

## **4.100 SMALL POWER PRODUCTION AND COGENERATION**

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#### **4.101 Purpose**

The purpose of this Rule is to implement the provisions of 30 V.S.A. § 209(a)(8), 16 U.S.C. § 824a-3, and 18 C.F.R Part 292.

#### **4.102 Scope**

- (A) This Rule applies to Vermont electric distribution utilities and to those Qualifying Facilities that fall within the definitions contained in 30 V.S.A. § 209(a)(8) or 18 C.F.R. Part 292.
- (B) This Rule shall not be construed as prohibiting voluntary contracts with terms different from the terms contained herein.
- (C) This Rule applies to all contracts and obligations formed pursuant to the provisions of 30 V.S.A. § 209(a)(8), 16 U.S.C. § 824a-3, and 18 C.F.R. Part 292, except standard-offer contracts formed pursuant to 30 V.S.A. § 8005a. For contracts and obligations or extensions of prior contracts or obligations formed subsequent to the effective date of this Rule, the rules and procedures set forth herein shall apply. For contracts and obligations in existence prior to the effective date of this Rule, nothing herein shall cause them to be changed. Any previous designation of a Purchasing Agent pursuant to prior versions of Rule 4.100, as

well as the rules and obligations attendant thereto, shall remain in full force and effect unless and until specifically modified by the Board on a prospective basis with respect to contracts and obligations formed prior to the effective date of this Rule.

#### **4.103 Definitions**

- (A) For purposes of this Rule, the following definitions apply:
1. “As-Delivered Rates” means rates based on the Avoided Costs for energy and capacity of the Interconnecting Utility that are determined at the time the Qualifying Facility delivers electricity to the delivery point.
  2. “Avoided Cost” means the incremental cost to the Interconnecting Utility of electric energy or capacity or both, which, but for the purchase from the Qualifying Facility, the Interconnecting Utility would generate itself or purchase from another source.
  3. “Capacity” means the capability to produce electric energy, measured in kilowatts (kW).
  4. “Capacity Costs” means the costs associated with providing the capability to produce energy. They consist of the capital costs of facilities used to generate electricity and the fixed operating and maintenance costs of those facilities or the costs to purchase capacity to meet an Interconnecting Utility’s capacity load obligation.
  5. “Capacity Load Obligation” means an Interconnecting Utility’s obligation to purchase its load share of system capacity acquired through the Forward Capacity Market.
  6. “Capacity Supply Obligation” means an ISO-NE Registered Asset’s obligation to provide capacity, measured in kW, acquired through participation in the Forward Capacity Market.
  7. “Delivery Point” means the point of interconnection between the Qualifying Facility and the Interconnecting Utility’s electric distribution system or the transmission system located in the Interconnecting Utility’s service territory.
  8. “Electricity” means energy or capacity or both.
  9. “Energy” means electric energy measured in kilowatt-hours (kWh).

10. “Energy Market” means the bid-based energy market administered by ISO-NE where market participants purchase and sell electric energy. The Energy Market includes both a day-ahead market and a real-time market.
11. “Forward Capacity Market” means the auction-based capacity market administered by ISO-NE. The Forward Capacity Market includes an annual forward capacity auction, an annual reconfiguration auction, and monthly reconfiguration auctions.
12. “Interconnecting Utility” means the electric distribution utility in whose service territory the Qualifying Facility is located or to whose electric distribution system the Qualifying Facility is connected.
13. “ISO-NE” means ISO New England, Inc., the independent system operator authorized by the Federal Energy Regulatory Commission to operate the New England bulk power system and administer the New England wholesale electricity markets pursuant to operation agreements with transmission owners and the ISO-NE Tariff.
14. “ISO-NE Registered Asset” means any generation unit that has met ISO-NE’s process for registering as a generator for settlement purposes, as defined in the ISO-NE Tariff.
15. “ISO-NE Tariff” means the tariff entitled *ISO New England Inc. Transmission, Markets, and Services Tariff*, or its successor, which contains the rates, terms, and conditions governing the transmission system, wholesale electricity markets, and other services provided by ISO-NE.
16. “Load Reducer” means a generation resource that delivers electricity directly to an Interconnecting Utility without using the transmission system or another Interconnecting Utility's distribution system; that is not registered with ISO-NE; and that does not report its output to ISO-NE.
17. “LMP” means locational marginal price or its successor, which is the clearing price for energy in the day-ahead or real-time Energy Market that is determined for sub-hourly, hourly, monthly, and yearly intervals at ISO-NE delivery nodes, zones, and hubs.
18. “Net Electrical Output” means gross electrical output of a generator less any station service.

19. “NEPOOL” means the New England Power Pool, or its successor, a voluntary association of electric market participants from the six New England states.
20. “Qualifying Facility” means a cogeneration facility or a small power production facility, which is a qualifying facility under 18 C.F.R Part 292 and 30 V.S.A. § 209(a)(8).
21. “Time-of-Obligation Rates” means rates based on the Avoided Costs for energy and capacity of the Interconnecting Utility that are determined: (1) for a Qualifying Facility that is already constructed, at the time a Qualifying Facility commits to selling its output to the Interconnecting Utility; or (2) for a Qualifying Facility not already constructed, at the time a Qualifying Facility files a petition for a certificate of public good under 30 V.S.A. § 248 or other construction and operating authority under any other applicable state statute.

#### **4.104 Utility Purchase of Qualifying Facility Output**

- (A) An Interconnecting Utility must purchase the generation output of a Qualifying Facility, to the extent required by 18 C.F.R. § 292.303(a).
- (B) A Qualifying Facility may elect to sell its generation output to an Interconnecting Utility under one of the following arrangements:
  1. A standard power purchase contract not to exceed seven years based on as-delivered rates (an “as-delivered contract”);
  2. A standard-power purchase contract for a term of seven years based on time-of-obligation Rates (a “time-of-obligation contract”); or
  3. A negotiated power purchase contract executed between the Qualifying Facility and the Interconnecting Utility.
- (C) When a Qualifying Facility submits an offer to sell generation output to an Interconnecting Utility, the Interconnecting Utility must respond to the offer within 30 days of receipt of the offer. If, within 90 days of a Qualifying Facility submitting an offer to an Interconnecting Utility, there is failure to agree to terms, the Qualifying Facility may petition the Board for resolution of the issue.
- (D) Energy and capacity payments made to the Qualifying Facility shall be based on the Qualifying Facility’s metered net electrical output pursuant to Paragraph 4.107.
- (E) Energy payments made to the Qualifying Facility shall be based on:

1. One of the following as appropriate for as-delivered contracts:
  - (a) For ISO-NE Registered Assets, the energy rate shall be the hourly real-time LMP at the ISO-NE delivery node. If an ISO-NE Registered Asset agrees to provide the Interconnecting Utility with a daily generation forecast prior to the ISO-NE day-ahead generation offer submission deadline, the energy rate shall be the hourly day-ahead LMP at the ISO-NE delivery node adjusted to reflect any real-time Energy Market settlement for deviation from the generation that cleared in the day-ahead Energy Market.
  - (b) For Load Reducers, the energy rate shall be the hourly Vermont zone clearing price for energy in the real-time Energy Market.
2. A Qualifying Facility may elect to accept time-of-obligation rates that are either standard rates or index rates.
  - (a) Standard rates for energy for time-of-obligation contracts shall be based on the Interconnecting Utility's Avoided Costs for energy, as provided pursuant to Paragraph 4.109 and after consideration of the factors set forth in 18 C.F.R § 292.304(e). Standard rates shall be determined at the start of the contract period and remain unchanged over the term of the time-of-obligation contract. Standard rates shall include a monthly on-peak and off-peak energy component.
  - (b) Index rates for energy shall have a monthly on-peak and off-peak component and shall be updated monthly over the term of the time-of-obligation contract. Index rates shall be calculated using on-peak and off-peak monthly forward prices at the ISO-NE Massachusetts Hub that are available on the New York Mercantile Exchange (or other accepted published commodity exchange for ISO-NE forward prices). Index rates for a given month shall be calculated using the following formulas:

For ISO-NE Registered Assets:

$$\text{Index Rate} = \text{MA Forward Price} \times (\text{ISO-NE LMP} / \text{MA LMP})$$

For Load Reducers:

$$\text{Index Rate} = \text{MA Forward Price} \times (\text{VT LMP} / \text{MA LMP})$$

Where,

*MA Forward Price is the average of the daily forward prices for the ninety days immediately preceding the delivery month for which the on-peak and off-peak components are being calculated.*

*ISO-NE LMP is the real-time LMP at the ISO-NE delivery node averaged for the twelve-month period immediately preceding the start of the contract year. ISO-NE LMP shall be calculated for both the on-peak and off-peak periods.*

*VT LMP is the real-time LMP at the Vermont zone averaged for the twelve-month period immediately preceding the start of the contract year. VT LMP shall be calculated for both the on-peak and off-peak periods.*

*MA LMP is the real-time LMP at the Massachusetts hub averaged for the twelve-month period immediately preceding the start of the contract year. MA LMP shall be calculated for both the on-peak and off-peak periods.*

- (F) Capacity payments made to the Qualifying Facility shall be based on:
1. For as-delivered contracts, one of the following as appropriate shall determine capacity payments:
    - (a) For ISO-NE Registered Assets, monthly capacity payments shall be based on payments received from the Qualifying Facility's participation in the Forward Capacity Market, as adjusted for any performance penalties or incentives assessed or paid by ISO-NE.
    - (b) For Load Reducers, monthly capacity payments shall be based on the value of the Qualifying Facility's capacity output, if any, during the annual maximum hourly peak load for the ISO-NE system used to calculate the Interconnecting Utility's capacity load obligation. To the extent that the Qualifying Facility's output reduces the Interconnecting Utility's capacity load obligation for a specific month, the capacity payment shall be the reduction in the Interconnecting Utility's capacity load obligation multiplied by the monthly rate determined through the Forward Capacity Market that is charged for the Interconnecting Utility's capacity load obligation.
  2. For time-of-obligation contracts, capacity rates shall be based on the Interconnecting Utility's Avoided Costs for capacity, as provided pursuant

to Paragraph 4.109 and after consideration of the factors set forth in 18 C.F.R § 292.304(e). Rates for capacity shall be determined at the start of the contract period and remain unchanged over the term of the time-of-obligation contract. One of the following as appropriate shall determine capacity payments:

- (a) For ISO-NE Registered Assets, monthly capacity payments shall be based on the capacity supply obligation for the month multiplied by the contractual rate specified in the time-of-obligation contract, as adjusted for any performance penalties or incentives assessed or paid by ISO-NE.
- (b) For Load Reducers, monthly capacity payments shall be based on the value of the Qualifying Facility's capacity output, if any, during the annual maximum hourly peak load for the ISO-NE system used to calculate the Interconnecting Utility's capacity load obligation. To the extent that the Qualifying Facility's output reduces the Interconnecting Utility's capacity load obligation for a specific month, the capacity payment shall be the reduction in the Interconnecting Utility's capacity load obligation multiplied by the contractual rate in the time-of-obligation contract.
- (G) Rates paid for energy and capacity shall be adjusted by a transmission line-loss credit reflecting the non-pool transmission facility losses across the Vermont transmission system. The transmission line-loss credit shall be 0.53% or any updated value approved by the Board after the effective date of this Rule.
- (H) Rates paid for energy and capacity may be further adjusted to account for distribution line-losses (positive or negative). Each Qualifying Facility may request a line-loss study that shall be used to determine the distribution line-loss adjustment that applies to the specific Qualifying Facility. The Interconnecting Utility shall perform the line-loss study and the Qualifying Facility shall pay for the cost of such study.
- (I) Each Interconnecting Utility shall annually publish standard rates for a Qualifying Facility that has a nameplate capacity of 100 kW or less.
- (J) Neither the Qualifying Facility nor the Interconnecting Utility may unilaterally alter the duration of the sales period or the terms and conditions of the transaction after it has become effective. After notice and hearing, the Board may alter such contracts for good cause, but except to the extent that alteration is permitted by the terms of the contract, no such alteration may be made over the objection of any Interconnecting Utility or of the Qualifying Facility if it would materially

affect substantial rights or obligations of either the utility or of the ratepaying public.

- (K) Other general power purchase contract terms and conditions include:
1. Each Interconnecting Utility must offer a standard power purchase contract providing for payment at as-delivered rates or time-of-obligation rates to any Qualifying Facility making a request for such a contract.
  2. Information, Rules, and Requirements:
    - (a) A Qualifying Facility shall comply with any and all applicable NEPOOL and ISO-NE information requests, rules, and requirements that are necessary for a Qualifying Facility's generation output to be valued by an Interconnecting Utility. The Qualifying Facility shall provide such information to the Interconnecting Utility in a timely manner.
    - (b) For ISO-NE Registered Assets, in order to receive capacity payments, the Qualifying Facility is responsible for qualifying and maintaining its qualification in the Forward Capacity Market throughout the contract term in order to obtain a Capacity Supply Obligation.
  3. Fines, Penalties, and Sanctions: In the event that a fine, penalty, or sanction is levied on an Interconnecting Utility by NEPOOL or ISO-NE as a result of a Qualifying Facility's failure to comply with a NEPOOL or ISO-NE information request, rule, or requirement, the Qualifying Facility shall be responsible for the costs of such fines, penalties, or sanctions imposed by NEPOOL or ISO-NE on the Interconnecting Utility.
  4. Within 90 days of the effective date of this Rule, each Interconnecting Utility shall file with the Board a model template of the standard power purchase contract for use pursuant to this rule.

#### **4.105 Utility Sale of Electricity**

- (A) Rates for sales to Qualifying Facilities shall not discriminate against Qualifying Facilities in comparison to rates for sales to other customers served by the Interconnecting Utility. Rates for sales that are based on accurate data and consistent system-wide costing principles shall not be considered to discriminate against any Qualifying Facility to the extent that such rates apply to the utility's other customers with a similar load or other cost-related characteristics. Optional rates shall not be mandated by the Interconnecting Utility.



- (B) Upon the request of a Qualifying Facility, the Interconnecting Utility shall, by tariff or by special contract, provide the following: supplementary power, back-up power, maintenance power, and interruptible power. Rates for these sales shall not be based upon the assumption (unless supported by factual data) that forced outages or other reductions in electric output by all Qualifying Facilities on the Interconnecting Utility's system will occur simultaneously, or during the system peak, or both.

#### **4.106 Interconnection and Operating Standards**

Interconnection shall be governed by Rule 5.500.

#### **4.107 Metering**

- (A) The output of the Qualifying Facility shall be measured either by the retail meter used for metering station service or by the additional meter.
1. The Qualifying Facility shall furnish and install the necessary meter socket and wiring in accordance with accepted electrical standards and ISO-NE operating procedure(s) related to metering.
  2. The Interconnecting Utility shall determine the metering requirements of the Qualifying Facilities from which it purchases electricity. The Interconnecting Utility shall read and maintain the metering equipment.
  3. Where an additional meter is used to measure the output of the Qualifying Facility:
    - (a) If the Qualifying Facility chooses to own the meter, the Qualifying Facility shall pay to the Interconnecting Utility a monthly charge to cover meter maintenance and incremental reading and billing costs.
    - (b) If the Qualifying Facility chooses to have the Interconnecting Utility own the meter, the Qualifying Facility shall pay the Interconnecting Utility a monthly charge that covers taxes, meter maintenance, incremental reading and billing costs, the allowable return on the invoice cost of the meter, and the depreciation of the meter as authorized by the Interconnecting Utility's approved tariff.

#### **4.108 Exemption from Utility Regulation**

Those Qualifying Facilities within the scope of this Rule that sell electricity only at wholesale shall be exempt from all regulation under Title 30 except under 30 V.S.A. §§ 202,

209(a)(3), 209(a)(8), 214, and 248. Qualifying Facilities that meet the above definitions and whose facilities have an installed capacity of 10 kW or less shall be exempt from all regulation under Title 30 except 30 V.S.A. §§ 209(a)(3), 209(a)(8), and 248. The Board may expand or reduce the scope of these exemptions for good cause shown and where not prohibited by law.

#### **4.109 Reporting Requirements**

- (A) When requested by the Board or the Department of Public Service, Qualifying Facilities shall submit information concerning the operation, management, and physical condition of a particular facility as necessary for the Board to ensure the safe operation and management of the particular facility.
- (B) Each Interconnecting Utility with total sales of electric energy for purposes other than resale exceeding 500 million kWh in the immediately preceding calendar year shall file a schedule with the Board and the Department of Public Service of its Avoided Costs every 24 months beginning on December 31, 2016. These Avoided Costs shall, if appropriate, provide representative pricing for blocks of energy in increments of not more than 10% of the Interconnecting Utility's load.
  - 1. Avoided Costs for Energy shall, at a minimum, provide on-peak and off-peak pricing (as defined by ISO-NE) for each month of the current year and the next seven years.
  - 2. Avoided Costs for Capacity shall be provided for each month for a period of seven years and shall be expressed as Avoided Costs per kW-month.
  - 3. Each Interconnecting Utility shall include a schedule detailing any planned capacity additions or retirements by amount and type, including planned purchases of energy and capacity for the following seven years that cumulatively equal or exceed 10 percent of the Interconnecting Utility's annual peak load.
- (C) Each Interconnecting Utility with total sales of electric energy for purposes other than resale of less than 500 million kWh in the immediately preceding calendar year shall provide data comparable to that described in 4.109(B) upon request by the Board, Department of Public Service, or a Qualifying Facility.
- (D) Each Interconnecting Utility shall file an annual report with the Board and the Department of Public Service detailing new Qualifying Facility activity in a calendar year, by April 1 of the subsequent year. Such filing shall include:
  - 1. The name and address of the owner and the location of each Qualifying Facility;

2. A description of the type of each Qualifying Facility;
  3. The primary fuel source of each Qualifying Facility;
  4. The date each Qualifying Facility was placed on line;
  5. The design or nameplate capacity of each Qualifying Facility; and
  6. The expected annual output of each Qualifying Facility.
- (E) Each Interconnecting Utility shall file an annual report with the Board and the Department of Public Service detailing the total energy and capacity purchases made from Qualifying Facilities pursuant to Rule 4.100 by April 1 of the subsequent year. Such filing shall include:
1. The name of each Qualifying Facility;
  2. The MWh of generation purchased from each Qualifying Facility;
  3. The total payments made to each Qualifying Facility for energy;
  4. The average monthly MW of capacity purchased from each Qualifying Facility during the year; and
  5. The total payments made to each Qualifying Facility for capacity.

#### **4.110 Exceptions**

The Board may grant exceptions to the requirements of this rule for good cause shown and where not prohibited by law. The petitioner in such case shall bear the burden of proof.

#### **4.111 Utility Ratemaking**

All reasonable costs incurred by a utility pursuant to this rule shall be included in that utility's revenue requirement for ratemaking purposes.

#### **4.112 Effective Date**

This rule shall become effective fifteen days after adoption and filing.