STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 19-0856-RULE

Proposed revisions to Vermont Public Utility Commission Rule 5.500	

Order entered: 05/18/2023

ORDER RESPONDING TO PARTICIPANT COMMENTS

I. INTRODUCTION

In today's Order, the Vermont Public Utility Commission ("Commission") responds to comments received during the informal rulemaking process for amendments to Commission Rule 5.500, the Interconnection Rule, and notifies the participants that it will begin the formal rulemaking process by filing a draft proposed rule with the Vermont Interagency Committee on Administrative Rules and the Vermont Secretary of State. Attached to this Order are clean and redline copies[1] of the proposed Interconnection Rule that include changes previously discussed in this rulemaking and incorporate other changes discussed below.

II. BACKGROUND

On April 15, 2019, the Commission issued an order opening a rulemaking to begin a review of Commission Rule 5.500, the Commission rule that governs the interconnection of electric generation facilities with Vermont's electric distribution system. The Commission opened this rulemaking to update Vermont's interconnection requirements to include ride-through requirements for voltage and frequency excursions for net-metering and other distributed generation resources. The Commission also recognized a need to harmonize the procedures contained in Rule 5.500 with the Commission's Net-Metering Rule, Rule 5.100. In opening Rule 5.500 up for changes, the Commission and stakeholders also identified other sections of the rule in need of potential amendment.

During the course of this rulemaking proceeding, the Commission has circulated two proposed drafts of amendments to Rule 5.500, conducted three workshops, and solicited rounds

[1] There are two redlines attached to this Order. One showing the changes proposed by the Commission compared to Rule 5.500 as adopted in 2006 that will be used in our filing with the Vermont Secretary of State. The second redline shows the changes between the Commission's proposal and the draft of the rule circulated by the Commission on December 21, 2021.

of written comments on each rule draft and after the workshops. At the workshops, the Commission heard from stakeholders addressing the technical standards for interconnecting distributed energy resources to the grid and the procedures for the utility review and approval of interconnection applications. Participants in this process have included:

- Allco Renewable Energy Limited ("Allco")
- AllEarth Renewables, Inc.
- Bristol Electronics
- Efficiency Vermont
- The Interstate Renewable Energy Council, Inc. ("IREC")
- ISO New England, Inc. ("ISO-NE")
- Renewable Energy Vermont ("REV")
- Sunrun Inc.
- Vermont Agency of Agriculture, Food, and Markets ("AAFM")
- the Vermont electric distribution utilities
- Vermont Electric Power Company, Inc. ("VELCO")
- Vermont Public Power Supply Authority ("VPPSA")
- Vermonters for a Clean Environment
- John Woodward

The draft amendments to Rule 5.500 attached to this order represent the Commission's consideration of all comments made in this proceeding. The Commission intends to begin the formal rulemaking process by filing a draft proposed rule with the Interagency Committee on Administrative Rules and the Secretary of State. The Commission will conduct the formal rulemaking using ePUC and will do so using the same case number that has been used in this informal process (Case No. 19-0856-RULE). Therefore, any person or entity that is a participant in this case will continue to receive notices of all documents issued by the Commission or filed by participants in the case.

III. DISCUSSION

The Commission thanks all the participants for their thoughtful comments and insights throughout the informal portion of this rule amendment process. Below, we summarize all proposed changes to Rule 5.500. Where commenters raised substantial issues with the Commission's previous drafts of Rule 5.500 but the Commission disagreed with those comments, the Commission provides its explanation for why it has not adopted those recommendations.

A. 5.501 – Applicability

The proposed rule has been revised to make clear that Rule 5.500 applies to both net-metering facilities and Energy Storage Devices. Both of these types of facilities, along with traditional Generation Resources, are encompassed within the defined term "Project." This rule does not apply to interconnections that are subject to ISO-NE's interconnection rules or successor rules approved by the Federal Energy Regulatory Commission.

The proposed rule also recognizes the Commission's statutory authority to adopt interconnection standards by order. This provision will give the Commission flexibility to adopt additional interconnection requirements in response to changes in grid conditions and technology.

IREC recommended adding language that would prohibit an Interconnecting Utility from raising interconnection issues in Certificate of Public Good processes after a system has been reviewed by the Interconnecting Utility under Rule 5.500. The Commission has not made this change because state law requires the Commission to find that a proposed facility will not have an undue adverse effect on system stability and reliability.[2] Therefore, while compliance with Rule 5.500 would be *prima facie* evidence that a proposed facility meets this statutory criterion, the Commission does not find it is appropriate to prohibit the Interconnecting Utility from presenting evidence that a proposed facility will have an undue adverse effect on system stability and reliability in a Section 248 proceeding.

[2] 30 V.S.A. § 248(b)(3).

B. 5.502 – Definitions

The Commission has added and revised several definitions, which are discussed briefly below:

Application Fee

The Commission received feedback from many stakeholders addressing the appropriate amount of the Application Fee. The current rule establishes a fee of $300 dollars. This fee was set in 2006 and applies to most Generation Resources, except for net-metering registrations that are not currently subject to fees. The distribution utilities generally support a fee of $600 for each application. According to Green Mountain Power Corporation ("GMP"), "the $300 fee does not adequately compensate GMP for the time required to review interconnection applications for completeness and to perform the Fast Track Review."[3] GMP recommended that any fee apply only to Projects greater than 150 kW. VPPSA stated that a "simple, consistent, application fee will suffice."[4] Vermont Electric Cooperative Inc. ("VEC") "did not see a benefit to a reduced application fee for smaller [P]rojects [because] any unused portion of the application fee is applied . . . to any utility costs associated with the [P]roject."[5] REV argued that the fee applicable to smaller Projects should be less than $300 and that there should be no fee for the smallest Projects.

The Commission proposes a default fee of $600 for Projects with a capacity greater than 150 kW and no fee for Projects less than or equal to 150 kW. This proposal fits with our proposal to use different application forms for Projects with a capacity up to 150 kW and those with a capacity greater than 150 kW. It is also consistent with the comments submitted by GMP and REV, which called for reduced fees for smaller Projects and no fees for the smallest Projects. However, the Commission recognizes that each utility has different cost structures and resources for reviewing interconnection applications. Therefore, the rule also provides flexibility for utilities to submit a cost-based tariff setting different fees.

Application Forms

[3] GMP Comments dated February 11, 2022, at 4.
[4] VPPSA Comments dated February 11, 2022, at 4.
[5] VEC Comments dated February 11, 2022, at 3.

The Commission will adopt standard application forms for Projects with a Nameplate Rating up to 150 kW and for Projects greater than 150 kW in capacity. These forms may be updated from time to time by order of the Commission. The Interconnecting Utility may accept an Application Form electronically through ePUC, by email, or using an online portal developed by the utility.

Energy Storage Device

The proposed rule addresses the interconnection of an Energy Storage Device, which is defined as "a device that captures energy produced at one time, stores that energy for a period of time, and delivers that energy as electricity for use at a future time."

Export Capacity

In response to many comments from stakeholders such as IREC and REV, the proposed rule recognizes that a Project can limit the amount of power exported to the grid through several methods. Therefore, the study of Projects will consider the ability of a Project to limit its export using the methods described in Rule 5.522.

Flicker

The proposed rule defines the term Flicker, which is defined as "the subjective impression of fluctuating luminance caused by voltage fluctuations."

Frequency Ride Through

The IEEE-1547-2018 Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces establishes requirements for inverter-based systems to stay connected to the grid during system disturbances within a range of under-frequency or over-frequency. The proposed rule defines Frequency Ride Through so that utilities can ensure that inverter-based systems do not disconnect during certain grid disturbances.

Good Utility Practice

The proposed rule includes a definition of Good Utility Practice, which is an operational standard that utilities and Projects must comply with.

Inadvertent Export

Inadvertent Export is "the unscheduled export of power from a Project, exceeding a specified magnitude and for a limited duration, generally due to fluctuations in load-following behavior." The proposed rule requires that Projects be designed to avoid Inadvertent Export.

Material Modification

The definition for Material Modification sets the standard for when an Application is required to be withdrawn and resubmitted due to the magnitude of proposed changes to the initial Application.

Allco objected to this definition on the basis that "[a]ll interconnections that are for the purpose of wholesale sales of electricity are FERC-jurisdictional. As such for those interconnections, the interconnection procedure and the pro forma interconnection agreement must conform to, or be superior to, the FERC standardized procedures and pro forma agreement." As discussed above, the proposed rule does not apply to interconnection requests that are subject to ISO-NE interconnection rules or successor rules approved by FERC. Therefore, the Commission has not revised the proposed rule in response to this comment.

Nameplate Rating

Under the current rule, a Generation Resource is assessed based on the total capacity of the generator as defined by its electrical nameplate. The proposed rule defines Nameplate Capacity, but as discussed above, provides for the assessment of a Project based on its Export Capacity.

Non-Jurisdictional Affected Utility

In certain situations, the proposed rule provides for notice of a proposed Project to a utility located outside Vermont. The term Non-Jurisdictional Affected Utility is used for such a utility.

Preliminary Screening Criteria

Preliminary Screening Criteria replaces the term Fast Track Criteria used in the current rule. The new proposed criteria are discussed in greater detail under Rule 5.512.

Project

The current rule addresses the interconnection of Generation Resources. The proposed rule addresses the interconnection of Generation Resources and Energy Storage Devices. The

term Project encompasses Generation Resources, Energy Storage Devices, and systems employing generation and storage together.

Site Control

The current rule requires Site Control but does not state what documentation is sufficient to demonstrate such control. The proposed rule identifies the documents that are sufficient to demonstrate Site Control as part of an application. The documents listed in the rule are consistent with the documents accepted by the Commission in the Standard Offer Program.

Smart Inverter

The proposed rule adds the term Smart Inverter. Since the interconnection rule was last updated in 2006, inverter technology has improved to allow inverters to autonomously contribute to grid support during excursions from normal operating voltage and frequency system conditions by providing dynamic reactive/real power support, Voltage Ride Through, Frequency Ride Through, ramp rate controls, communication systems with ability to accept external commands, and other functions.

Study Agreement

The proposed rule defines Study Agreement, which is an agreement between the Interconnecting Utility and the Interconnection Requester regarding the terms and conditions of a study proposed by the Interconnecting Utility to proceed with the interconnection review process.

Voltage Ride Through

The IEEE-1547 Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces establishes requirements for inverter-based systems to stay connected to the grid during system disturbances within a range of under-voltage or over-voltage. The proposed rule defines Voltage Ride Through so that utilities can ensure that inverter-based systems do not disconnect during certain grid disturbances.

VELCO

There are certain circumstances where it is necessary to notify Vermont Electric Power Company of a proposed interconnection. Therefore, the acronym VELCO is defined.

C. 5.503 – General Procedures

IREC recommended that Projects should be evaluated based on their Export Capacity, except for fault current, which should be evaluated using the rated fault current. GMP recommended that Projects be evaluated using Export Capacity, but GMP's recommended language for Rule 5.503 did not address fault current. Proposed Rule 5.503 has been revised to reflect that "[a]ll studies conducted pursuant to this Rule shall model all such Projects at their Export Capacity, including any limitations on export imposed by means identified in Section 5.522."

GMP also recommended that in addition to using Export Capacity, a Project may be evaluated at some other reasonable and expected capacity determined by the Interconnecting Utility. IREC objected to this language, asserting that it is not appropriate to allow an Interconnecting Utility to ignore a Project's Export Capacity when the capacity is limited using an acceptable method identified in Rule 5.522. The Commission has not removed this language from the proposed rule because the use of a Project's Export Capacity may not make sense in a particular circumstance. The proposed rule gives the Interconnecting Utility discretion to use engineering judgment in those circumstances. An Interconnection Requester may always petition the Commission if it disagrees with a utility's determination of a Project's reasonable and expected capacity.

In its February 11, 2022, comments, the Department noted that the Commission has not permitted the "derating" of inverters in other contexts such as the Standard Offer Program and net-metering. The Department asserted "that export limitations for Energy Storage Devices are technically analogous to derating of solar inverters."[6] The Department argued that proposed Rule 5.503(A) is overbroad to the extent that that it permits derating for solar facilities for interconnection review. The Department further recommended that "any interconnection [r]ule adopted by the Commission either be consistent between generation and storage [facilities] or clearly define the difference between generation and storage [facilities]."[7]

The Commission does not permit derating in the Standard Offer Program and net-metering program because the statutory definition of "plant capacity" requires that the

[6] Department Comments dated February 11, 2022, at 6.
[7] *Id*.

Commission look at the nameplate rating of generator or, if a solar facility, its inverter.[8] Unlike net-metering and the Standard Offer Program, which limits participation in those programs to plants with a particular capacity, state law does not mandate a specific method for utilities to study how proposed interconnections will affect the grid.

The proposed rule appropriately distinguishes between Nameplate Capacity and Export Capacity in certain situations. For example, the fee provisions of this rule use Nameplate Capacity for determining which Projects are subject to an application fee and those that are not. Thus, derating a Project's equipment and limited export measures will not change whether the Project must pay an application fee. In contrast, Export Capacity is a more appropriate measure when modeling a Project's impact on the grid because the Export Capacity more accurately describes the Project's actual impact on the system compared to the Project's Nameplate Capacity. These principles apply equally to Energy Storage Devices and Generation Resources and Projects that use both.

D. 5.504 – Group and Serial Studies

Proposed Rule 5.504(A) addresses group studies. The cost of studies and System Upgrades are typically borne by the Interconnection Requester that causes the need for the study or System Upgrade. Sometimes, the costs of a study or System Upgrades are too great for an individual Project to absorb. This can result in no Projects for a particular area of the grid moving forward because no individual Project in the queue is able to pay for the costs of interconnection. Group studies can address this issue by allocating the costs of studies and System Upgrades among multiple Projects. Our previous draft of Rule 5.504 included language proposed by VELCO addressing group studies.

REV commented that the process for group studies should include clear standards addressing how groups are formed and maintained, how to manage attrition, and a timeline to allow Projects to proceed with an individual study if a group cannot be formed. IREC raised significant concerns about the lack of guidance about how groups would be administered and argued that without additional detail, this provision could lead to disputes and delays. IREC

[8] 30 V.S.A. § 8002(19).

recommended that the Commission allow Interconnecting Utilities and Interconnection Requesters to petition the Commission to form a group study process.

The Commission has considered IREC's comments and agrees that more detail is needed to create a framework for group studies. Therefore, the Commission has revised the portions of Rule 5.504 that addressed group studies and adopted in part IREC's proposal to allow the Commission to authorize a group study process through a petition process. The proposed rule allows an Interconnecting Utility to propose a tariff establishing group study procedures to address the issues identified by IREC. The tariff review process will allow for the development of appropriate standards to address the issues raised by IREC. The Commission does not believe it will be administratively efficient for the Commission to review group study procedures on a case-by-case basis or to review petitions from specific Interconnection Requesters. Therefore, the Commission's proposal does not allow an Interconnection Requester to petition the Commission to create a group study process.

Proposed Rule 5.504(B) addresses the serial study of Projects. No participant submitted comments addressing this portion of the proposed rule.

E. 5.505 – Optional Pre-Application Report

Proposed Rule 5.505 establishes a new process for requesting a Pre-Application Report from the Interconnecting Utility. A Pre-Application Request must provide certain data about the proposed facility and the location of the potential interconnection. The Pre-Application Report will include available data describing the condition of the grid in that location. The fee for a Pre-Application Report is $300 or the amount provided in an approved tariff.

IREC recommended that a Pre-Application Request include a Project's Nameplate Rating and Export Capacity, whether the Project is served by single- or three-phase power, whether there is onsite load or if the Project is stand-alone, and whether new service is requested. We have included this information in Rule 5.505(A) to ensure that utilities are able to provide more specific and relevant information in response to a Pre-Application Request.

IREC requested that Rule 5.505(B) be revised so that Pre-Application Reports include a load curve, if available, and any other information the Interconnecting Utility deems relevant to the Project. GMP responded that this data would be burdensome to provide and not

commensurate with the $300 fee. The Commission has included this language in Rule 5.505(B) but notes that it does not interpret the requirement to provide a load curve as requiring the Interconnecting Utility to provide any data it does not already have available. Similarly, the language permitting the Pre-Application Report to include "any other information the Interconnecting Utility deems relevant" does not impose a duty to report any specific information concerning a potential interconnection. This language gives the Interconnecting Utility discretion to provide more information if the Interconnecting Utility deems it relevant.

The Commission also responds to GMP's comment by noting that GMP may file a tariff proposing a Pre-Application Fee of more than $300 if GMP's actual costs to provide the requested data are greater.

F. 5.506 – Application

The Commission will develop separate Application Forms for Projects with a Nameplate Rating up to 150 kW and for those greater than 150 kW. The Commission may develop other Application Forms if the need arises. Interconnecting Utilities may develop online portals to accept Application Forms. For net-metering systems, Interconnection Requesters may submit their Application Form by sending it directly to the Interconnecting Utility or by attaching the Application Form to the net-metering registration form. In such cases, the Interconnection Requester is responsible for submitting any applicable Application Fee directly to the Interconnecting Utility.

Rules 5.506(B) and (C) specify the information and materials that must be included with an Application Form.

G. 5.507 – Interconnection Queue

This section requires each interconnecting utility to maintain an interconnection queue. VELCO requested that utilities' online interconnection queues established by proposed Rule 5.507(C) include the following data: the date of interconnection request, date of last interconnection request update, expected operation date, and study status. This request is reasonable, and the Commission has made this revision.

H. 5.508 – Notice of Applications

VELCO requested language in proposed Rule 5.508 establishing rules for when an Interconnecting Utility must notify VELCO of a pending Application so that ISO-NE can assess whether a transmission-level study is necessary. VPPSA opposed this requirement on the basis that distribution utilities already have an obligation to coordinate with upstream transmission providers through existing transmission agreements. VPPSA expressed concerns that a formal requirement "could create future conflicts and jurisdictional questions that could lead to legal challenges."[9] VPPSA's comments do not explain how providing a copy of an application to VELCO will create legal risk or jurisdictional questions. Therefore, the Commission has not revised the proposal in response to this comment.

I. 5.509 – Cost Allocation

The costs of studies and System Upgrades are allocated based on the queue position of Projects. If an Interconnecting Utility has an approved tariff authorizing the grouping of Projects, then the allocation of costs among those Projects will be done according to the methodology included in the approved tariff.

Our previous draft of Rule 5.509 included a cost-allocation standard that assigned group study and System Upgrade costs on a *pro rata* basis based on Project capacity. The Commission has removed this provision in response to IREC's comments regarding a need for more definite standards for group studies. Any group-study tariff proposed by a utility should address how costs will be allocated among group members.

J. 5.510 – Procedure for Projects with a Nameplate Rating of 500 kW or Less

Several participants, including IREC, REV, and GMP, recommended varying streamlined procedures for smaller Projects. For example, REV recommended no interconnection review for small Projects. IREC's proposed model rules included a limited review for Projects with a Nameplate Rating up to 50 kW or an Export Capacity of less than 25 kW. GMP proposed a simplified review for Projects with an Export Capacity up to 15 kW and a Nameplate Rating not greater than 50 kW.

[9] VPPSA Comments Dated February 11, 2022, at 6.

The Commission has adopted GMP's proposal. The proposed rule provides streamlined procedures for smaller Projects and is designed to dovetail with the timeline for the Certificate of Public Good review of net-metering facilities. A net-metering customer may attach the appropriate 5.500 Application Form to their net-metering registration or submit the Application Form directly to the Interconnecting Utility before filing a net-metering registration.[10] The Interconnecting Utility will notify the Interconnection Requester of any interconnection issues within 15 days for Projects with an Export Capacity of 15 kW or less and within 31 days for Projects with an Export Capacity greater than 15 kW. These timeframes are the same as those provided for the review of net-metering CPG cases. However, the Interconnecting Utility does not need to make any filings regarding interconnection in the net-metering CPG process. The Interconnecting Utility and Interconnection Requester may communicate directly with each other to resolve any interconnection issues. All CPGs issued or deemed issued pursuant to Rule 5.100 are conditioned on the CPG Holder implementing any interconnection requirements required by the Interconnecting Utility pursuant to this rule. Any disputes regarding interconnection of a net-metering system will be resolved according to Rule 5.516(F).

The proposed screening criteria are also tailored to the size of a Project. Projects with an Export Capacity of 15 kW or less and a Nameplate Rating not greater than 50 kW are reviewed using three simplified criteria contained in Rule 5.510(C). These simplified criteria will streamline the review process for smaller Projects. Projects that exceed these thresholds are reviewed using the more detailed Preliminary Review Screening Criteria set forth in Rule 5.512.

K. 5.511 – Procedure for Projects with a Nameplate Rating Greater than 500 kW

Under the proposed rule, the Interconnecting Utility will acknowledge receipt of an Application within 7 days and will inform the Interconnection Requester whether the Application is complete within 14 days. The screening criteria for these Projects are described in Section 5.512 of the proposed rule.

[10] The Commission encourages the Interconnecting Utilities to develop online portals for the submission of interconnection requests directly to the utilities.

GMP proposed language for Rule 5.511 addressing the Material Modification of an Application. The Commission has adopted this language but moved it to proposed Rule 5.516, which applies to all Applications, including those with a Nameplate Rating of 500 kW or less. The Commission did this because including this language in proposed Rule 5.511 did not address how a Material Modification would affect a smaller Project.

L. 5.5 12 – Preliminary Review Screening Process

In response to comments from GMP and IREC, the Commission's December 21, 2021, draft rule substantially revised the initial screening process used to determine whether a Project can interconnect without additional study. The current rule uses the Fast Track Review process and its associated 13 screening criteria. The Commission proposes that the Fast Track screening criteria be replaced with the Preliminary Review process.

Screens

The Preliminary Screening Criteria under proposed Rule 5.512 would employ actual data and existing circuit models to evaluate a Project. In contrast, IREC proposed to use standardized screens. The use of actual data and existing circuit models would more thoroughly and efficiently evaluate a proposed Project than the use of IREC's standardized screens. Standardized screens would not always provide the information needed to assess whether there are ways to avoid system upgrades. For example, GMP stated that if a Project pushes voltage outside of allowable tolerances, the standardized screen result would not be able to determine what Project size would avoid out-of-range voltages, thereby unnecessarily pushing a Project to the study process when the Interconnection Requester might prefer to simply downsize the Project to pass the Preliminary Review.

GMP also opposed IREC's proposed penetration screen of 100% of minimum load, or 15% of peak load, to address concerns about unintentional islanding, protection miscoordination, and voltage deviations. GMP argued that a similar screen already exists in current Rule 5.505 and nearly every Project fails this screen, which makes it impossible to pass the Fast Track review process. GMP argued that the Commission's December 21, 2021, draft rule and GMP's proposed revisions offer criteria that would enable some Projects to pass through a faster review

process while still protecting system stability and reliability. GMP contended that if IREC's proposal were adopted, very few, if any, Projects would pass the Preliminary Review.

GMP agreed with IREC's proposal to add an inadvertent export screen. Rather than implement a standardized screen, however, GMP proposed to add the following criterion to Section 5.512(D):

> For Projects that will not export to the grid, the voltage drop caused by inadvertent export is within acceptable limits, meaning that voltage change at the primary level caused by the loss of load at the Project point of interconnection is less than 3%.

The Commission has adopted the revisions described above as part of the proposed rule attached to this Order.

M. 5.513 – Feasibility Study

IREC recommended that the Commission consider adopting standards such as the Supplemental Review process contained in IREC's model rule. According to IREC, "many jurisdictions have found Feasibility Studies to be unnecessary" and add significant time to the review of a Project. IREC recommended that if the Commission retains the Feasibility Study, it should be optional.

GMP stated that it initially supported the move to a Supplemental Review process but now prefers to maintain the Feasibility Study. GMP stated that it "ultimately concluded that the Feasibility Study serves the same purpose, and we have successfully utilized it. With minimal revision . . . the Feasibility Study process can accomplish precisely what the Supplemental Review process is designed to do making inclusion of the Supplemental Review process redundant."

This Commission agrees with GMP and has retained the Feasibility Study provisions contained in our draft circulated in December of 2021. GMP proposed revisions to this section addressing islanding and the identification of impacts on transmission systems and other Affected Utilities. These revisions have been included in the proposed rule.

In response to IREC's comment that the Feasibility Study should be optional, we note that Rule 5.512(K) provides that, "[i]f mutually agreed upon by the Interconnection Requester and the Interconnecting Utility, the Feasibility, System Impact, and/or Facilities Studies may be

combined for the purpose of achieving cost and/or time savings." Thus, if the Interconnecting Utility agrees, an Interconnection Requester can merge the Feasibility Study with other studies to achieve cost and time savings.

N. 5.514 – System Impact Study

IREC recommended that the Commission shorten the timeframes related to System Impact Studies and Interconnection Agreements. According to IREC, other jurisdictions allow only 7 calendar days for a utility to provide an Interconnection Agreement, in contrast to the 21 days provided in Rule 5.514.

GMP responded that the timeframes contained in the proposed rule are already difficult to meet and therefore requested that the timeframes not be shortened. The Commission is not proposing to shorten the timeframes in the proposed rule.

O. 5.515 – Facilities Study

A Facilities Study is used when a proposed interconnection will require the construction of Interconnection Facilities or System Upgrades. IREC recommended that the 21-day timeframe for the Interconnecting Utility to send an executable Interconnection Agreement after the completion of a Facilities Study be shortened to 7 days. The Commission has not adopted IREC's recommendation for the same reasons raised by GMP regarding Rule 5.514, above.

P. 5.516 – Terms Applicable to All Interconnection Applications

Commissioning Verification

VELCO requested specific changes to Rule 5.516(G), which addresses the commissioning of Projects. VELCO requested that the interconnecting utility electronically record certain information about a Project's control settings. VELCO's proposed language, subject to minor edits for clarity, has been included in the proposed rule.

Transmission Cluster Studies

VELCO proposed to include a new paragraph addressing transmission-level cluster studies. This language has been included in the proposed rule subject to one revision. VELCO's proposed language used the word "capacity" without specifying whether it referred to Nameplate Rating or Export Capacity. The proposed rule uses the term Nameplate Rating.

Interconnection Ombudsperson

IREC suggests that the Commission create an independent interconnection ombudsperson to track and help mediate disputes. According to IREC, an ombudsperson would allow for the timely resolution of disputes.

GMP responded that disputes between the Interconnecting Utility and Interconnecting Requester are routinely and effectively addressed through direct communication. GMP cited Rule 5.516(E)'s dispute resolution procedure and argued that the need for resolution by the Commission is rare. GMP contended that it does not see the benefit of adding more costs and resources to an interconnection request with the addition of an interconnection ombudsperson.

The Commission agrees with GMP that there has not been a demonstrated need for an ombudsperson to resolve interconnection disputes. Therefore, the Commission has not revised the proposed rule in response to IREC's comments on this issue.

Q. 5.517 – Cost Responsibility and Cost Reconciliation

VELCO requested language addressing the allocation of costs of transmission cluster studies. This language has been included in the proposed rule.

R. 5.518 – Disconnection

Proposed Rule 5.518 provides standards and procedures for disconnecting Projects. No participant provided substantial feedback on these provisions.

S. 5.519 – Certification of Project Equipment Packages

Proposed Rule 5.519 describes the standards and procedures for the certification of equipment as compliant with the standards and codes identified in Rule 5.520. No participant submitted significant comments on this portion of the rule.

T. 5.520 – Codes and Standards

This portion of the proposed rule has been renumbered and updated to reflect the codes and standards applicable to interconnections. To account for future updates to these codes and standards, the rule provides that the most recently adopted version of the codes will apply to new interconnection requests six months after the standard or code is published.

IREC supported the Commission's December 21, 2021, proposal to adopt the IEEE-1547-2018 but cautioned that the adoption process is not as simple as automatically applying the most recent standard six months after publication. IREC provided as an example that IEEE-1547-2018 requires the implementing body to choose from a set of options in certain circumstances. IREC recommended that the Commission adopt specific versions of the codes and standards specified in proposed Rule 5.520, including the 2003 version of IEEE-1547. IREC recommended that the Commission form a working group to get input from stakeholders about how to implement IEEE-1547-2018.

GMP responded that it would be more efficient for Vermont to monitor the conclusions reached by the larger states as inverters become IEEE-1547-2018 compliant because of the highly technical nature of the issues addressed in IEEE 1547-2018. The Department supported the reference to the latest version of IEEE-1547-2018, stating that "its adoption in the Vermont interconnection rule is not overly prescriptive – rather, it should be seen to enable flexibility for a grid operator in its setting and deployment of resources for the sake of reliability and enhanced grid capacity."[11]

The Commission recognizes that it may be necessary for the Commission to adopt additional interconnection guidance that supplements the provisions of Rule 5.500 as technology evolves and as standards and codes change over time. This is why proposed Rule 5.520(P) specifically requires compliance with "[a]ny other code or standard ordered by the Commission." Similarly, Rule 5.501(B) authorizes the Commission to order additional interconnection requirements where necessary.

However, the Commission does not see a need at this time for the Commission to open a proceeding aimed at directing the utilities how to implement each part of IEEE-1547-2018 or any other code identified in the proposed rule. In circumstances where these codes have optionality, the Commission expects that the utilities will exercise reasonable judgment and make their implementation choices clear through their interconnection guidelines or tariffs. The Commission may open a proceeding in the future if the need arises for additional guidance from the Commission.

[11] Department Comments dated August 19, 2022, at 6.

U. 5.521 – Communications Protocols

Proposed Rule 5.521 provides that the Commission may adopt, by order, inverter settings and other controls related to communications protocols that will facilitate communication between Projects and Interconnecting Utilities and transmission utilities.

V. 5.522 – Limited-Export and Non-Exporting Projects

Proposed Rule 5.522 establishes the acceptable methods by which a Project can limit its export of power to the grid. GMP and IREC supported revisions to the Commission's December 21, 2021, draft rule regarding Limited-Export and Non-Exporting Projects. These changes are reflected in the draft attached to this Order.

IV. CONCLUSION

Further comments and participation in the amendment of Rule 5.500 will follow the formal rulemaking procedures described in the Vermont Administrative Procedure Act. As noted above, the Commission will process the rulemaking in ePUC and will retain the same case number (19-0856-RULE).

SO ORDERED.

Dated at Montpelier, Vermont, this 18th day of May, 2023.

Anthony Z. Roisman) PUBLIC UTILITY
)
)
Margaret Cheney) COMMISSION
)
J. Riley Allen) OF VERMONT

OFFICE OF THE CLERK

Filed: May 18, 2023

Attest: _____
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

PUC Case No. 19-0856-RULE - SERVICE LIST

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