5.500 INTERCONNECTION PROCEDURES FOR PROPOSED ELECTRIC GENERATION RESOURCES AND ENERGY STORAGE DEVICES

5.501 Applicability

(A) This Rule applies to all proposed interconnections of Projects within the State of Vermont that are not lawfully subject to ISO-NE interconnection rules or successor rules approved by FERC. This Rule applies to all Applications filed on or after the effective date of this Rule.

(B) This rule establishes minimum requirements. The Commission may adopt additional requirements for the interconnection of Projects by order pursuant to Public Act No. 61. § 7 (2006 Vt., Adj. Sess.).

5.502 Definitions

(1) Affected System – any electric system that is either directly or indirectly connected to the Interconnecting Utility's electric system that could be adversely affected by the interconnection and parallel operation of the Interconnection Requester's Project.

(2) Application – a request for interconnection initiated by the submission of an Application Form provided by the Commission for the interconnection of Projects, the Application Fee where required, and any other information required by this Rule.

(3) Application Fee – The fee paid to the interconnecting utility to review an Application. for Projects with a Nameplate Capacity greater than 150 kW, the fee is $600 or the amount specified in an approved Interconnecting Utility tariff. Unless provided for in an approved Interconnecting Utility tariff, there is no fee for Projects with a Nameplate Capacity of less than or equal to 150 kW. The Application Fee is non-refundable unless the Application is withdrawn within 7 days of submittal. The Interconnecting Utility may require electronic payment of the Application Fee.

(4) Application Forms – the forms adopted by the Commission for Projects to request interconnection with the Interconnecting Utility. The Application Forms may be amended by the Commission from time to time. Application Forms may be submitted electronically to the Interconnecting Utility.

(5) Automatic Disconnect Device – an electronic or mechanical switch used to isolate a circuit or piece of equipment from a source of power without the need for human intervention.

(6) Commission – the Vermont Public Utility Commission.

(7) Disconnect (verb) – to isolate a circuit or equipment from a source of power. If isolation is accomplished with a solid-state device, "disconnect" means to cease the transfer of power.

(8) Disconnection – the state of a circuit or equipment being disconnected from a source of power.

(9) Distribution Level Study – a System Impact Study conducted at the distribution level.

(10) Emergency – a situation in which continued interconnection of a Project is imminently likely to result in significant disruption of service or endanger life or property.

(11) Energy Storage Device – 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.

(12) Export Capacity – the maximum Nameplate Rating of a Project in alternating current (AC), except where such capacity is limited by any of the methods of limiting electrical

export listed in Section 5.522 whereby the Export Capacity is the net capacity as limited through the use of such methods (not including Inadvertent Export). For example, if a solar facility paired with a storage facility were proposed with combined output limited to specified MW(s) of export, the specified MW(s) of output would be the Export Capacity.

(13) Facilities Study – any study or studies performed by an Interconnecting Utility or a designated third party to determine the cost of Interconnection Facilities or System Upgrades that are necessary for interconnection of the Project.

(14) Facilities Study Report – contains the results of the Facilities Study and is transmitted to the Interconnection Requester in accordance with Section 5.514.

(15) Feasibility Study – any study or studies performed by an Interconnecting Utility or a designated third party consisting of initial engineering analyses regarding the feasibility of interconnecting the Project.

(16) Feasibility Study Report – contains the results of the Feasibility Study, and other information required by this Rule.

(17) FERC – the Federal Energy Regulatory Commission.

(18) Flicker – the subjective impression of fluctuating luminance caused by voltage fluctuations.

(19) Frequency Ride Through – the ability of a Project to stay connected to and synchronized with the system or equipment of the Interconnecting Utility and any Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Projects in the Interconnecting Utility's service territory on a comparable basis.

(20) Generation Resource – a facility that produces electric energy from other energy sources.

(21) Good Utility Practice – any of the practices, methods, and acts engaged in or approved by a significant portion of the electric industry operating a comparable electric system 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 made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

(22) IEEE – Institute of Electrical and Electronics Engineers, Inc.

(23) Interconnecting Utility – electric utility with which the Interconnection Requester proposes to interconnect a Project.

(24) Inadvertent Export - 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.

(25) Interconnection Agreement – an agreement between an Interconnecting Utility and Interconnection Requester regarding the interconnection and parallel operation of a Project. The Interconnection Agreement is accompanied by or includes Technical Requirements and Operator Protocols.

(26) Interconnection Facilities – all facilities and equipment between the Project and the Point of Interconnection, including any modification, additions, or upgrades that are necessary to physically and electrically interconnect the Project to the Interconnecting Utility's distribution or transmission system. Interconnection Facilities are sole-use facilities and do not include System Upgrades.

(27) Interconnection Queue – the list of Applications for the interconnection of Projects, in order based on the date-and-time stamp of complete Applications, maintained by each Interconnection Utility.

(28) Interconnection Requester – person or entity who proposes to interconnect a Project with an Interconnecting Utility.

(29) ISO-NE – ISO New England, Inc.

(30) Material Modification – means a modification that has a material impact on the cost or timing of processing an Application with a later queue priority date or a change in the Point of Interconnection. A Material Modification does not include, for example, (a) a change of ownership of a Project, (b) a change or replacement of equipment that is a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original Application, or (c) a reduction in the output of the Project of 10% or less.

(31) Nameplate Rating – means the sum total capacity of all of a Project's constituent units, regardless of whether it is limited by any of the methods listed in Section 5.522.

(32) Non-Jurisdictional Affected Utility – a utility other than a Vermont distribution utility that operates an Affected System and will need to provide study support.

(33) Operator Protocols – an agreement between the Interconnection Requester and the Interconnecting Utility pertaining to the operation and maintenance of the Project.

(34) Point of Interconnection – the point on the Interconnecting Utility's existing system to

which the Interconnection Requester proposes to interconnect.

(35) PUC – the Vermont Public Utility Commission.

(36) Pre-Application Fee – a Pre-Application Request includes a Pre-Application Fee. The fee is $300 or the amount specified in an approved utility tariff.

(37) Pre-Application Report – information about the application process and the point of proposed interconnection to the utility system.

(38) Pre-Application Request – a request from the Interconnection Requester for a Pre-Application Report.

(39) Preliminary Review – the initial process for establishing an interconnection for certain qualifying Projects in accordance with Section 5.512 of this Rule.

(40) Preliminary Screening Criteria – the screening criteria for Projects set forth in this Rule. These criteria are included in the Preliminary Review but will also be analyzed further in Feasibility and System Impact Studies as needed.

(41) Project – a Generation Resource or Energy Storage Device or an electrically connected combined Generation Resource and Energy Storage Device.

(42) Radial Feeder – a distribution line that branches out from a substation and is normally not connected to another substation or another circuit sharing a common supply of electric power.

(43) Scoping Meeting – an optional meeting between the Interconnecting Utility and the Interconnection Requester to discuss the conclusion of the Preliminary Review, and how to proceed with the interconnection request.

(44) Site Control – the ability of the Applicant to control the Project site documented by one of the following: (1) fee simple title to such real property; (2) valid written leasehold or easement interest for such real property; (3) a legally enforceable written option with all terms stipulated, including "option price" and "option term," unconditionally exercisable by the proponent or its assignee, to purchase or lease such real property or hold an easement for such property; or (4) a duly executed contract for the purchase and sale of such real property. Site control must be unconditional and continuous throughout the process, or a Project will be removed from the queue.

(45) Smart Inverter – a Project's inverter that performs functions that, when activated, can 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.

(46) Study Agreement – an agreement between the Interconnecting Utility and Interconnection Requester regarding the terms and conditions of the conduct of any study (e.g., Facilities Study Agreement) proposed by the Interconnecting Utility in order to proceed with the interconnection review process.

(47) System Impact Study – any study or studies performed by an Interconnecting Utility or a designated third party to ensure the safety, reliability, and stability of the electric power system with respect to the interconnection of Projects.

(48) System Impact Study Report – contains the results of the System Impact Study, and other information required by this Rule.

(49) System Upgrades – the additions, modifications, and upgrades to the distribution system and/or transmission system at or beyond the Point of Interconnection to facilitate interconnection of the Project. System Upgrades do not include Interconnection Facilities.

(50) Technical Requirements – an agreement between the Interconnection Requester and the Interconnecting Utility designed to provide protection to the public and to the personnel and equipment of the Interconnection Requester and Interconnecting Utility from the physical and financial risks associated with the interconnection and parallel operation of the proposed Project. The interconnection Technical Requirements accomplish this task through, including but not limited to, ensuring the installation of proper protective devices and metering equipment, and establishing performance criteria to minimize the probability that the Project will reduce the quality of service on the Interconnecting Utility's system.

(51) This Rule – Commission Rule 5.500: Interconnection Procedures for Proposed Electric Projects.

(52) Transmission Level Study – a System Impact Study conducted at the transmission level.

(53) Voltage Ride Through – the ability of a Project to stay connected to and synchronized with the system or equipment of the Interconnecting Utility and any Affected Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Projects in the Interconnecting Utility's service territory on a comparable basis.

(54) VELCO – Vermont Electric Power Company, which operates the transmission system in Vermont.

5.503 General Procedures

(A) All studies conducted pursuant to this Rule must model all Projects at their Export Capacity, including any limitations on export imposed by means identified in Section

5.522 or at some other reasonable and expected capacity determined by the Interconnecting Utility.

(B) For Projects that include an Energy Storage Device, all studies conducted pursuant to this Rule must consider the operational characteristics unique to Energy Storage Devices that can minimize impacts on system stability and reliability. The Interconnecting Utility may impose inverter settings or operating regimes relating to Energy Storage Devices that ensure system stability and reliability.

(C) All studies must consider all Projects that:

(1) Are directly interconnected to the Interconnecting Utility's electric transmission or distribution system;

(2) Are interconnected to Affected Systems and may have an impact on the Interconnection Requester's Application; and

(3) Have a pending Application with an earlier position in the Interconnection Queue to interconnect to the electric transmission and/or distribution systems.

(D) After providing an opportunity for comment to the Vermont Department of Public Service, electric utilities, and other affected parties, the Commission may provide model documents, which may be used by the Interconnecting Utility and Interconnection Requester for the following: Pre-Application Report Request, any Study Agreement, Interconnection Agreement, Technical Requirements, and Operator Protocols. However, the Interconnecting Utility and Interconnection Requester may also voluntarily enter into different arrangements. In the event that these parties are unable to agree on the terms of an agreement to be reached under this Rule, either party may petition the Commission for resolution of the dispute.

(E) The time deadlines specified in this Rule, for utilities governed by this Rule, are maximum times unless the Interconnecting Utility and the Interconnection Requester make a mutual agreement to extend a deadline, provided that such an extension would not affect lower queued Projects. To avoid unnecessary delay, the Interconnecting Utility is encouraged to complete each task in less time than allotted, to the extent feasible.

(F) Different time deadlines may have to be instituted for studies required by Non-Jurisdictional Affected Utilities. These utilities may require studies, including but not limited to Transmission Level Studies (i.e., ISO-NE), but their timelines to provide such studies may not be governed by these rules or the Commission. By way of example and not limitation, when a Project Nameplate Rating is greater than 1 MW, the Interconnecting Utility is required to submit a generator notification form to ISO-NE and ISO-NE may determine that additional study is necessary.

(G) The Interconnecting Utility may contract with consultants, including contractors acting on behalf of the Interconnecting Utility, to perform the activities required under a Study

Agreement. The third-party entities contracted with must be licensed appropriately for each area of study.

5.504 Group and Serial Studies

(A) An Interconnecting Utility may propose for Commission approval a tariff establishing procedures for group studies. The tariff must include standards and procedures for the following issues:

(1) Group formation, including the timing, geographic scope, and requirements for participation;

(2) How to conduct group studies, including phases, duration, group and individual impact assessments, and distribution and transmission impacts;

(3) Group retention, including managing group attrition, (e.g., phases, deposits, site control) and the impact of Project modifications;

(4) Cost allocation, including study costs and upgrade costs; and

(5) Transitioning to a group study process, including impact on Projects already in the queue.

(B) If the number and timing of interconnection requests for a specific area is such that interconnection requests directly affect each other, the Interconnecting Utility may study Projects serially. In the case of serial review, the Interconnecting Utility will notify the Interconnection Requester that its review of the Project will be on hold until the Interconnecting Utility has completed its study or review of Projects ahead of the Interconnecting Requester in the Interconnection Queue.

5.505 Optional Pre-Application Report

(A) Upon receipt of a completed Pre-Application Report Request and the Pre-Application Fee, the Interconnecting Utility must provide the pre-application data described in this section within 14 days. The Pre-Application Report Request must include a proposed Point of Interconnection, generation technology, storage technology, Project Nameplate Rating, Project Export Capacity, and fuel source. The proposed Point of Interconnection must be defined by latitude and longitude, site map, street address, utility equipment number (e.g., pole number), meter number, account number, or some combination of the above sufficient to clearly identify the location of the Point of Interconnection.

(B) The Pre-Application Report will include the following information if available:

(1) Total Export Capacity (MW) of the substation or circuit likely to serve the proposed site;

(2) Allocated Export Capacity (MW) of the substation or circuit likely to serve the proposed site;

(3) Queued Export Capacity (MW) of the substation or circuit likely to serve the proposed site;

(4) Available Export Capacity (MW) of the substation or bank and circuit most likely to serve the proposed site;

(5) Nominal distribution voltage of the circuit most likely to serve the proposed site;

(6) Approximate circuit distance between the proposed site and the substation;

(7) Hourly load profile by substation and transformer, at the most specific granularity available (e.g., if an 8760 hour profile is not available, then provide a 576 hour profile);

(8) Relevant line section(s) peak load estimate, and minimum load data, when available;

(9) Number of protective devices and number of voltage regulating devices between the proposed site and the substation;

(10) Whether or not three-phase power is available at the site and distance from three-phase service;

(11) Limiting conductor rating from proposed Point of Interconnection to the substation;

(12) Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks; and

(13) Any other information deemed relevant by the Interconnecting Utility.

(C) The Pre-Application Report need only include pre-existing data. A Pre-Application Report request does not obligate the utility to conduct a study or other analysis of the proposed Project. If the utility cannot complete all or some of a Pre-Application Report due to lack of available data or need for additional analysis, the utility will provide the applicant with a Pre-Application Report that includes the information that is available.

(D) In requesting a Pre-Application Report, the Interconnection Requester understands that:

(1) The existence of "Available Generating Capacity" in no way implies that an interconnection up to this level may be completed without impacts because there are many variables studied as part of the interconnection review process;

(2) The utility system is dynamic and subject to change;

(3) Data provided in the Pre-Application Report may be outdated and not useful at the time of submission of the complete Interconnection Request; and

(4) Pre-Application Report Requests are not placed in the Interconnection Queue.

(E) Notwithstanding any of the provisions of this Section, the Interconnecting Utility must, in good faith, provide Pre-Application Report data that represents the best available information at the time of reporting.

5.506 Application

(A) All Projects must complete the appropriate Application Form as follows:

(1) For Projects with a Nameplate Rating up to 150 kW;

(2) For Projects greater than (>) 150 kW; or

(3) As otherwise provided by the Commission.

(B) All Projects must provide:

(1) Information regarding certification or Underwriters Laboratory listing of the Interconnection Requester's Project;

(2) Information regarding inverter settings, including inverter data sheets;

(3) For any Energy Storage Device, the proposed use case(s) or operational requirements and restrictions under the Project should be studied.

(C) Projects with a Nameplate Rating greater than 150 kW including the combined Nameplate Rating of any Generation Resource and Energy Storage Device must provide:

(1) The Application Fee;

(2) Documentation of Site Control;

(3) An electrical one-line diagram signed and stamped by a licensed professional engineer ; and

(4) A site plan. The site plan should show the location of the facility and location of the facility equipment (to the extent that it is known).

5.507 Interconnection Queue

(A) Interconnection Queue. Each interconnecting utility must maintain an Interconnection

Queue of all proposed Projects.

(B) Interconnection Queue position. The Interconnecting Utility must assign each Project a position in the Interconnection Queue based on the date-and-time stamp of the Interconnection Requester's complete Application.

(C) Certain Interconnection Queue information available online. The Interconnecting Utility must make its Interconnection Queue available online, redacted to include only the Project type, queue position, location by town, interconnection circuit, fuel type (including renewable sources), date of interconnection request, expected operation date, study status, Nameplate Rating of each energy resource included in the Project, and Export Capacity of proposed Projects.

5.508 Notice of Applications

(A) Notice to Affected Systems. The Interconnecting Utility must notify the Affected System's utility in accordance with the same interconnection notification protocols that would apply if the Application were subject to FERC jurisdiction.

(B) Notification to VELCO. To assess any transmission-level impacts and to coordinate any needed transmission-level interconnection studies, the Interconnecting Utility must send a copy of the Application once deemed complete to VELCO for all proposed Projects greater than 1 MW in Nameplate Rating. Within 14 days of receipt, VELCO must forward the Application to ISO-NE to determine whether Transmission Level Studies are required. VELCO will notify the Interconnecting Utility within 14 days of receipt of ISO-NE's determination. VELCO's response will include date of submittal to ISO-NE for information. If requested by VELCO, the Interconnecting Utilities will provide a copy of the complete Application for Projects smaller than 1 MW Nameplate Rating.

(C) Notification to distribution utilities providing subtransmission services. To assess any subtransmission-level impacts and to coordinate any needed subtransmission-level studies, the Interconnecting Utility will notify the distribution utility providing subtransmission service of any proposed Projects with a Nameplate Rating greater than 150 kW.

5.509 Cost Allocation

(A) The date-and-time stamp of the Application will be used to determine the cost responsibility for any interconnection studies or System Upgrades necessary to accommodate the interconnection.

(B) For group review of multiple Applications, the Interconnecting Utility may allocate costs based on a methodology specified in an approved utility tariff.

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

(A) The Interconnecting Utility must notify the Interconnection Requester within 7 days of the receipt of the Application if the Application is incomplete. The notification must include a written list detailing all information that must be provided to complete the Application. An Application will be complete upon submission to the Interconnecting Utility of a revised Application containing the listed information.

(B) If the Interconnecting Utility determines that there are interconnection issues, the Interconnecting Utility must notify the Interconnecting Requester within the following timeframes:

(1) In the case of a Project with an Export Capacity of 15 kW or less, the 15th day following the date of receipt of a complete Application; and

(2) In the case of a Project with an Export Capacity greater than 15 kW and no more than 500 kW, the 31st day following the date of receipt of the complete Application.

(C) For Projects that have an Export Capacity not greater than 15 kW and a Nameplate Rating not greater than 50 kW, the following screening criteria will be utilized:

(1) The proposed Project must meet current requirements per Section 5.520 regarding inverter and Project equipment package certification;

(2) The proposed Point of Interconnection is not a transmission line; and

(3) The aggregate Export Capacity, including the Export Capacity of the proposed Project, on a distribution circuit will not cause any customer equipment or distribution equipment, including but not limited to conductors, distribution transformers, and fuse cutouts, to exceed the equipment's thermal ratings.

(D) For Projects that have an Export Capacity greater than 15 kW or a Nameplate Rating greater than 50 kW, the Interconnecting Utility will review the screening criteria in 5.512(D). If the Interconnecting Utility determines that the interconnection raises system issues, the Interconnecting Utility must notify the Interconnecting Requester in writing within the timeframes set forth in (B) above. The Interconnecting Utility's letter must include a recommendation as to how the interconnection issues could be resolved by the Interconnection Requester or state whether additional analysis is required.

(E) For Projects with a Nameplate Rating greater than 150 kW, the Interconnecting Utility may require electronic payment of the Application Fee. If the Interconnecting Utility allows the Application Fee to be paid by check, the Interconnecting Utility must wait until the fourteenth day following receipt of the Application for the Application Fee to arrive. If the Application Fee has not arrived in that time period, the Application will be deemed incomplete.

(F) If additional interconnection analysis is required, the applicable procedures set forth below

in this Rule will be followed.

(G) The Interconnection Requester must notify the Interconnecting Utility immediately of any change in the information provided in the Application that was determined to be complete, including but not limited to the loss of site control.

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

(A) The Interconnecting Utility must notify the Interconnection Requester of receipt within 7 days of receiving the Interconnection Requester's Application.

(B) The Interconnecting Utility must notify the Interconnection Requester within 14 days of the receipt of the Application as to whether the Application is complete or incomplete.

(1) If the Application is incomplete, the Interconnecting Utility must provide, along with the notice that the Application is incomplete, a written list detailing all information that must be provided to complete the Application. An Application will be complete upon submission to the Interconnecting Utility of a revised Application containing the listed information. The Interconnecting Utility will have 14 days to review the revised Application for completeness.

(2) The Interconnecting Utility may require electronic payment of the Application Fee. If the Interconnecting Utility allows the Application Fee to be paid by check, the Interconnecting Utility must wait until the 14th day following receipt of the Application for the Application Fee to arrive. If the Application Fee has not arrived in that time period, the Application will be deemed incomplete.

(3) Complete Applications reviewed pursuant to this subsection will be reviewed using the procedures specified in this Rule.

(4) The Interconnection Requester must notify the Interconnecting Utility immediately of any change in the information provided in the Application that was determined to be complete, including but not limited to the loss of site control.

5.512 Preliminary Review Screening Process

(A) Within 30 days after an Application is determined to be complete, the Interconnecting Utility must perform a review of the Application under the Preliminary Review screening criteria set forth below, and must notify the Interconnection Requester of the conclusion and determination if additional study is required. However, the Preliminary Review process can be waived if the Interconnecting Utility and Interconnecting Requester mutually agree to move directly to the study process.

(B) The Preliminary Review is an analysis by the Interconnecting Utility of the Preliminary

Screening Criteria in Section 5.512(D) and is performed with readily available data and models. If the Interconnecting Utility is unable to perform a Preliminary Review without extensive data acquisition, model development, load flow analysis, or short circuit analysis, then the Preliminary Screening Criteria are considered failed.

(C) On the basis of the Preliminary Review, if the Interconnecting Utility concludes that additional study is required, the Interconnecting Utility must convey these concerns in writing to the Interconnection Requester within the required timeframes.

(D) Preliminary Screening Criteria:

(1) The proposed interconnection point is on a distribution line.
+
(2) The aggregated Export Capacity, including the capacity of the Project, on a distribution circuit will not cause any distribution equipment, including but not limited to conductors, substation transformers, line stepdown transformers, substation breakers, regulators, fuse cutouts, and line reclosers, or customer equipment on the system, to exceed the equipment's thermal ratings.

(3) The proposed Project's Nameplate Rating, in aggregation with other Generation Resource Nameplate Ratings on the distribution circuit, will not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers) or Interconnection Requester equipment on the system to exceed 87.5% of the short-circuit interrupting capability; nor will the Project be proposed for a circuit that already exceeds 87.5% of the short-circuit interrupting capability.

(4) The proposed Project will have no adverse impact on existing protection coordination.

(5) The proposed Project, in aggregation with other Export Capacity on the distribution circuit, will not result in potential for Transmission Ground Fault Overvoltage (TGFOV).

(6) The proposed Project, in aggregation with other Export Capacity on the distribution circuit, will not cause unintentional islanding. The proposed Project does not require additional unintentional islanding protection.

(7) For interconnection of a proposed single-phase or effectively grounded three-phase Project where the primary distribution system is three-phase, four-wire, the Project will be connected line-to-neutral. For interconnection of a proposed single-phase or three-phase Project where the primary distribution system is three-phase, three-wire, the Project will be connected line to line.

(8) The proposed Project is not located in an area where there are known or posted transient stability limitations to Projects located in the general electric vicinity,

including but not limited to known harmonic issues.

(9) The proposed Project will not affect the Interconnecting Utility's 's ability to maintain voltages consistent with Standard ANSI C84.1.

(10) Voltage drop caused by starting Generation Resource is within acceptable limits, meaning that inrush current caused by the startup of the proposed Project up to once per hour is not greater than 3% of the available fault current or does not cause greater than a 3% voltage deviation at the Point of Interconnection as modeled in an unbalanced load flow. Voltage drop due to starting the proposed Project more than once per hour meets a tighter inrush-current tolerance to be determined by the Interconnecting Utility. This criterion is applicable only to synchronous or induction Projects.

(11) The Interconnection Requester affirms that the proposed Project meets the applicable codes and standards of Section 5.520 or is a certified equipment package under Section 5.519.

(12) Flicker caused by the proposed Project must comply with IEEE Standard 1547.

(13) 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%.

(14) Identification of affected Vermont utilities and/or Non-Jurisdictional Affected Utilities. These entities must identify no adverse impact on their Affected Systems.

(E) If the proposed interconnection passes the Preliminary Screening Criteria, the interconnection request must be approved, and the Application will not require additional study. Approval of an Application must be provided to the applicant in writing. For Projects greater than 150 kW in capacity, the Interconnecting Utility must provide the Interconnection Requester with an executable Interconnection Agreement within 7 days after the completion of the Preliminary Review. Projects with a Nameplate Rating of less than 150 kW may interconnect without an Interconnection Agreement unless operating restrictions or requirements are identified. For Projects with a Nameplate Rating of less than 150 kW with operating restrictions or requirements imposed as part of the interconnection, the Interconnecting Utility must provide the Interconnection Requester with an executable Interconnection Agreement within 7 days after the completion of the Preliminary Review.

(F) If the Project fails the Preliminary Screening Criteria, but the Interconnecting Utility determines that the Project may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the Interconnecting Utility must notify the Interconnection Requester in writing that the Application is approved. If the Project is greater than 150 kW in Nameplate Rating or has operating restrictions or requirements imposed as part of the interconnection, the Interconnecting Utility must provide an

executable Interconnection Agreement within 7 days. The Interconnecting Utility must provide a technical justification in the Preliminary Review conclusion regarding why the proposed Project may nevertheless be interconnected consistent with safety, reliability, and power quality standards.

(G) If the Preliminary Review identifies additional facilities or system upgrades that are not of a routine and uncomplicated nature and are needed to mitigate potential adverse impacts on the electric system, and if neither a Feasibility Study or System Impact Study is required, the Interconnecting Utility must send the Interconnection Requester an executable Facilities Study agreement (if required), which must include an outline of the scope of the study and a good-faith estimate of the cost to perform the study, within 7 days after the Interconnecting Utility provides the Preliminary Review conclusion.

(H) If the Project fails the Preliminary Screening Criteria, and the Interconnecting Utility does not or cannot determine from the initial review that the Project may nevertheless be interconnected consistent with safety, reliability, and power quality standards, and unless the Interconnection Requester is willing to consider minor modifications or further study, the Interconnecting Utility must provide the Interconnection Requester with the opportunity to attend a Scoping Meeting. If the Interconnection Requester indicates in response to this opportunity that it does not want to hold a Scoping Meeting or proceed to additional study, the Application will be considered withdrawn.

(I) If mutually agreed upon, a Scoping Meeting to discuss available options may be scheduled and held within 14 days of the Interconnecting Utility notifying the Interconnection Requester of the results of the review of the Preliminary Screening Criteria. The purpose of the Scoping Meeting may be to review existing studies relevant to the Interconnection Requester's Application.

(J) At the time of notification of the Interconnecting Utility's determination, or at the Scoping Meeting, the Interconnecting Utility must:

(1) Offer to perform limited and low-cost modifications to the Interconnecting Utility's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding, good-faith estimate of the cost to make such modifications to the Interconnecting Utility's electric system. If the Interconnection Requester agrees to pay for the modifications to the Interconnecting Utility's electric system and the Project is greater than 150 kW in Nameplate Rating or has operating restrictions or requirements imposed as part of the interconnection, the Interconnecting Utility must provide the Interconnection Requester with an executable Interconnection Agreement within 14 days of the Scoping Meeting or, if there is no Scoping Meeting, within 14 days of the notification of the Interconnecting Utility's determination; or

(2) Provide a non-binding, good-faith estimate of the costs of such review; or

(3) Obtain the Interconnection Requester's agreement to continue evaluating the Project under the study processes described in this Rule.

(K) If 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.

5.513 Feasibility Study

(A) In cases where the Interconnecting Utility determines that a Feasibility Study is necessary, the Interconnecting Utility must provide the Interconnection Requester with an executable Feasibility Study agreement that includes an outline of the scope of the study and a good-faith estimate of the cost to perform the study. The executable Feasibility Study agreement will be provided by the Interconnecting Utility within 7 days after the close of the Scoping Meeting, or the date of the decision not to hold a Scoping Meeting. In order to remain in the Interconnecting Utility's Interconnection Queue, the Interconnection Requester must return, within 21 days, an executed Feasibility Study agreement along with a deposit of the lesser of 50% of estimated Feasibility Study costs or $1,000.

(B) A Feasibility Study must include the following analyses:

(1) Initial identification of any instances where the short-circuit capability limits of any protective device (circuit breaker, recloser, fuse, etc.) that will be exceeded as a result of the Project;

(2) Initial identification of any thermal overload or voltage limit violations on transmission or distribution systems resulting from the Project;

(3) Initial review of islanding, grounding requirements, and system protection; and

(4) Identification of Affected Utilities and/or Non-Jurisdictional Affected Utilities.

(C) A Feasibility Study must model the impact of the Project in order to avoid the further expense and interruption of operation for reexamination of feasibility and impacts if the Interconnection Requester later changes the purpose for which the Project is being installed.

(D) A Feasibility Study must include the feasibility of any interconnection at a proposed Project site where there could be multiple potential Points of Interconnection, as requested by the Interconnection Requester.

(E) In performing the Feasibility Study, the Interconnecting Utility must rely, to the extent reasonably practicable, on existing studies of recent vintage. The Interconnection Requester will not be charged for such existing studies; however, the Interconnection Requester is responsible for charges associated with any new study or modifications to

existing studies that are reasonably necessary to perform the Feasibility Study.

(F) Feasibility Study Report

(1) Once a Feasibility Study is completed, the Interconnecting Utility must prepare a Feasibility Study Report, which describes the results of the Feasibility Study, and transmit it to the Interconnection Requester. Barring unusual circumstances outside of the Interconnecting Utility's control, the Interconnecting Utility must complete a Feasibility Study, and transmit the Feasibility Study Report to the Interconnection Requester, within 45 days of the Interconnection Utility's receipt of an executed Feasibility Study agreement and deposit as described in Section 5.512(A).

(2) The Feasibility Study Report must also include cost estimates for the Distribution Level System Impact Study, Transmission Level System Impact Study, and Facilities Study, to the extent that any of these studies are determined by the Feasibility Study to be required.

(3) The Interconnecting Utility must provide the applicable Study Agreement or Interconnection Agreement to the Interconnection Requester.

(G) If a Feasibility Study shows no potential adverse impacts on the electric system, and no additional facilities are required or the only additional facilities are not transmission voltage equipment or are of a routine and uncomplicated nature for the Interconnecting Utility (e.g., Projects covered by existing tariffs, fuses, relay settings), the Interconnecting Utility must send the Interconnection Requester written approval of the Application and, in the case of Projects with a capacity greater than 150 kW in Nameplate Rating or with operating restrictions or requirements imposed as part of the interconnection, an executable Interconnection Agreement within 14 days after delivery of the Feasibility Study Report.

(H) If a Feasibility Study shows no potential adverse impacts on the electric system, but additional facilities are required that need a Facilities Study, the Interconnecting Utility must send the Interconnection Requester an executable Facilities Study agreement, including an outline of the scope of the study and a good-faith estimate of the cost to perform the study within 7 days after delivery of the Feasibility Study Report.

(I) If a Feasibility Study shows the potential for adverse impacts on either the distribution system or the transmission system, the review process will proceed to the System Impact Study, and the Interconnecting Utility must send the Interconnection Requester an executable System Impact Study agreement, including an outline of the scope of the study and a good-faith estimate of the cost to perform the study within 7 days of the delivery of the Feasibility Study. The executable System Impact Study agreement must specify whether it and the cost estimate are for a Distribution Level Study, Transmission Level Study, or both. Additional study is not required if the adverse impacts are minor, routine in nature, or easily mitigated.

(J) In instances where a Feasibility Study shows potential impacts on the transmission system or a Non-Jurisdictional Affected Utility, within 7 days following transmittal of the Feasibility Study Report, the Interconnecting Utility must notify the Affected Systems. Affected Systems may require performance of separate System Impact Studies.

5.514 System Impact Study

(A) In order to remain in the Interconnecting Utility's Interconnection Queue, the Interconnection Requester must return, within 21 days, an executed System Impact Study agreement along with a deposit equivalent to the estimated cost of the study.

(B) A System Impact Study includes two sub-studies: a Transmission Level Study and a Distribution Level Study. One or both of the sub-studies may be performed, depending on the specific circumstances of the Application and the findings of the Preliminary Review, Scoping Meeting, and/or Feasibility Study. If the Preliminary Review, Scoping Meeting, or Feasibility Study identifies potential adverse impacts on the distribution system, a Distribution Level Study must be performed. If the Scoping Meeting, Feasibility Study, or Distribution Level Study identifies potential adverse impacts on the transmission system, a Transmission Level Study must be performed.

(1) The Distribution Level System Impact Study must consist of a distribution load-flow study, an analysis of equipment-interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on system operation, as necessary.

(2) The Transmission Level System Impact Study must consist of a short-circuit analysis, a stability analysis, a power-flow analysis, voltage-drop and flicker studies, protection and set-point-coordination studies, and grounding reviews, as necessary.

(C) The purpose of the System Impact Study is to identify and specify the impacts on electric transmission and/or distribution system stability and reliability that would result if the proposed Project were interconnected without Project modifications or system modifications, focusing on the adverse impacts identified in the Preliminary Review, Scoping Meeting, or Feasibility Study, and to identify and study any additional potential impacts.

(D) If the Project being reviewed includes an Energy Storage Device, the use case(s) for the Energy Storage Device will be included in the review, and the operation of the storage system will be limited to those use cases studied, which will be specifically identified in the Interconnection Application. Should the applicant want to change or add use cases for the Project, notice must be provided to the Interconnecting Utility and further study may be required and the changes may be considered a Material Modification

(E) System Impact Study Report

(1) Once a System Impact Study is completed, the Interconnecting Utility must prepare a System Impact Study Report and transmit it to the Interconnection Requester. Barring unusual circumstances outside of the Interconnecting Utility's control, the System Impact Study determined to be necessary by the Feasibility Study or Scoping Meeting must be completed and transmitted to the Interconnection Requester within 60 days from receipt of the System Impact Study agreement and deposit if a Feasibility Study was performed, and 90 days from receipt of the System Impact Study agreement and deposit if a Feasibility Study was not performed. ISO-NE or Affected Systems may require performance of a separate System Impact Study that may not necessarily be governed by this Rule.

(2) The System Impact Study Report must state the assumptions upon which the System Impact Study is based, state the results of the analyses, and provide the requirements for, or potential impediments to, providing the requested interconnection service. The System Impact Study must provide a list of upgrades that are required as a result of the Interconnection Requester's Application and cost responsibility. The System Impact Study Report must be provided with a Facilities Study agreement or Interconnection Agreement.

(F) If, while conducting the System Impact Study outlined in the executed System Impact Study agreement, the Interconnecting Utility determines that studies beyond those contained in the executed System Impact Study Agreement are required (for instance, if the Feasibility Study recommended that a Distribution Level Study be conducted, and, during the course of conducting the Distribution Level Study, the Interconnecting Utility determined that a Transmission Level Study is also required), the Interconnecting Utility must, within 7 days of making that determination, send the Interconnection Requester a supplemental System Impact Study agreement, including an outline of the scope of the supplemental study and a good-faith estimate of the cost to perform the supplemental study. To remain in the Interconnection Queue, the Interconnection Requester must return an executed supplemental System Impact Study Agreement within 21 days with a deposit equivalent to the estimated cost of the supplemental study. Barring unusual circumstances outside of the Interconnecting Utility's control, a supplemental System Impact Study must be completed and transmitted to the Interconnection Requester within 60 days of the receipt of the supplemental System Impact Study agreement.

(G) In instances where a Feasibility Study or a System Impact Study shows potential impacts on the transmission system, within 7 days following transmittal of the Feasibility Study Report or System Impact Study Report, the Interconnecting Utility must notify the Affected System's utility.

(H) Where transmission systems and electric power distribution systems have separate owners, such as is the case with transmission-dependent utilities, whether investor-owned or not, the Interconnection Requester or Interconnecting Utility may apply to the nearest transmission utility providing transmission service to the transmission-dependent utility to request Project coordination. An Affected System's utility must participate in the study and

provide all information necessary to prepare the study. Affected Systems may require performance of a separate System Impact Study.

(I) If a System Impact Study shows that no additional facilities are required, or that the only additional facilities are not transmission voltage equipment or are of a routine nature, the Interconnecting Utility must send the Interconnection Requester written approval of the Application and, in the case of Projects with a Nameplate Rating greater than 150 kW or with operating restrictions or requirements imposed as part of the interconnection, an executable Interconnection Agreement within 21 days after delivery of the System Impact Study Report.

(J) If a System Impact Study shows that additional facilities other than those that are routine and uncomplicated in nature for the utility (e.g., Projects covered by existing tariffs, fuses, relay settings) are required, the Interconnecting Utility must send the Interconnection Requester an executable Facilities Study agreement, including an outline of the scope of the study and a good-faith estimate of the cost to perform the study within 7 days after delivery of the System Impact Study Report.

5.515 Facilities Study

(A) To remain in the Interconnecting Utility's Interconnection Queue, the Interconnection Requester must return, within 30 days, an executed Facilities Study agreement along with a deposit equivalent to the estimated cost of the study.

(B) Facilities Study preparation. Transmission-system and/or distribution-system interconnection design for any required Interconnection Facilities and/or System Upgrades must be performed under a Facilities Study agreement between the Interconnection Requester and the Interconnecting Utility.

(C) In some cases, the Interconnection Requester and the Interconnecting Utility may reach agreement allowing the Interconnection Requester to separately arrange for the design of some of the required Interconnection Facilities and/or System Upgrades. In such cases, Interconnection Facilities' design will be reviewed, and modified as necessary by the Interconnecting Utility, before acceptance under the provisions of the Facilities Study agreement. If the parties agree to separately arrange for design and construction, the Interconnecting Utility must make sufficient information available to allow the Interconnection Requester to obtain an independent design and cost estimate for any necessary facilities. This provision does not prohibit the Interconnecting Utility and the Interconnection Requester from reaching agreement to protect information that one or the other deems confidential and does not require the Interconnecting Utility to disclose information that it is otherwise obligated not to disclose or affect the Commission's authority to compel or restrict disclosure of information.

(D) System Upgrades. In cases where System Upgrades are required, the Facilities Study must be completed and a Facilities Study Report transmitted to the Interconnection Requester within 60 days of the receipt of the Facilities Study agreement. In cases where no System

Upgrades are required, and the required facilities are limited to Interconnection Facilities, the Facilities Study must be completed and a Facilities Study Report transmitted to the Interconnection Requester within 30 days. In either event, the Facilities Study Report must include a good-faith estimate of the cost of any recommended System Upgrades or Interconnection Facilities.

(E) The Interconnecting Utility must send the Interconnection Requester an executable Interconnection Agreement within 21 days after delivery of the Facilities Study Report.

5.516 Terms Applicable to All Interconnection Applications

(A) The Interconnection Requester is responsible for meeting all applicable codes and standards of Section 5.520 unless interconnection is accomplished by a certified equipment package under Section 5.519.

(B) Interconnection Agreement. Except in the case of Projects that are allowed under this Rule to interconnect without a written agreement, upon completion of the necessary studies, if any, the Application must be approved and the Interconnecting Utility must provide the Interconnection Requester with an executable Interconnection Agreement with necessary attachments within the time limits identified in the portions of this Rule detailing the study processes used for the Project. The Interconnection Requester's Application will be deemed withdrawn and the Interconnection Requester will lose its Interconnection Queue position unless the Interconnection Requester returns the executed Interconnection Agreement by the later of (1) three months after provision of the executable Interconnection Agreement or (2) 30 days after the issuance of the Certificate of Public Good for the Project, but in no case later than one year after provision of the executable Interconnection Agreement. The Interconnection Requester bears all risk if, during the period between completion of any studies and the return of the executed Interconnection Agreement, (1) network conditions change such that the studies' results are no longer valid and the studies need to be revisited and updated at the Interconnection Requester's cost, or (2) the cost estimate for System Upgrades and Interconnection Facilities is no longer valid, except to the extent that these changed circumstances are known or could reasonably have been foreseen by the Interconnecting Utility.

(C) The Interconnection Agreement must require that Voltage Ride Through capability, Frequency Ride Through capability, and Smart Inverter functionality comply with the standards required by this Rule. If mutually agreed upon by the Interconnecting Utility and Interconnection Requester, the Interconnection Agreement must require enhanced Voltage Ride Through, Frequency Ride Through, or other Smart Inverter functionality, consistent with the standards required by this Rule and with Good Utility Practice.

(D) Reasonable Efforts. The Interconnecting Utility must make reasonable efforts to meet all time frames provided in this Rule unless the Interconnecting Utility and the Interconnection Requester agree to a different schedule. If an Interconnecting Utility cannot meet a deadline provided in this Rule, it must notify the Interconnection Requester, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will

complete the applicable interconnection procedure. The Interconnecting Utility must maintain records, subject to audit, of all Project Applications received, the times required to complete Application approvals and disapprovals, and justification for the actions taken on the Applications. If costs arise from delay despite reasonable efforts of the Interconnecting Utility, these costs will be borne by the Interconnection Requester. If costs arise from delay resulting from a lack of reasonable efforts on the part of the Interconnecting Utility, such costs will be borne by the Interconnecting Utility.

(E) Material Modifications not agreed to in writing by the Interconnecting Utility and the Interconnection Requester may be deemed by the Interconnecting Utility as a withdrawal of the Application, which will result in loss of queue position and will require submission of a new Application.

(F) Dispute Resolution. If a dispute arises at any time during these procedures, either the Interconnection Requester or the Interconnecting Utility may seek immediate resolution by written petition to the Commission, with copies to the other party and the Vermont Department of Public Service, stating the issues in dispute. Pursuit of dispute resolution will not affect an Interconnection Requester's Application with regard to consideration for interconnection, nor position in an Interconnection Queue.

(G) Interconnection Metering. Any metering necessitated by the interconnection of the Project must be installed at the Interconnection Requester's expense in accordance with the Interconnecting Utility's reasonable specifications.

(H) Commissioning. Commissioning tests of an Interconnection Requester's installed equipment must be performed pursuant to applicable codes and standards as identified by the parties in the Interconnection Agreement. The Interconnecting Utility must be given 14 days' written notice, or as otherwise mutually agreed by the parties, of the tests and may have one or more of its representatives present to witness the commissioning tests. The Interconnecting Utility must electronically record the results of the commissioning tests, including the control settings, momentary cessation settings, Voltage and Frequency Ride Through settings, and the vintage of the applicable standards.

(I) One-Line Diagram. In the case of Projects with a Nameplate Rating greater than 150 kW, the Interconnection Requester must, within 30 days of the Project in-service date, supply to the Interconnecting Utility an "as built" one-line diagram of what was installed during the construction process. Such diagrams must be stamped by a professional engineer. Any deviation from the Application not previously approved by the Interconnecting Utility must be addressed pursuant to the Interconnection Agreement.

(J) Notification Before Exceeding Cost Estimate. For any study, Interconnection Facilities, or System Upgrades for which this Rule requires the Interconnection Requester to bear costs, the Interconnecting Utility must, before exceeding a previously provided cost estimate, promptly notify the Interconnection Requester if such costs are likely to exceed the previously provided estimate and must provide the Interconnection Requester with a revised total estimated cost for the study. The Interconnecting Utility must proceed with

completing the study, Interconnection Facilities, or System Upgrades unless and until requested to cease processing the Application by the Interconnection Requester, in which case the Interconnection Requester is responsible for all such costs incurred to date and the Application will be deemed withdrawn.

(K) For those portions, if any, of the study fees for the Feasibility, System Impact, and Facilities Studies that the Interconnecting Utility bills to the Interconnection Requester and for which the Interconnecting Utility could also recover in its rates, the Interconnecting Utility must book this income separately.

(L) Where additional facilities, Interconnection Facilities, or System Upgrades are required to permit the interconnection of a Project, the Interconnection Requester must bear the entire cost of such facilities. Within 42 days of final collection of all material, labor, contractor, permitting, and other costs incurred by the Interconnecting Utility in constructing, testing, and commissioning the Interconnection Facilities and System Upgrades, the Interconnecting Utility must provide the Interconnection Requester with an invoice. The Interconnection Requester must pay all such costs that exceed the deposit within 42 days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the Interconnecting Utility must return such excess, without interest, within 42 days of receipt of the invoice or resolution of any dispute.

(M) Market Participation. As part of the Application, the Interconnecting Requester must notify the Interconnecting Utility whether the Project will be participating in the wholesale electricity markets, including whether the Project will be aggregated with other resources to participate. If market participation or use cases change after a Project has completed studies or received an Interconnection Agreement, the Interconnecting Utility must be notified and additional review may be required.

(N) Transmission-level studies. In the case of Projects with a Nameplate Rating greater than 1 MW, the Interconnecting Utility must coordinate with VELCO to determine whether the aggregate amount of Projects has reached the saturation level requiring a transmission-level cluster study. In the event such studies are needed, the Interconnecting Utility will notify the affected Interconnection Requesters. Those Projects included in the cluster study will follow the study process laid out in this Rule, except that the scope of the System Impact Study will include transmission-level studies as directed by ISO-NE. Typically, such studies will include steady state, short circuit, stability, and PSCAD studies.

5.517 Cost Responsibility and Cost Reconciliation

(A) Costs of facilities and cost responsibility. Where additional facilities, Interconnection Facilities, or System Upgrades are required to permit the interconnection of a Project, the Interconnecting Utility must provide a detailed, good-faith estimate of the costs, and the Interconnection Requester must pay the full amount of the estimate or, if such costs are covered by an Interconnection, Line Extension, or other tariff, said charges must be billed and paid pursuant to the tariff.

(B) Within 21 days of submittal of a study report, the Interconnecting Utility must provide to the Interconnection Requester an invoice that includes a breakdown of the actual cost to perform the study. The Interconnection Requester must pay the full cost of the study. The Interconnecting Utility must base all study fees on actual costs, which include, but are not limited to, salaries, overheads, and out-of-pocket costs, including costs billed by other entities for new studies or portions thereof that the Interconnecting Utility does not itself perform. If the cost of the study exceeds the deposit, the Interconnection Requester must pay the invoiced amount (cost of the study minus the deposit), without interest, within 30 days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the cost of the study, the Interconnecting Utility must refund such excess, without interest, within 21 days of submittal of the study report.

(C) Costs of transmission cluster studies. Where additional transmission-level cluster studies are required to determine any aggregate transmission impacts, the Interconnecting Utility must provide the Interconnection Requester with a detailed, good-faith estimate of the study costs. The Interconnection Requester must pay the full amount of the estimate or, if such costs are covered by an Interconnection Agreement or other tariff, said charges will be billed and paid pursuant to the tariff.

5.518 Disconnection

(A) The following requirements govern the disconnection from the electrical system of a Project that was interconnected under these procedures. These requirements apply to such Projects only and do not supplant Commission Rules 3.300 and 3.400 relating to utility disconnection in general.

(B) The Interconnection Requester retains the option to disconnect temporarily from the Interconnecting Utility's system at any time. Such temporary disconnection is not a termination of any Interconnection Agreement unless the Interconnection Requester exercises its termination rights under such agreement.

(C) In the event an Interconnecting Utility needs to perform an Emergency disconnection of a Project, the Interconnecting Utility must notify the Interconnection Requester within 24 hours after the disconnection.

(1) If the Emergency is not caused by the Project, the Interconnecting Utility must assist the Interconnection Requester with reconnecting the Project upon cessation of the Emergency.

(2) If the Emergency is caused by the Project, the Interconnecting Utility must communicate the nature of the problem to the Interconnection Requester within 5 days and must work with the Interconnection Requester to resolve the problem. If the problem has not been resolved within 30 days of an Emergency disconnection, the Interconnecting Utility must file a disconnection petition with the Commission. In any proceeding on such a petition, the Interconnecting Utility bears the burden of proof to demonstrate the reasonableness of disconnection.

(D) Non-Emergency disconnections must follow the same procedure as Emergency disconnections outlined above, except that the Interconnecting Utility must give written notice of the disconnection no earlier than 10 days and no later than 7 days before the first date on which disconnection of the Project may occur. Such notice must communicate the reason for disconnection to the Interconnection Requester and the expected duration of the disconnection. An Interconnecting Utility may obtain, at the discretion of the Interconnection Requester, an Interconnection Requester's written agreement to notice requirements for non-Emergency disconnections that are different from those set forth in these procedures, provided that the Interconnecting Utility first advises the Interconnection Requester of its rights under this Rule.

(E) An Interconnection Requester whose Project is involuntarily disconnected may file a complaint with the Commission at any time following disconnection. The Commission may hold a hearing to determine whether the Project should be reconnected to the Interconnecting Utility. In the event of the filing of such a complaint, the Interconnecting Utility bears the burden of proof to demonstrate the reasonableness of disconnection.

(F) A Project may be disconnected for exceeding the Export Capacity applied for and studied during the interconnection process, if such excess Export Capacity is not remedied within a reasonable time, after notice of such excess export is given by the Interconnecting Utility.

5.519 Certification of Project Equipment Packages

(A) A Project equipment package will be considered certified for interconnected operation to an electric power distribution system if it has been approved under the certification process described below.

(B) An equipment package will be considered certified for interconnected operation if it has been submitted, tested, and listed by a nationally recognized testing and certification laboratory or approved by the U.S. Department of Energy for continuous utility interactive operation in compliance with the applicable Codes and Standards listed in Section 5.520, below. An "equipment package" includes all interface components, including switchgear, inverters, or other interface devices, and may include an integrated Project. If the equipment package has been tested and listed as an integrated package that includes a Generation Resource, it does not require further design review, testing, or additional equipment to meet the certification requirements. If the equipment package includes only the interface components (switchgear, inverters, or other interface devices), then an Interconnection Requester must demonstrate to the Interconnecting Utility that the Generation Resource being utilized with the equipment package is compatible with the equipment package and consistent with the testing and listing specified for the package. If the Generation Resource combined with the equipment package is consistent with the testing and listing performed by the nationally recognized testing and certification laboratory, no further design review, testing, or additional equipment will be required to meet the certification requirements. A certified equipment package does not include

equipment provided by the Interconnecting Utility, nor does certification necessarily exempt an equipment package or Generation Resource from commissioning testing required for installation and operation.

5.520 Codes and Standards

When any listed version of the following codes and standards is superseded by a revision approved by the standards-making organization, then the revision will be applied where these codes and standards are referenced in this Rule. Applications that are date-and-time-stamped on or before six months after the revision date may follow the previous version of the standard, unless an immediate threat to safety and reliability exists that requires the retrofit of all similarly situated equipment. Applications that are date-and-time-stamped later than six months after the revision date must follow the revised standard.

(A) IEEE 1547 Series of Standards for Interconnecting Distributed Resources with Electric Power Systems as adopted;

(B) UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems;

(C) NFPA 70 National Electrical Code;

(D) IEEE Standard C37.90.1 IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems;

(E) IEEE Standard C37.90.2 IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers;

(F) IEEE Standard C37.108 IEEE Guide for the Protection of Network Transformers;

(G) IEEE Standard C57.12.44 IEEE Standard Requirements for Secondary Network Protectors;

(H) IEEE Standard C62.41.2 IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits;

(I) IEEE Standard C62.45 IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits;

(J) ANSI C84.1 Electric Power Systems and Equipment - Voltage Ratings (60 Hertz);

(K) IEEE Standard 100 IEEE Standard Dictionary of Electrical and Electronic Terms.

(L) NEMA MG 1 Motors and Small Resources;

(M) IEEE Standard 519 IEEE Standard for Harmonic Control in Electrical Power Systems;

(N) IEEE Standard 1453 IEEE Recommended Practice--Adoption of IEC 61000-4-15:2010, Electromagnetic compatibility (EMC)--Testing and Measurement Techniques--Flickermeter--Functional and Design Specifications;

(O) IEEE Standard 1453.1-2012 IEEE Adoption of IEC TR 61000-3-7 2008 Assessment of emission limits for the connection of fluctuating installations to MV, HV, and EHV power systems; and

(P) Any other code or standard ordered by the Commission.

5.521 Communications Protocols

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.

5.522 Limited-Export and Non-Exporting Projects

If a Project uses any configuration or operating mode listed below to limit the export of electrical power across the Point of Interconnection, then the Export Capacity is only the amount capable of being exported (not including any Inadvertent Export). To prevent impacts on system safety and reliability, any Inadvertent Export from a Project must comply with the limits in paragraphs (5) or (6), below. The Export Capacity specified in the Application will subsequently be included as a limitation in the Interconnection Agreement. Other means not listed in this section may be used to limit export if mutually agreed upon by the Interconnecting Utility and Applicant.

(1) Reverse Power Protection: To limit export of power across the Point of Interconnection, a reverse power protective function may be provided. The default setting for this protective function is 0.1% (export) of the service transformer's rating, with a maximum 2.0 second time delay to limit Inadvertent Export.

(2) Minimum Power Protection: To limit export of power across the Point of Interconnection, an under-power protective function may be provided. The default setting for this protective function is 5% (import) of the Project total Nameplate Rating, with a maximum 2.0 second time delay to limit Inadvertent Export.

(3) Directional Power Protection: To limit export of power across the Point of Interconnection, a directional power protective function is implemented using a utility grade protective relay. The default setting for this protective function is the Export Capacity value with a maximum 2.0 second time delay to limit Inadvertent Export.

(4) Relative Distributed Energy Resource Rating: This option requires the Nameplate Rating of the Project, minus any auxiliary load, to be so small in comparison to its host facility's minimum load that the use of additional protective functions is not required to ensure that power will not be exported to the electric delivery system. This option requires the Project capacity to be no greater than 50% of the Interconnection Requester's verifiable minimum host load over the past 12 months. This option is not available for interconnections to area networks or spot networks.

(5) Configured Power Rating: A reduced output rating utilizing the power rating configuration setting may be used to ensure the Project does not generate power beyond a certain value lower than the Nameplate Rating.[1]

(6) Certified Power Control Systems: Projects may use certified power control systems to limit export. Projects using this option must use a power control system and inverter certified per UL 1741 by a Nationally Recognized Testing Laboratory ("NRTL") with a maximum open loop response time of no more than 30 seconds. NRTL testing to the UL power control system certification requirements decision must be accepted until similar test procedures for power control systems are included in a standard. This option is not available for interconnections to area networks or spot networks.

(7) Limited Export Using Mutually Agreed-Upon Means: Projects may be designed with other control systems and/or protective functions to limit export and Inadvertent Export to levels mutually agreed upon by the Interconnection Requester and the Interconnecting Utility. The limits may be based on technical limitations of the Interconnection Requester's equipment or the electric delivery system equipment. To ensure Inadvertent Export remains within mutually agreed-upon limits, the Interconnection Requester must use an internal transfer relay, energy management system, or other customer facility hardware or software. This can also include the utilization of a paired system such as solar and storage to limit the maximum AC output from the site at any given time through charging of the Energy Storage Device at key times.

[1] The configuration setting corresponds to the active or apparent power ratings in Table 28 of IEEE 1547 – 2018, as described in subclause 10.4. A local Project communication interface is not required to utilize the configuration setting as long as it can be set by other means.