on changing the POI are necessary. Changing the point of interconnection, even when it remains on the same property, holds substantial implications for the affected utility on various fronts. Utilities design their infrastructure based on existing interconnection points, and any alterations to the point of interconnection can disrupt the established flow of electricity, potentially impacting safety, load balancing and overall grid stability. Technical considerations, such as voltage regulation and line capacities, may be adversely affected by changing the POI. Without the limitations set in place in the existing regulation, the changed POI may have a material impact on the cost, timing, or design of any customer interconnection facilities or upgrades, or that may adversely impact other interdependent interconnection requests with higher queue numbers.

We respectfully request the Commission decline to add language that would allow a change in the POI on the same property unless that triggers a material modification under the applicable regulation.

iii. *Energy Storage Implications*

One developer requested a revision to the material modification section to allow developers to add an energy storage system to a project already in the queue without triggering a material modification.[6] 20 VAC 5-314-39(C)(5) provides a change that does not qualify as a material modification is "[a] change in the DC system configuration to include additional equipment that does not impact the maximum generating capacity, daily production profile, or the proposed AC configuration of the SGF or energy storage device, including DC optimizers, DC-DC converters, DC charge controllers, powerplant controllers, and energy storage devices such that the output is delivered during the same periods and with the same profile considered during the system impact study." The developer asserts this provision essentially precludes the addition of energy storage

[6] 20 VAC 5-314-39(C)(5); 9/19/22 Staff Report at 29-30.

without triggering a material modification request.[7]

We concur with the developer's assertion that this provision could indeed restrict the addition of energy storage without necessitating a material modification request. However, we see this as a positive attribute. Establishing stringent criteria for material modifications ensures that any significant changes to the proposed system, such as incorporating energy storage, are thoroughly evaluated and managed within the existing framework. The addition of energy storage to an interconnected system requires careful evaluation and potentially significant adjustments to meet interconnection requirements.

If the developer wants to include an energy storage system in a project, then the developer should include the energy storage system in the initial proposed project, not as an afterthought. If the regulations were amended to allow this type of material modification after the initial proposal, the utility would have to restudy the entire project while maintaining the projection's position in the queue. Not only would this increase the cost of interconnection by triggering an additional study period, but it may potentially disrupt the queue timeline, introducing delays as the integration process necessitates thorough assessments, engineering modifications, and regulatory approvals that were not accounted for in the initial scheduling.

We respectfully request the Commission decline to amend the applicable regulation to allow developers to add an energy storage system to a project already in the queue without triggering a material modification request.

b. Dispute Resolution

In the open comment period of PUR-2022-00073, developers requested certain amendments to 20 VAC 5-314-100 to expedite the dispute process for disagreements arising out

[7] *Id.* at 30.

of the interconnection process.[8] Specifically, the developers requested the Commission: (1) expedite the dispute process for level 2 interconnection, (2) require utilities to provide easy-to-find contact information for dispute-related matters, (3) provide a mechanism to discuss study results and cost estimates before a construction call is scheduled, (4) toll the timing requirements and milestones when a dispute has been initiated, (5) require an ombudsperson to help facilitate certain escalated disputes.[9] We will address these proposed actions in turn.

i. *Expediting Dispute Process for Level 2 Interconnections*

20 VAC 5-314-100 outlines the dispute process for any dispute arising out of a request for interconnection made in accordance with Chapter 314. This dispute process treats all three defined levels of interconnection the same.[10] The process provides, "[i]n the event of a dispute, either party shall provide the other party with a written notice of dispute."[11] If the dispute has not been resolved within 10 business days after receipt of the notice, then either party may file an informal complaint with the Division of Public Utility Regulation.[12] "If the dispute remains unresolved, either party may petition the [C]ommission to handle the dispute as a formal complaint or may exercise whatever rights and remedies it may have in equity or [at] law."[13]

The current dispute resolution process in place is comprehensive and fair, designed with the primary goal of ensuring fairness for all parties involved, consistent with the Commission's regulatory and judicial roles. It is a system that allows for thorough examination, gathering of

[8] *Id.*

[9] *Id.*

[10] 20 VAC 5-314-100.

[11] 20 VAC 5-314-100(B).

[12] 20 VAC 5-314-100(C).

[13] 20 VAC 5-314-100(D).

facts, and fair hearings. The existing procedures and timelines are carefully structured to ensure due process while also being appropriately mindful of project timelines. Expediting the process could potentially compromise its fairness and lead to costly mistakes. Would the developers or others advocating this expeditious treatment of disputes ask the Commission to adopt a timing standard that would increase its already very high workload, especially in light of the absence of two full-time Commissioners? Additionally, treating disputes concerning different levels of interconnection unequally would be illogical due to the interconnected nature of these relationships. A Level 2 project that is the subject of a dispute deserves the same time and consideration that a Level 3 project does, especially since any Level 2 project dispute that has risen to become a formal case surely implicates a more complex and difficult set of interconnection facts.

We respectfully request the Commission decline to insert inconsistencies into the dispute resolution process for interconnections under 20 VAC 5-314-100.

ii. *Contact Information*

Virginia's Electric Cooperatives have demonstrated a commitment to transparency and accessibility by prominently featuring contact information on their websites, ensuring ease of communication for any inquiries and concerns. In addition, the Association has gone above and beyond its ordinary duties as a trade association acting as a bridge between the Cooperatives and solar developers, assisting with contacts with Cooperatives, with local governments, arranging meetings, supporting innovations and programs, supporting projects where appropriate, soothing conflicts, and aiding developers with new and out-of-the-box ideas with their ends in mind. However, singling out a specifically designated contact for disputes related to interconnection seems less practical and oddly specific. While the accessibility of a specific contact might seem

beneficial, it could complicate the overall system and create unnecessary barriers to communication. At most Cooperatives, the person designated as the "disputes contact" will be the same person with whom the developer is already working. The general contact information readily available on our websites should suffice, allowing individuals to reach out and initiate communications efficiently. Relying on a general contact point ensures a streamlined approach by not compartmentalizing communication and, therefore, facilitating a more expedient dispute process. As a general proposition, solar developers are sophisticated counterparties who have no trouble locating contact information for, and even contacting, any number of cooperative personnel, up to and including senior management.

iii. *Discussions Before Construction Call*

This subtopic of reform to the dispute resolution process set forth in 20 VAC 5-314-100 arose from the Comments of one developer in PUR-2023-00073.[14] The complaint was directing Dominion Energy's internal processes for coordinating interconnects and requesting an amendment to the regulations to force Dominion to provide more information on interconnection methods and costs earlier in the coordination process. Specifically, the heart of the developer's complaint is that there is no forum for developers to better understand or potentially challenge the methods or costs of interconnection without lodging a formal complaint under the existing dispute resolution process. However, the dispute resolution process does not hinder the kind of prior discussion desired by the developer. To the contrary, the process provides, "[i]n the event of a dispute, either party shall provide the other party with a written notice of dispute."[15] This requires

[14] 9/19/22 Staff Report at 30.

[15] 20 VAC 5-314-100(B).

the parties to make a good-faith effort to resolve the dispute informally within 10 business days.[16] There needs to be no other forum other than the Commission for disputes, and the Commission should not cater to the needs of a single developer the complaint of which regards a single utility.

iv. *Tolling of Time*

In PUR-2022-00073, one developer commented that a notification of a dispute made pursuant to 20 VAC 5-314-100 should pause the applicable timelines in the interconnection rules, including the 30-business-day timeline to sign the SGIA[17] and the SGIA payment/financial security requirements[18] until the dispute is resolved. We have no objection to this proposed revision.

v. *Appointing an Ombudsperson*

Comment in PUR-2022-00073 also referenced that several other states created an interconnection ombudsperson position that is tasked with facilitating the efficient and fair resolution of disputes between parties and through which informal guidance can be provided to stakeholders.[19] This approach is wholly unnecessary in Virginia, as 20 VAC 5-314-100(C) already provides an informal dispute opportunity through the Division of Public Utility Regulation, where the matter will be handled as an informal complaint. Staff is capable of acting in an impartial, ombudsperson-like manner when dealing with such complaints. While other states may not have a robust and distinguished state regulatory judiciary body to handle these complaints, Virginia does. The suggestion of an independent interconnection ombudsperson questions the capability and authority of the State Corporation Commission Staff already tasked with this informal role by

[16] *Id.*

[17] 20 VAC 5-314-50(F)(l).

[18] 20 VAC 5-314-50(F)(2).

[19] 9/19/22 Staff Report at 30.

the existing regulations.

The Commission should retain this authority in-house as the Commission Staff is abundantly capable of fulfilling this role. Although the Commission surely has the authority to appoint such an ombudsperson within its own Divisions, the question of funding such a position, and the ambit of the authority of such a position, may also require legislation.

c. Insurance Requirements

It has been proposed that the 20 VAC 5-314-160 proof of liability insurance requirement should be eliminated for 20 VAC 5-314-40 level-one interconnections.[20] As written, 20 VAC 5-314-160 requires all interconnecting customers to secure and maintain liability insurance during the term of the interconnection agreement, regardless of the level of interconnection.

Mandating insurance for all three levels of interconnection, irrespective of size, is essential in mitigating risks associated with small electrical generator interconnections. While the regulations consider project size in determining the necessary insurance coverage, completely eliminating the insurance requirement is not a viable solution. Insurance serves as a crucial safety net, providing protection and financial coverage in case of unforeseen incidents or liabilities, regardless of the project's scale. This is even required of net energy metering interconnections.[21]

Waiving insurance requirements could potentially expose our members to significant financial and operational risks, as accidents or disruptions can occur irrespective of project size. Therefore, maintaining insurance prerequisites adjusted according to project size is a balanced approach, ensuring that all interconnections, regardless of their scale, are adequately protected and prepared for any eventuality. While maintaining insurance *requirements* is important, if the Commission wishes to lessen the administrative burden on Level 1 interconnections, the

[20] *Id.* at 31.
[21] 20 VAC 5-315-60

Cooperatives would not object to a requirement that *proof* of the insurance be retained by the interconnection customer and, instead of being proactively produced as part of the interconnection process, be provided to the utility upon request, similar to how net energy metering proof-of-insurance is handled today.

d. Cybersecurity

Minimum cybersecurity standards for DERs are becoming more and more essential due to the increasing integration of these technologies into the energy grid and the increasing sophistication of bad actors exploiting weaknesses in the grid. Implementing cybersecurity standards ensures a baseline level of protection, enhancing the resilience of DER systems and fortifying weaknesses in the grid. Just as utilities are responsible for protecting their generation facilities, interconnecting customers should also be responsible for protecting the system from similar threats at their own expense. Just like traditional utilities, DER developers should be held to the same minimum cybersecurity standards as traditional utilities to mitigate potential vulnerabilities and protect against cyber threats.

As part of the DER developer's commitment to information security and cybersecurity, minimum standards should include meeting and exceeding well-established and industry-recognized information security frameworks and cybersecurity frameworks which incorporate industry-specific, achievable, practical, and prescriptive measures to ensure the visibility and observability of all physical assets, information assets, and communication assets. Similarly, DER assets must be monitored for deviations and anomalous changes that could indicate access by an unauthorized party. The monitoring of DER assets must be performed on an around-the-clock basis with clear escalation procedures. Testing, validation, and auditing of these capabilities must be performed on at least an annual basis.

These standards represent the bare minimum that the Commission should impose on the interconnecting customers, similar to the requirements, and annual questions and visits, imposed on the utilities. These requirements should be with a view towards helping and encouraging, rather than enforcing and penalizing—again, similarly to how the Commission interacts with the utilities today. The "standards" spoken of in the paragraphs *supra* could be also captioned as "guidelines" and regulatory language promulgated by the Commission could speak to adherence to them as a minimum standard. However, the utility affected by the interconnecting customer should be endowed with additional authority to require additional cybersecurity requirements to ensure the security of its own unique system. Every distribution system has a unique design and differences in IT and SCADA systems and physical equipment, so it is important to allow utilities to tailor cybersecurity standards to account for the intricacies of its own system. As the Commission is well aware, construction standards for Dominion Energy and those of RUS-borrower Cooperatives are also different; these differences between utilities should be taken into account, and utilities should be able to impose requirements on the interconnecting customers pursuant to their own standards applicable to their systems.

A cyber-attack on the grid can have devastating consequences, potentially causing widespread power outages, disrupting vital services, and impacting economic stability. Safeguarding the grid against cyber-attacks is essential to maintain the stability, reliability, and resilience of the infrastructure that supports our daily lives and national security.

Additionally, similar attention should be devoted to implementing minimum physical security standards for DER interconnects. These requirements should also mirror the minimum requirements of traditional utilities.

e. Definition of DER

Under Chapter 314, a DER is any decentralized facility designed for power generation or storage, interconnected to the energy grid, and intended by the interconnection customer to inject back into the grid. Any facility interconnected under the provisions of Chapter 315 intended by the interconnecting customer for coincidental injection is not considered a DER for the purposes of Chapter 314. This separation should be maintained, consistent with the purpose or intention of the generation (to generate versus offsetting on-site consumption).

f. DER Performance Standards

Just like traditional utilities, DER developers should be held to the same performance standards as traditional utilities, like those set forth in the Institute of Electrical and Electronics Engineers ("IEEE") 1547 and the Underwriters Laboratories ("UL") 1741. Additionally, each utility should be provided with the authority to implement its own criteria in addition to baseline performance standards.

III. Other Important Consideration: Cost Allocation

Ensuring proper cost allocation is central to avoiding a major obstacle to the interconnection of DER on the distribution system. Any allocation of cost should be borne by the individuals causing that necessitated cost, not Cooperative member-consumers. While this notion is readily apparent, it is not easy to ensure in practice. The aforementioned proposed definition of DER limits the section to "decentralized" interconnections done at the sole direction and for the sole purpose of the interconnecting customer. The interconnection of most types of DER projects, especially smaller and more disparate devices (unlike utility-scale solar), is uncharted territory for Virginia's Electric Cooperatives. Some of the costs of interconnection will be apparent from the outset and

easily allocated to the cost causer, but some costs will not be apparent from the outset and may not be reasonably allocated to the cost-causer before or even during the interconnection project. A Cooperative's member-consumers should not be at risk for bearing those costs. The Commission and the interconnection process should allow the Cooperative to retroactively apply those costs to the cost-causer or to create a rate to recover those costs from participating cost-causers over time.

From a utility perspective, the costs not apparent from the outset are related to the operation and maintenance of existing distribution facilities used by interconnecting members. While not always the case, it is an issue when facilities that have been paid for, or are currently being paid for, by Cooperative member-consumers, are used by interconnecting members to move their product to market. These facilities are secured by a mortgage or indenture payable through electric rate revenues. That there would be a free rider on these facilities is inimical to the very ideas of member control and economic participation that undergird the very foundation of the Cooperatives. Additionally, Cooperatives incur additional costs on behalf of the interconnecting customer to participate in the PJM market on their behalf. The labor and support costs for this participation are costly and would not be incurred by most cooperatives but for the interconnecting customer.

In the PUR-2022-00073 docket, the Commission prescribed working groups focused on interconnection-related issues, and the developer community expressed a position that some of the costs of interconnection should be passed on to ratepayers because of the unquantifiable "benefit" the ratepayer gets from the interconnected system. This position expressed by the developer community concerns Virginia's Electric Cooperatives. It is bad utility and ratemaking policy not to attribute these direct costs to be paid by the cost causer while also depriving Cooperative member-consumers of the benefits of their investments over decades. All parties, including the

rational members of the solar industry, agree that there is a cost of interconnection and that it should be recovered.

Solar developers were not able to measure or quantify the "benefits" for which ratepayers should be liable. The Cooperatives are happy to reconsider their position if and when such benefits become known, and measurable, and when they actually inure to the benefit of the member-consumer owners of the grid, as opposed to inuring to the benefit of the solar developers themselves.

Relatively recent legislation has aimed to ensure the costs of interconnection are borne by the cost causer, but we will need to remain vigilant on this issue.[22] A definitive ruling by the Commission regarding cost in Chapter 314 would guarantee that ratepayers are shielded from the expenses associated with interconnection.

If the Commission elects to seriously consider an interconnection cost-sharing model that involves ratepayers, such a significant shift in policy, if not accompanied by explicit legislation, should be subject to an adversarial, evidentiary hearing in front of the Commissioners so that all parties will be able to test their theories regarding "benefits" to the grid in the crucible of the Commission's courtroom. Even in such a case, and regardless, we would respectfully request the Commission maintain the current cost-causer model for interconnections in the service territories of Virginia's Electric Cooperatives. Additionally, we would welcome an opportunity to explain why maintaining the cost-causer model would be justified for Virginia's Electric Cooperatives. It would be inherently unjust to impose costs—and arguably inconsistent with the law, which entitles the Cooperatives to recover only their costs of service (not the costs of for-profit solar developers)—onto Electric Cooperative ratepayers, through an amendment to the Commission's

[22] *See, e.g.*,Va. Code § 56-585.3; Va. Code § 56-594.01; Va. Code § 56-594.01:1.

interconnection regulations, without explicit legislative authority, and transferring that money to the pockets of for-profit solar developers.

IV. Conclusion

We appreciate the opportunity to submit these Comments on behalf of Virginia's Electric Cooperatives. The Commission should exercise prudence and caution in this area, especially regarding the Cooperatives. Virginia's Electric Cooperatives are supportive of the responsible deployment of DERs throughout their territories.

These comments only address potential amendments to 20 VAC 5-314-10 *et seq.* as directed in Staff's October 6, 2023, letter soliciting comments in PUR-2023-00069. However, subsequent to Staff's letter, Chief Hearing Examiner Skirpan issued a ruling on November 6, 2023, in PUR-2023-00069, expanding the docket to also consider amendments to 20 VAC 5-315-10 *et seq.* We would respectfully request the Commission provide a separate opportunity to comment on potential amendments 20 VAC 5-315-10 *et seq.* in light of the Chief Hearing Examiner's November 6th ruling.

Should the Commission or the Staff require any additional information or clarification, please do not hesitate to contact us. We would also like to respectfully reserve the right to supplement these comments as this docket develops, and look forward to further opportunities to interact with the Staff, solar developers, and the Commission, as we continue the conversation on these important matters.

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Respectfully submitted,

THE VIRGINIA, MARYLAND & DELAWARE ASSOCIATION OF ELECTRIC COOPERATIVES

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