

**SCHEDULE 21 - VEC  
LOCAL SERVICE SCHEDULE  
OF  
VERMONT ELECTRIC COOPERATIVE, INC.**

## TABLE OF CONTENTS

Schedule 21 - VEC

### LOCAL SERVICE SCHEDULE

#### I. Common Service Provisions

##### 1 Definitions

- 1.1 Definitions
- 1.2 Firm Local Point-to-Point Transmission Service
- 1.3 Independent System Operator
- 1.4 Load Ratio Share
- 1.5 Load Shedding
- 1.6 Local Network Customer
- 1.7 Local Network Load
- 1.8 Local Network Operating Agreement
- 1.9 Local Network Operating Committee
- 1.10 Local Network Upgrades
- 1.11 Local Non-Firm Sale
- 1.12 Local Service Agreement
- 1.13 Local Transmission Customer
- 1.14 Non-Firm Local Point-to-Point Transmission Service
- 1.15 Parties
- 1.16 Phase I/Phase II HVDC Facilities
- 1.17 Reserved
- 1.18 Short-Term Firm Local Point-to-Point Transmission Service
- 1.19 Transmission Owner
- 1.20 Transmission Owner
- 1.21 VEC
- 1.22 VEC's Monthly Transmission System Peak

- 1.23 VTransco
- 2 Initial Allocation and Renewal Procedures
  - 2.1 Reservation Priority For Existing Firm Service Customers
- 3 Ancillary Services
- 4 Billing and Payment
  - 4.1 Billing Procedure
  - 4.2 Interest on Unpaid Balances
  - 4.3 Customer Default
- 5 Accounting for VEC's Use of the Tariff
  - 5.1 Transmission Revenues
  - 5.2 Study Costs and Revenues
- 6 Regulatory Filings
- 7 Creditworthiness
- 8 Dispute Resolution Procedures
  - 8.1 Internal Dispute Resolution Procedures
  - 8.2 External Arbitration Procedures
  - 8.3 Arbitration Decisions
  - 8.4 Costs
  - 8.5 Rights Under the Federal Power Act

## II. LOCAL POINT-TO-POINT TRANSMISSION SERVICE

- 9 Preamble
  - 9.1 Classification of Firm Local Transmission Service

9.2 Classification of Non-Firm Local Point-to-Point Transmission Service

10 Service Availability

10.1 General Conditions

10.2 Determination of Available Transfer Capability

10.3 Real Power Losses

11 Procedures for Arranging Non-Firm Point-to-Point Transmission Service

11.1 Determination of Available Transfer Capability

12 Compensation for Transmission Service

13 Stranded Cost Recovery

III LOCAL NETWORK SERVICE

14 Real Power Losses

15 Initiation Service

15.1 Condition Precedent for Receiving Service

15.2 Operation of Network Resources

15.3 Use of Interface Capacity by the Local Network Customer

16 Load Shedding and Curtailments

16.1 Procedures

16.2 Transmission Constraints

16.3 Cost Responsibility for Relieving Transmission Constraints

16.4 Curtailments of Scheduled Deliveries

16.5 Allocation of Curtailments

16.6 Load Shedding

16.7 System Reliability

17 Rates and Charges

- 17.1 Monthly Demand Charge
- 17.2 Determination of Local Network Customer's Monthly Network Load
- 17.3 Determination of VEC's Monthly Transmission System Load
- 17.4 Redispatch Charge
- 17.5 Stranded Cost Recovery
- 17.6 Reserved

18 Operating Agreements

- 18.1 Network Operating Agreement
- 18.2 Network Operating Committee

SCHEDULE 8	Long-Term and Short-Term Firm Local Point-to-Point Transmission Service
SCHEDULE 9	Non-Firm Local Point-to-Point Transmission Service
SCHEDULE 10	Monthly Demand Charge for Local Network Service
ATTACHMENT A	Methodology to Assess Available Transfer Capability
ATTACHMENT B	Methodology for Completing a System Impact Study
ATTACHMENT C	Local Network Operating Agreement
ATTACHMENT D	Procedures for Determination of Average Metered Energy Line Losses Under the Local Service Schedule
ATTACHMENT E	Notice of Adoption of NERC TLR Procedures
ATTACHMENT L	Creditworthiness

## **I. COMMON SERVICE PROVISIONS**

This Local Service Schedule, designated Schedule 21-VEC, governs the terms and conditions of service taken by Transmission Customers over VEC's Transmission System who are not otherwise served under transmission service contracts with VEC that are still in effect. In the event of a conflict between the provisions of this Schedule 21-VEC and the other provisions of the Tariff, the provisions of this Schedule 21-VEC shall control.

### **1 Definitions**

Whenever used in this Local Service Schedule, in either the singular or plural number, the following capitalized terms shall have the meanings specified in the Definition Sections of this Part I. Terms used in this Local Service Schedule but not defined in this Definition Section shall have the meanings specified in the Tariff. Terms used in this Local Service Schedule that are not defined in this Local Service Schedule or the Tariff, shall have the meanings customarily attributed to such terms by the electric utility industry in New England. Sections, Schedules or Attachments referred to in this Local Service Schedule shall mean a section in or schedule or attachment to this Local Service Schedule unless otherwise stated.

**1.1 Designated Agent:** Any entity that performs actions or functions on behalf of VEC, an Eligible Customer, or the Transmission Customer required under the Tariff.

**1.2 Firm Local Point-to-Point Transmission Service:** Transmission Service under this Local Service Schedule that is reserved and/or scheduled between specified Points of Receipt and Delivery on VEC's Transmission System pursuant to this Schedule 21.

**1.3 Independent System Operator:** The central dispatching agency provided for in the Tariff which has the responsibility for the operation of the New England Control Area from the control center and the administration of the Tariff.

**1.4 Load Ratio Share:** Ratio of a Transmission Customer's Network Load to VEC's total load computed in accordance with the provisions under this Local Service Schedule and calculated on a rolling twelve-month basis.

**1.5 Load Shedding:** The systematic reduction of system demand by temporarily decreasing load in response to transmission system or area capacity shortages, system instability, or voltage control considerations under Part III of the Local Service Schedule.

**1.6 Local Network Customer:** An entity receiving transmission service pursuant to the terms of VEC's Local Network Service under Part III of this Local Service Schedule.

**1.7 Local Network Load:** The load that a Local Network Customer designates for Local Network Service under Part III of the Local Service Schedule. The Local Network Customer's Local Network Load shall include all load served by the output of any Local Network Resources designated by the Local Network Customer. A Network Customer may elect to designate less than its total load as Network Load but may not designate only part of the load at a discrete Point of Delivery. Where an Eligible Customer has elected not to designate a particular load at discrete points of delivery as Network Load, the Eligible Customer is responsible for making separate arrangements for any Point-to-Point Transmission Service that may be necessary for such non-designated load.

**1.8 Local Network Operating Agreement:** An executed agreement that contains the terms and conditions under which the Local Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Local Network Service under this Local Service Schedule. The Network Operating Agreement shall be consistent with ISO New England Operating Procedures.

**1.9 Local Network Operating Committee:** A group made up of representatives from the Local Network Customer(s) and VEC established to coordinate operating criteria and other technical considerations required for implementation of Local Network Service under this Local Service Schedule.

**1.10 Local Network Upgrades:** Modifications or additions to transmission-related facilities that are integrated with and support VEC's overall Transmission System for the general benefit of all users of such Transmission System.

**1.11 Local Non-Firm Sale:** An energy sale under this Local Service Schedule for which receipt or delivery may be interrupted for any reason or no reason, without liability on the part of either buyer or seller.

**1.12 Local Service Agreement:** The initial agreement and any amendments or supplements thereto entered into by the Transmission Customer, the ISO and VEC for service under this Local Service Schedule.

**1.13 Local Transmission Customer:** Any Eligible Customer (or its Designated Agent) that (i) executes a Local Service Agreement or (ii) requests in writing that VEC and the ISO file with the Commission a proposed unexecuted Local Service Agreement to receive transmission service under Part II of this Local Service Schedule. This term is used in the Part I Common Service Provisions to include customers receiving local transmission service under Part II and Part III of this Local Service Schedule.

**1.14 Non-Firm Local Point-to-Point Transmission Service:** Point-to-Point Transmission Service under this Local Service Schedule that is reserved and scheduled on an as-available basis and is subject to Curtailment or Interruption as set forth in Part II of this Local Service Schedule. Non-Firm Local Point-to-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

**1.15 Parties:** VEC, the ISO and the Transmission Customer receiving service under this Local Service Schedule.

**1.16 Phase I/Phase II HVDC Facilities:** The direct current lines between Des Cantons, Quebec and Tewksbury, Massachusetts.

**1.17 Reserved.**

**1.18 Short-Term Firm Local Point-to-Point Transmission Service:** Firm Local Point-to-



Point Transmission Service under Part II of this Local Service Schedule with a term of less than one year.

**1.19 Transmission Owner:** The public utility (or its Designated Agent) that owns, controls, or operates facilities used for the transmission of electric energy in interstate commerce and provides transmission service under the Tariff. VEC or its Designated Agent is the Transmission Owner under this Schedule 21-VEC.

**1.20 Transmission System:** The facilities owned, controlled or operated by VEC that are used to provide local transmission service under Part II and Part III of this Local Service Schedule.

**1.21 VEC:** Vermont Electric Cooperative, Inc.

**1.22 VEC's Monthly Transmission System Peak:** The maximum firm usage of VEC's Transmission System in a calendar month.

**1.23 VTransco:** Vermont Transco LLC

## **2 Initial Allocation and Renewal Procedures**

### **2.1 Reservation Priority For Existing Firm Service Customers:**

Refer to the common provisions Schedule 21, Section I.11.a. of the Tariff.

## **3 Ancillary Services**

Ancillary Services are needed with transmission service to maintain reliability within and among the Control Areas affected by the transmission service. VEC is required to provide (or offer to arrange with the ISO, or other Designated Agent, as discussed below), and the Transmission Customer is required to purchase, the following Ancillary Services: (i) Scheduling, System Control and Dispatch. All Ancillary Services, to the extent necessary, must be obtained through the Tariff. No Ancillary Services are provided under this Local Service Schedule.

## **4 Billing and Payment**

**4.1 Billing Procedure:** Within a reasonable time after the first day of each month, VEC shall submit an invoice to the Local Transmission Customer for the charges for all services furnished under this Local Service Schedule during the preceding month. The invoice shall be paid by the Local Transmission Customer within twenty (20) days of receipt. All payments shall be made in immediately available funds payable to VEC, or by wire transfer to a bank named by VEC.

**4.2 Interest on Unpaid Balances:** Interest on any unpaid amounts (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a(a)(2)(iii). Interest on delinquent amounts shall be calculated from the due date of the bill to the date of payment. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by VEC.

**4.3 Customer Default:** In the event the Local Transmission Customer fails, for any reason other than a billing dispute as described below, to make payment to VEC on or before the due date as described above, and such failure of payment is not corrected within thirty (30) calendar days after VEC notifies the Local Transmission Customer to cure such failure, a default by the Local Transmission Customer shall be deemed to exist. Upon the occurrence of a default, VEC may initiate a proceeding with the Commission to terminate service but shall not terminate service until the Commission so approves any such request. In the event of a billing dispute between VEC and the Local Transmission Customer, VEC will continue to provide service under the Local Service Agreement as long as the Local Transmission Customer (i) continues to make all payments not in dispute, and (ii) pays into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If the Local Transmission Customer fails to meet these two requirements for continuation of service, then VEC may provide notice to the Local Transmission Customer of its intention to suspend service in sixty (60) days, in accordance with Commission policy.

## **5 Accounting for VEC's Use of the Tariff:** VEC shall record the following amounts, as outlined below.

**5.1 Transmission Revenues:** Include in a separate operating revenue account or subaccount the revenues it receives from Local Point-to-Point Transmission Service when making Third-Party Sales under Part II of this Local Service Schedule.

**5.2 Study Costs and Revenues:** Include in a separate transmission operating expense account or subaccount, costs properly chargeable to expenses that are incurred to perform any System Impact Studies or Facilities Studies which VEC conducts to determine if it must construct new transmission facilities or upgrades necessary for its own uses, including making Third-Party Sales under this Local Service Schedule; and include in a separate operating revenue account or subaccount the revenues received for System Impact Studies or Facilities Studies performed when such amounts are separately stated and identified in the Local Transmission Customer's billing under this Local Service Schedule.

## **6 Regulatory Filings**

Nothing contained in the Tariff (including this Local Service Schedule 21-VEC) or any Service Agreement shall be construed as affecting in any way the right of VEC to unilaterally make application to the Commission for a change in rates, terms and conditions, charges, classification of service, Service Agreement, rule or regulation under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder. Nothing contained in the Tariff (including this Local Service Schedule 21-VEC) or any Service Agreement shall be construed as affecting in any way the ability of any Party receiving service under the Tariff to exercise its rights under the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

## **7 Creditworthiness**

VEC's Creditworthiness procedures are specified in Attachment L. Information supporting Attachment L may be posted on VEC's OASIS and/or corporate website.

## **8 Dispute Resolution Procedures**

**8.1 Internal Dispute Resolution Procedures:** Any dispute between a Transmission

Customer and VEC involving transmission service under this Local Service Schedule (excluding applications for rate changes or other changes to the Local Service Schedule, or to any Service Agreement entered into under the Tariff in conjunction with this Local Service Schedule, which shall be presented directly to the Commission for resolution) shall be referred to a designated senior representative of VEC and a senior representative of the Transmission Customer for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the Parties may agree upon) by mutual agreement, such dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

**8.2 External Arbitration Procedures:** Any arbitration initiated under this Local Service Schedule shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) days of the referral of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association and any applicable Commission regulations or ISO rules.

**8.3 Arbitration Decisions:** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the Parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff, this Local Service Schedule, and any Service Agreement entered into under the Tariff in conjunction with this Local Service Schedule and shall have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the

conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service or facilities.

**8.4 Costs:** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

- a. the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or
- b. one half the cost of the single arbitrator jointly chosen by the Parties.

**8.5 Rights Under The Federal Power Act:** Nothing in this section shall restrict the rights of any party to file a Complaint with the Commission under relevant provisions of the Federal Power Act.

## **II. LOCAL POINT-TO-POINT TRANSMISSION SERVICE**

### **9 Preamble**

VEC will provide Firm and Non-Firm Local Point-to-Point Transmission Service pursuant to the applicable terms and conditions of this Local Service Schedule. Local Point-to-Point Transmission Service is for the receipt of capacity and energy at designated Point(s) of Receipt and the transfer of such capacity and energy to designated Point(s) of Delivery.

#### **9.1 Classification of Firm Local Transmission Service:**

The Local Transmission Customer will be billed for its Reserved Capacity under the terms of Schedule 7 of this Local Service Schedule. The Local Transmission Customer may not exceed its firm capacity reserved at each Point of Receipt and each Point of Delivery except as otherwise specified in this Local Service Schedule and the Tariff. VEC shall specify the rate treatment and all related terms and conditions applicable in the event that a Local Transmission Customer

(including Third-Party Sales by VEC) exceeds its firm Reserved Capacity at any Point of Receipt or Point of Delivery.

## **9.2 Classification of Non-Firm Local Point-to-Point Transmission Service:**

Non-Firm Local Point-to-Point Transmission Service shall be offered under terms and conditions contained in Part II of this Local Service Schedule. VEC undertakes no obligation under the Tariff or this Local Service Schedule to plan its Transmission System in order to have sufficient capacity for Non-Firm Local Point-to-Point Transmission Service. Parties requesting Non-Firm Local Point-to-Point Transmission Service for the transmission of firm power do so with the full realization that such service is subject to availability and to Curtailment or Interruption under the terms of the Tariff and this Local Service Schedule. VEC shall specify the rate treatment and all related terms and conditions applicable in the event that a Transmission Customer (including Third-Party Sales by VEC) exceeds its non-firm capacity reservation. Non-Firm Local Point-to-Point Transmission Service shall include transmission of energy on an hourly basis and transmission of scheduled short-term capacity and energy on a daily, weekly or monthly basis, but not to exceed one month's reservation for any one Application, under Schedule 8 of this Local Service Schedule.

## **10 Service Availability**

**10.1 General Conditions:** VEC will provide Firm and Non-Firm Local Point-to-Point Transmission Service over, on or across its Transmission System to any Transmission Customer that has met the requirements of the Tariff and this Local Service Schedule.

**10.2 Determination of Available Transfer Capability:** A description of VEC's specific methodology for assessing Available Transfer Capability posted on VEC's OASIS is contained in Attachment A of this Local Service Schedule.

**10.3 Real Power Losses:** Real Power Losses are associated with all transmission service. VEC is not obligated to provide Real Power Losses. The Local Transmission Customer is responsible for replacing losses associated with all transmission service as calculated by VEC. The Local Transmission Customer is responsible for providing energy at the Point(s) of Receipt

equal to the energy delivered at the Point(s) of Delivery plus average metered energy line losses, provided that average metered energy line losses shall be determined in accordance with the procedures set forth in Attachment D of this Local Service Schedule.

## **11 Procedures for Arranging Non-Firm Point-to-Point Transmission Service**

**11.1 Determination of Available Transfer Capability:** Following receipt of a tendered schedule VEC will make a determination on a non-discriminatory basis of Available Transfer Capability pursuant to Section 10.2 of this Local Service Schedule. Such determination shall be made as soon as reasonably practicable after receipt, but not later than the following time periods for the following terms of service (i) thirty (30) minutes for hourly service, (ii) thirty (30) minutes for daily service, (iii) four (4) hours for weekly service, and (iv) two (2) days for monthly service.

## **12 Compensation for Transmission Service<sup>1</sup>**

Rates or formulae for determining rates for Firm and Non-Firm Local Point-to-Point Transmission Service are provided in the Schedules appended to this Local Service Schedule: Firm Local Point-to-Point Transmission Service (Schedule 8) and Non-Firm Local Point-to-Point Transmission Service (Schedule 9). VEC shall use Part II of the Local Service Schedule to make its Third-Party Sales. VEC shall account for such use at the applicable Local Service Schedule rates.

## **13 Stranded Cost Recovery**

VEC may seek to recover stranded costs from the Local Transmission Customer pursuant to the Tariff and this Local Service Schedule in accordance with the terms, conditions and procedures set forth in FERC Order No. 888. However, VEC must separately file any specific proposed stranded cost charge

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<sup>1</sup> VEC is a PTO that does not recover any portion of its transmission revenue requirement through Regional Service rates set out in Attachment F to the ISO-NE OATT, as defined in Section 20 of the Settlement of Docket No. EL16-19 *et al.* under Section 205 of the Federal Power Act.

## **III. LOCAL NETWORK SERVICE**

**14 Real Power Losses:** Real Power Losses are associated with all transmission service. VEC is not obligated to provide Real Power Losses. The Local Network Customer is responsible for replacing losses associated with all transmission service as calculated by VEC. The Transmission Customer is responsible for providing energy at the Point(s) of Receipt equal to the energy delivered at the Point(s) of Delivery plus average metered energy line losses, provided that average metered energy line losses shall be determined in accordance with the procedures set forth in Attachment D of this Local Service Schedule.

**15 Initiating Service**

**15.1 Condition Precedent for Receiving Service:** In addition to the terms and conditions of the Tariff, VEC will provide Local Network Service to any Eligible Customer, provided that (i) the Eligible Customer executes a Local Network Operating Agreement with VEC (and to the extent necessary, the ISO) pursuant to Attachment C of this Local Service Schedule. The Network Operating Agreement shall be consistent with ISO New England Operating Procedures.

**15.2 Operation of Network Resources:** The Local Network Customer shall not operate its designated Network Resources located in the Network Customer's Control Area or the Control Area encompassing VEC's Transmission System such that the output of those facilities exceeds its designated Local Network Load, plus Non-Firm Sales delivered pursuant to Part II of this Local Service Agreement, plus losses. This limitation shall not apply to changes in the operation of a Transmission Customer's Network Resources at the request of VEC or the ISO to respond to an emergency or other unforeseen condition which may impair or degrade the reliability of the VEC Transmission System or the Regional Transmission System.

**15.3 Use of Interface Capacity by the Local Network Customer:** There is no limitation upon a Local Network Customer's use of VEC's Transmission System at any particular interface to integrate the Local Network Customer's Network Resources (or substitute economy purchases) with its Local Network Loads. However, a Local Network Customer's use of VEC's total interface capacity with other transmission systems may not exceed the Local Network Customer's Load Ratio Share.



## 16 Load Shedding and Curtailments

**16.1 Procedures:** Prior to the Service Commencement Date, VEC, the ISO and the Local Network Customer shall establish Load Shedding and Curtailment procedures pursuant to the Network Operating Agreement with the objective of responding to contingencies on VEC's Transmission System and the Regional Transmission System. The Parties will implement such programs during any period when VEC or the ISO determines that a system contingency exists and such procedures are necessary to alleviate such contingency. VEC will notify all affected Local Network Customers in a timely manner of any scheduled Curtailment.

**16.2 Transmission Constraints:** During any period when VEC determines that a transmission constraint exists on VEC's Transmission System, and such constraint may impair the reliability of VEC's system, VEC will take whatever actions, consistent with Good Utility Practice, that are reasonably necessary to maintain the reliability of VEC's Transmission System. To the extent VEC determines that the reliability of the VEC Transmission System can be maintained by re-dispatching resources, VEC will initiate procedures pursuant to the Network Operating Agreement to re-dispatch all Network Resources and VEC's own resources on a least-cost basis without regard to the ownership of such resources. Any re-dispatch under this section may not unduly discriminate between VEC's use of the VEC's Transmission System on behalf of its Native Load Customers and any Local Network Customer's use of the VEC's Transmission System to serve its designated Local Network Load.

**16.3 Cost Responsibility for Relieving Transmission Constraints:** Whenever VEC implements least-cost re-dispatch procedures in response to a transmission constraint, VEC and Local Network Customers will each bear a proportionate share of the total re-dispatch cost based on their respective Load Ratio Shares.

**16.4 Curtailments of Scheduled Deliveries:** If a transmission constraint on VEC's Transmission System cannot be relieved through the implementation of least-cost re-dispatch procedures and VEC determines that it is necessary to Curtail scheduled deliveries, the Parties

shall Curtail such schedules in accordance with the Local Network Operating Agreement.

**16.5 Allocation of Curtailments:** VEC shall, on a non-discriminatory basis, Curtail the transaction(s) that effectively relieve the constraint. However, to the extent practicable and consistent with Good Utility Practice, any Curtailment will be shared by VEC and Local Network Customer in proportion to their respective Load Ratio Shares. VEC shall not direct the Local Network Customer to Curtail schedules to an extent greater than VEC would Curtail VEC's schedules under similar circumstances.

**16.6 Load Shedding:** To the extent that a system contingency exists on VEC's Transmission System and VEC determines that it is necessary for VEC and the Local Network Customer to shed load, the Parties shall shed load in accordance with previously established procedures under the Local Network Operating Agreement.

**16.7 System Reliability:** Notwithstanding any other provisions of this Tariff and Local Service Schedule, VEC reserves the right, consistent with Good Utility Practice and on a not unduly discriminatory basis, to Curtail Local Network Service without liability on VEC's part for the purpose of making necessary adjustments to, changes in, or repairs on its lines, substations and facilities, and in cases where the continuance of Local Network Service would endanger persons or property. In the event of any adverse condition(s) or disturbance(s) on VEC's Transmission System or on any other system(s) directly or indirectly interconnected with VEC's Transmission System, VEC, consistent with Good Utility Practice, also may Curtail Local Network Service in order to (i) limit the extent or damage of the adverse condition(s) or disturbance(s), (ii) prevent damage to generating or transmission facilities, or (iii) expedite restoration of service. VEC will give the Local Network Customer as much advance notice as is practicable in the event of such Curtailment. Any Curtailment of Local Network Service will be not unduly discriminatory relative to VEC's use of the Transmission System on behalf of its Native Load Customers. VEC shall specify the rate treatment and all related terms and conditions applicable in the event that the Local Network Customer fails to respond to established Load Shedding and Curtailment procedures.

## **17 Rates and Charges<sup>2</sup>**

The Local Network Customer shall pay VEC for any Direct Assignment Facilities, Ancillary Services,

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<sup>2</sup> VEC is a PTO that does not recover any portion of its transmission revenue requirement through Regional Service rates set out in Attachment F to the ISO-NE OATT, as defined in Section 20 of the Settlement of Docket No. EL16-19 *et al.*

and applicable study costs, consistent with Commission policy, along with the following:

**17.1 Monthly Demand Charge:** The Local Network Customer shall pay a monthly Demand Charge, which shall be determined in accordance with the provisions of Schedule 9 of this Local Service Schedule.

**17.2 Determination of Local Network Customer's Monthly Network Load:** The Network Customer's monthly Local Network Load is its hourly load (including its designated Local Network Load not physically interconnected with VEC) coincident with VEC's Monthly Transmission System Peak.

**17.3 Determination of VEC's Monthly Transmission System Load:** VEC's monthly Transmission System load is VEC's Monthly Transmission System Peak minus the coincident peak usage of all Firm Point-To-Point Transmission Service customers pursuant to Part II of this Local Service Schedule and Tariff plus Reserved Capacity of all Firm Point-To-Point Transmission Service customers.

**17.4 Re-dispatch Charge:** The Local Network Customer shall pay a Load Ratio Share of any re-dispatch costs allocated between the Local Network Customer and VEC pursuant to Section 14 of this Local Service Schedule. To the extent that VEC incurs an obligation to the Local Network Customer for re-dispatch costs in accordance with Section 14 of this Local Service Schedule, such amounts shall be credited against the Local Network Customer's bill for the applicable month.

**17.5 Stranded Cost Recovery:** VEC may seek to recover stranded costs from the Local Network Customer pursuant to the Tariff and this Local Service Schedule in accordance with the terms, conditions and procedures set forth in FERC Order No. 888. However, VEC must separately file any proposal to recover stranded costs under Section 205 of the Federal Power Act.

**17.6 Reserved.**

## 18      **Operating Arrangements**

**18.1      Network Operating Agreement:** The terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Part III of this Local Service Schedule shall be specified in the Local Network Operating Agreement. The Local Network Operating Agreement shall provide for the Parties or, where appropriate, VEC's Designated Agent to (i) operate and maintain equipment necessary for integrating the Network Customer within VEC's Transmission System (including, but not limited to, remote terminal units, metering, communications equipment and relaying equipment), (ii) transfer data between VEC or its Designated Agent and the Network Customer (including, but not limited to, heat rates and operational characteristics of Network Resources, generation schedules for units outside VEC's Transmission System, interchange schedules, unit outputs for redispatch required under Section 16, voltage schedules, loss factors and other real time data), (iii) use software programs required for data links and constraint dispatching, (iv) exchange data on forecasted loads and resources necessary for long-term planning, and (v) address any other technical and operational considerations required for implementation of Part III of this Local Service Schedule, including scheduling protocols. The Local Network Operating Agreement will recognize that the Network Customer shall either (i) operate as a Control Area under applicable guidelines of the Electric Reliability Organization (ERO) as defined in C.F.R. § 39.1, (ii) satisfy its Control Area requirements, including all necessary Ancillary Services, by contracting with VEC, or (iii) satisfy its Control Area requirements, including all necessary Ancillary Services, by contracting with another entity, consistent with Good Utility Practice, which satisfies the applicable reliability guidelines of the ERO. VEC shall not unreasonably refuse to accept contractual arrangements with another entity for Ancillary Services. The form of Local Network Operating Agreement is included in Attachment C of this Local Service Schedule.

**18.2      Network Operating Committee:** A Network Operating Committee (Committee) shall be established to coordinate operating criteria for the Parties' respective responsibilities under the Network Operating Agreement. Each Network Customer shall be entitled to have at least one representative on the Committee. The Committee shall meet from time to time as need requires,

but no less than once each calendar year.

## **SCHEDULE 8**

### **Long-Term Firm and Short-Term Firm Local Point-to-Point Transmission Service**

The Transmission Customer shall compensate VEC each month for Reserved Capacity at the sum of the applicable rates and charges set forth below, derived in accordance with the following rate formula:

#### **(1) Formula for Derivation of Rates and Charges for Firm Local Point-to-Point Service**

##### **(A) Definitions:**

**FTR** Monthly Firm Transmission Rate expressed in \$/kW-Mo for firm service.

**TPA** Shall be the sum of the Transmission Plant Accounts as reported under the Uniform System of Accounts (Accounts 350 to 359) at year-end for the previous calendar year, less applicable depreciation. TPA shall not include the cost of the Phase I/Phase II HVDC Facilities between Des Cantons, Quebec and Tewksbury, Massachusetts, and other associated facilities.

**CC** Shall be the annual carrying charge, as calculated pursuant to the “Calculation of Carrying Charge (CC)” details found at the end of Schedule 8.

**TPE** Shall be the sum of the Transmission Plant Expenses as reported under the Uniform System of Accounts (Accounts 560 to 576) for the previous calendar year. TPE shall not include VTransco or VELCO expenses, with the exception that expenses under the March 18, 2003 Bill Back Agreement between Citizens Communications Company and VELCO shall be included in TPE.

**TC** Shall be the sum of the following annual revenues collected during the previous calendar year:

- (i) revenues collected pursuant to VPSB Special Contract 805 (setting forth the rates, terms and conditions for radial transmission service to Missisquoi Associates) and VPSB Special Contract 808 (setting forth the rates, terms and conditions for Vermont Marble’s use of VEC’s entitlement to the Highgate converter facilities, when applicable);
- (ii) revenues associated with short-term firm transmission service under the Tariff, inclusive of Schedules 20A and 21-VEC, under which VEC provides firm

transmission service for terms shorter than one year; (iii) revenues associated with non-firm service under this Tariff, inclusive of Schedules 20A and 21-VEC, and any other tariff or rate schedule under which VEC provides non-firm transmission service; (iv) revenues associated with any transmission service provided by VEC, other than for transmission service under this Tariff, inclusive of Schedules 20A and 21-VEC, whose revenues are not enumerated in (i) through (iii), above, and whose loads are not included in TSPL; and (v) Net Revenues received from ISO pursuant to Section 3.10 of the Transmission Operating Agreement and the Rate Design and Funds Disbursement Agreement.

**TSPL** The Transmission System Load shall consist of the Injection Point Load plus the Distribution Level Generation Load. The Injection Point Load shall be the loads measured at the following injection points: C140, C100, C240/C200, C200/C210, C220/C230, H15 and H16. Upon completion of the Northern Loop Project, injection points C240/C200, C200/C210, and C220/C230 shall be replaced by Highgate Substation interconnections with following VEC circuits: (i) Richford Circuit, (ii) Sheldon/Rock Tenn Circuit, and the (iii) South Alburgh Circuit. The Distribution Level Generation Load shall be the loads served by distribution level generation whether owned by VEC or by Transmission Customers. Distribution Level Generation Load shall not include any loads served by such generation which is not directly or indirectly interconnected with VEC's transmission system.

The Transmission System Peak Load shall be the highest combination, during all hours of the prior year ended December 31, of (i) the Injection Point Loads and (ii) the Distribution Level Generation Loads.

To determine TSPL, the Transmission System Peak Load shall be adjusted, as follows: the Transmission System Peak Load, as defined above, minus the coincident peaks associated with all firm point-to-point service customers, and minus the coincident peaks associated with all transmission service under the Block Loading Transmission Facilities Agreement (BLFTA), plus the contract demand reservations for all firm point-to-point service, plus the contract demand for all transmission service under the BLFTA. TSPL shall not include loads associated with non-firm transmission transactions, any transaction of less than one year's duration, and any other transaction whose revenues are to be credited pursuant to the definition of TC, above. TSPL shall be calculated in units of kW, or MW, as appropriate.

**(B) Formula for Derivation of Rates and Charges:**



$$\text{FTR} = ((\text{TPA} \times \text{CC}) + \text{TPE} - \text{TC}) / (\text{TSPL times } 12)$$

FTR shall be annually revised as of July 1, based on the TPA, TPE, TC, and TSPL for the previous calendar year. On or before May 1 of each year, VEC shall post or otherwise supply to its customers a detailed information package setting forth the FTR.

**(C) Billing Demand**

The Billing Demand shall be the Transmission Customer's Reserved Capacity for the period during which service is reserved.

The monthly charge shall be the product of the transmission rate times the Billing Demand.

**(2) Rates and Charges for Firm Point-to-Point Transmission Service**

In addition to the rates, charges and costs for which the Transmission Customer is responsible, as specified in the Transmission Customer's Local Service Agreement, the Transmission Customer shall pay the following rates and charges for the reservation of Firm Point-to-Point Transmission Service:

**(A) Yearly delivery:** FTR, as calculated pursuant to the above formula, payable on a monthly basis, for the Reserved Capacity, for the year for which capacity is reserved.

**(B) Monthly delivery:** FTR, as calculated pursuant to the above formula, payable on a monthly basis, for each kW-month of Reserved Capacity.

**(C) Weekly delivery:** 12 times the rate for Monthly delivery stated in section (b) above divided by 52 (i.e.,  $[12 \times \text{FTR}] / 52$ ), as calculated pursuant to the above formula, payable on a monthly basis, for each kW-week of Reserved Capacity.

**(D) Daily delivery on peak (all days except Saturday and Sunday):** the rate for Weekly delivery stated in section (c) above divided by 5 (i.e.,  $[12 \times \text{FTR}] / 52 / 5$ ), as calculated pursuant to the above

formula, payable on a monthly basis, for each kW-day of Reserved Capacity.

The total demand charge in any week, pursuant to a reservation for Daily delivery, shall not exceed the rate specified in section (c) above times the highest amount in kilowatts of Reserved Capacity in any day during such week.

**(E) Daily delivery off peak (Saturday and Sunday):** the rate for Weekly delivery stated in section (c) above divided by 7 (i.e.,  $[12 \times \text{FTR}]/52/7$ ), as calculated pursuant to the above formula, payable on a monthly basis, for each kW-day of Reserved Capacity. The total demand charge in any week, pursuant to a reservation for Daily delivery, shall not exceed the rate specified in section (c) above times the highest amount in kilowatts of Reserved Capacity in any day during such week.

**(3) Discounts:** Three principal requirements apply to discounts for transmission service: (1) any offer of a discount made by VEC must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests for use by the customer's wholesale merchant function or by an Affiliate of the customer) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from point(s) of receipt to point(s) of delivery, VEC must offer the same discounted transmission service rate for the same time period to all Eligible Customers on all unconstrained transmission paths that go to the same point(s) of delivery on VEC's Transmission System.

**(4) Resales:** The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Schedule 21, Section I.11 a.

## Calculation of Carrying Charge (CC)

### Vermont Electric Cooperative

#### CC Calculation - ISO New England Inc. Transmission, Markets and Services Tariff - OATT Schedule 21-VEC

CC A percentage rate to cover such costs as cost of equity and cost of debt, applied to the net investment, plus income and other taxes, depreciation, insurance and other allowable administrative and general expenses.

\_\_\_\_\_ \$ \_\_\_\_\_ %

#### Cost of Equity and Cost of Debt

From Schedule 1 - Cost of Equity and Cost of Debt

% = Schedule 1 \$/TPA

#### Taxes

From Schedule 2 - Vermont Gross Revenue Tax

% = Schedule 2 \$ /TPA

#### Depreciation

From Schedule 3 - Depreciation Expense

% = Schedule 3 \$ /TPA

#### Administrative and General Expenses

Fixed percentage agreed upon by the Parties

\_\_\_\_\_

TPA

CC = \_\_\_\_\_

**Vermont Electric Cooperative**  
**CC Calculation - ISO New England Inc. Transmission, Markets and Services Tariff**  
**OATT Schedule 21 - VEC**

**Schedule 1 - Cost of Equity and Cost of Debt**

Cost of Equity

Return on equity specified for all local service tariffs in the ISO-NE RTO tariff:

Cost of Debt Rate

Line				
No.	Component	Debt	Interest Expenses	Rate
1	LT Debt - Form 1, Page 257 Ln 33(h)			
2	Interest on Long-Term Debt Form 1, Page 257 Ln 33 (i)			
3				
4				
5				
6				
7				
8			↓	
9	Cost of Debt Rate (Interest Expense/Debt)			

Capitalization

Line		Percent			
Weighted				Cost	Cost
No.	Component	Capitalization	Capitalization		
1	Equity - Form 1, Pg 112, Ln 16(c)				
2	Debt - Form 1, Pg 112, Ln 24 (c)				
3	Total				

Cost of Equity and Cost of Debt

of

		Combined Cost
<u>Transmission Plant</u>	<u>Weighted Rate</u>	<u>Equity and Debt</u>
		\$ <u>-</u>

**Vermont Electric Cooperative**

**CC Calculation - ISO New England Inc. Transmission, Markets and Services Tariff  
OATT Schedule 21 - VEC**

**Schedule 2 - Taxes**

Vermont Gross Revenue Tax

Line			
No.	Component	Revenues	Tax Rate
1	Transmission for Others - Form 1, Pg 330 Total (n)		
2			
3			
	Vermont Gross Revenue Tax		

**Schedule 3 - Depreciation**

FERC Account	Total Transmission Plant	OATT Transmission Plant		
350.00				
350.01				
350.10				
350.30				
352.30				
353.00				
353.10				
353.30				
355.00				
355.10				
355.30				
356.00				
356.10				
356.30				
356.40				
			Deprec Rate	Deprec Expense

Form 1, Pg 207 Ln 58(g)

Depreciation Expense: Form 1, Pg 336, Ln 7 (f)

Depreciation Rate (Expense/Plant)

**SCHEDULE 9**  
**Non-Firm Local Point-to-Point Transmission Service**

The Transmission Customer shall compensate VEC each month for Non-Firm Local Point-to-Point Transmission Service at the sum of the applicable rates and charges set forth below, derived in accordance with the following rate formula:

**(1) Formula for Derivation of Rates and Charges for Non-Firm Local Point-to-Point Service**

**(A) Definitions:**

**NFTR** Monthly Non-Firm Transmission Rate expressed in \$/kW for non-firm service.

**TPA** Shall be the sum of the Transmission Plant Accounts as reported under the Uniform System of Accounts (Accounts 350 to 359) at year-end for the previous calendar year, less applicable depreciation. TPA shall not include the cost of the Phase I/Phase II HVDC Facilities between Des Cantons, Quebec and Tewksbury, Massachusetts, and other associated facilities.

**CC** Shall be the annual carrying charge, as calculated pursuant to the “Calculation of Carrying Charge (CC)” details found at the end of Schedule 8.

**TPE** Shall be the sum of the Transmission Plant Expenses as reported under the Uniform System of Accounts (Accounts 560 to 576) for the previous calendar year. TPE shall not include VTransco or VELCO expenses, with the exception that expenses under the March 18, 2003 Bill Back Agreement between Citizens and VELCO shall be included in TPE.

**TC** Shall be the sum of the following annual revenues collected during the previous calendar year: (i) revenues collected pursuant to VPSB Special Contract 805 (setting forth the rates, terms and conditions for radial transmission service to Missisquoi Associates) and VPSB Special Contract 808 (setting forth the rates, terms and conditions for Vermont Marble’s use of VEC’s entitlement to the Highgate converter facilities, when applicable.); (ii) revenues associated with short-term firm

transmission service under this Tariff, inclusive of Schedules 20A and 21-VEC, under which VEC provides firm transmission service for terms shorter than one year; (iii) revenues associated with non-firm service under this Tariff inclusive of Schedules 20A and 21-VEC, and any other tariff or rate schedule under which VEC provides non-firm transmission service; (iv) revenues associated with any transmission service provided by VEC, other than for transmission service under this Tariff inclusive of Schedules 20A and 21-VEC, whose revenues are not enumerated in (i) through (iii), above, and whose loads are not included in TSPL; and (v) Net Revenues received from the ISO pursuant to Section 3.10 of the Transmission Operating Agreement and the Rate Design and Funds Disbursement Agreement.

**TSPL** The Transmission System Load shall consist of the Injection Point Load plus the Distribution Level Generation Load. The Injection Point Load shall be the loads measured at the following injection points: C140, C100, C240/C200, C200/C210, C220/C230, H15 and H16. The Distribution Level Generation Load shall be the loads served by distribution level generation whether owned by VEC or by Transmission Customers. Upon completion of the Northern Loop Project, injection points C240/C200, C200/C210, and C220/C230 shall be replaced by Highgate Substation interconnections with following VEC circuits: (i) Richford Circuit, (ii) Sheldon/Rock Tenn Circuit, and the (iii) South Alburgh Circuit. Distribution Level Generation Load shall not include any loads served by such generation which is not directly or indirectly interconnected with VEC's transmission system.

The Transmission System Peak Load shall be the highest combination, during all hours of the prior year ended December 31, of (i) the Injection Point Loads and (ii) the Distribution Level Loads.

To determine TSPL, the Transmission System Peak Load shall be adjusted, as follows: the Transmission System Peak Load, as defined above, minus the coincident peaks associated with all firm point-to-point service customers, and minus the coincident peaks associated all transmission service under the Block Loading Transmission Facilities Agreement (BLFTA), plus the contract demand reservations for all firm point-to-point service, plus the contract demand for all transmission service under the BLFTA. TSPL shall not include loads associated with non-firm transmission transactions, any transaction of less than one year's duration, and any other transaction whose revenues are to be credited pursuant to the definition of TC, above. TSPL shall be calculated in units of kW, or MW, as appropriate.



**(B) Formula for Derivation of Rates and Charges:**

$$\text{NFTR} = ((\text{TPA} \times \text{CC}) + \text{TPE} - \text{TC}) / (\text{TSPL times 12})$$

NFTR shall be annually revised as of July 1, based on the TPA, TPE, TC, and TSPL for the previous calendar year. On or before May 1 of each year, VEC shall post or otherwise supply to its customers a detailed information package setting forth the NFTR.

**(2) Rates and Charges for Non-Firm Local Point-to-Point Transmission Service**

In addition to the rates, charges and costs for which the Transmission Customer is responsible, as specified in the Transmission Customer's Service Agreement, the Transmission Customer shall pay up to the following rates and charges for provision of Non-Firm Point-to-Point Transmission Service:

**1) Monthly delivery:** NFTR, as calculated pursuant to the above formula, payable on a monthly basis, for each kW-month of Reserved Capacity.

**2) Weekly delivery:** 12 times the rate for Monthly delivery stated in section (1) above divided by 52 (i.e.,  $[12 \times \text{NFTR}] / 52$ ), as calculated pursuant to the above formula, payable on a monthly basis, for each kW-week of Reserved Capacity.

**3) Daily delivery:** The maximum charge for daily delivery on Monday through Friday shall be the rate for Weekly delivery stated in section (2) above divided by 5 (i.e.,  $[12 \times \text{NFTR}] / 52 / 5$ ), as calculated pursuant to the above formula, payable on a monthly basis, for each kW-day of Reserved Capacity.

The maximum charge for daily delivery on Saturday and Sunday shall be the rate for Weekly delivery stated in section (2) above divided by 7 (i.e.,  $[12 \times \text{NFTR}] / 52 / 7$ ), as calculated pursuant to the above formula, payable on a monthly basis, for each kW-day of Reserved Capacity.

The total demand charge in any week, pursuant to a reservation for Daily delivery, shall not exceed the rate specified in section (2) above times the highest amount in kilowatts of Reserved

Capacity in any day during such week.

**4) Hourly delivery:** The charge for hourly service during on-peak hours (defined, for purposes of this section, as the hours 7:00 A.M. to 11:00 P.M., Monday through Friday) shall be the maximum rate for daily delivery during Monday through Friday stated in section (3) above divided by 16 (i.e.,  $[12 \times \text{NFTR}]/52/5/16$ ).

The charge for hourly service during off-peak hours (defined, for purposes of this section, as any hour that is not an on-peak hour) shall be the maximum rate for daily delivery for Saturday and Sunday stated in section (3) above divided by 24 (i.e.,  $[12 \times \text{NFTR}]/52/7/24$ ).

The total demand charge in any day, pursuant to a reservation for Hourly delivery, shall not exceed the rate specified in section (3) above times the highest amount in kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for Hourly or Daily delivery, shall not exceed the rate specified in section (2) above times the highest amount in kilowatts of Reserved Capacity in any hour during such week.

**(3) Discounts:** Three principal requirements apply to discounts for transmission service: (1) any offer of a discount made by VEC must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests for use by one's wholesale merchant function or an affiliate's use) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from point(s) of receipt to point(s) of delivery, VEC must offer the same discounted transmission service rate for the same time period to all Eligible Customers on all unconstrained transmission paths that go to the same point(s) of delivery on VEC's Transmission System.

**(4) Resales:** The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Schedule 21, Section I.11 a.

**SCHEDULE 10**  
**Monthly Demand Charge for Local Network Service**

The Monthly Demand Charge for Local Network Service shall be determined according to the following rate formula:

**(1) Formula for Derivation of Monthly Demand Charge**

**(A) Definitions:**

**TR** Monthly Transmission Rate expressed in dollars.

**TPA** Shall be the sum of the Transmission Plant Accounts as reported under the Uniform System of Accounts (Accounts 350 to 359) at year-end for the previous calendar year, less applicable depreciation. TPA shall not include the cost of the Phase I/Phase II HVDC Facilities between Des Cantons, Quebec and Tewksbury, Massachusetts, and other associated facilities.

**CC** Shall be the annual carrying charge, as calculated pursuant to the “Calculation of Carrying Charge (CC)” details found at the end of Schedule 8.

**TPE** Shall be the sum of the Transmission Plant Expenses as reported under the Uniform System of Accounts (Accounts 560 to 576) for the previous calendar year. TPE shall not include VTransco or VELCO expenses, with the exception that expenses under the March 18, 2003 Bill Back Agreement between Citizens and VELCO shall be included in TPE.

**TC** Shall be the sum of the following annual revenues collected during the previous calendar year:  
(i) revenues collected pursuant to VPSB Special Contract 805 (setting forth the rates, terms and conditions for radial transmission service to Missisquoi Associates) and VPSB Special Contract 808 (setting forth the rates, terms and conditions for Vermont Marble’s use of VEC’s entitlement to the Highgate converter facilities, when applicable); (ii) revenues associated with short-term firm transmission service under this Tariff, inclusive of Schedules 20A and 21-VEC, under which VEC provides firm

transmission service for terms shorter than one year; (iii) revenues associated with non-firm service under this Tariff, inclusive of Schedules 20A and 21-VEC, and any other tariff or rate schedule under which VEC provides non-firm transmission service; (iv) revenues associated with any transmission service provided by VEC, other than for transmission service under this Tariff, inclusive of Schedules 20A and 21-VEC, whose revenues are not enumerated in (i) through (iii), above, and whose loads are not included in TSPL; and (v) Net Revenues received from the ISO pursuant to Section 3.10 of the Transmission Operating Agreement and the Rate Design and Funds Disbursement Agreement.

**TSPL** The Transmission System Load shall consist of the Injection Point Load plus the Distribution Level Generation Load. The Injection Point Load shall be the loads measured at the following injection points: C140, C100, C240/C200, C200/C210, C220/C230, H15 and H16. Upon completion of the Northern Loop Project, injection points C240/C200, C200/C210, and C220/C230 shall be replaced by Highgate Substation interconnections with following VEC circuits: (i) Richford Circuit, (ii) Sheldon/Rock Tenn Circuit, and the (iii) South Alburgh Circuit. The Distribution Level Generation Load shall be the loads served by distribution level generation whether owned by VEC or by Transmission Customers. Distribution Level Generation Load shall not include any loads served by such generation which is not directly or indirectly interconnected with VEC's transmission system.

The Transmission System Peak Load shall be the highest combination, during all hours of the prior year ended December 31, of (i) the Injection Point Loads and (ii) the Distribution Level Loads.

To determine TSPL, the Transmission System Peak Load shall be adjusted: the Transmission System Peak Load, as defined above, minus the coincident peaks associated with all firm point-to-point service customers, and minus the coincident peaks associated all transmission service under the Block Loading Transmission Facilities Agreement (BLFTA), plus the contract demand reservations for all firm point-to-point service, plus the contract demand for all transmission service under the BLFTA. TSPL shall not include loads associated with non-firm transmission transactions, any transaction of less than one year's duration, and any other transaction whose revenues are to be credited pursuant to the definition of TC, above. TSPL shall be calculated in units of kW, or MW, as appropriate.

**CNL** Shall be the Local Network Customer's hourly Local Network Load during the previous calendar year (including its designated Local Network Load not physically interconnected with VEC and loads

served by distribution level generation owned by the Local Network Customer) coincident with VEC's TSPL, as defined above.

**(B) Formula**

$$\text{TR} = [(\text{CNL}/\text{TSPL}) \times ((\text{TPA} \times \text{CC}) + \text{TPE} - \text{TC})]/12$$

The monthly charge shall be the monthly transmission rate (TR). TR shall be annually revised as of July 1, based on the TPA, TPE, TC, CNL and TSPL for the previous calendar year. On or before May 1 of each year, VEC shall post or otherwise supply to its customers a detailed information package setting forth the TR.

**ATTACHMENT A**  
**Methodology to Assess Available Transfer Capability**

**Introduction and Background:**

ISO-NE is the regional transmission organization (RTO) serving the New England Control Area. ISO-NE is responsible for the development, oversight, and fair administration of New England's wholesale market, management of the bulk electric power system and wholesale markets planning processes. The ISO serves as the Balancing Authority for the New England Control Area. The New England Control Area is comprised of PTF, non-PTF, OTF, MTF, and is interconnected to three neighboring Balancing Authority Areas (BAA) with various interface types.

As part of its RTO responsibilities, ISO-NE is registered with the North American Electric Reliability Corporation (NERC) as several functional model entities that have responsibilities related to the calculation of ATC as defined in the following NERC Standards: MOD-001 - Available Transmission System Capability (MOD-001), MOD-004 - Capacity Benefit Margin (MOD-004), and MOD-008 - Transmission Reliability Margin Calculation Methodology (MOD-008). The extent of those responsibilities is based on various Commission approved transmission operating agreements and the provisions of the ISO New England Operating Documents.

ISO-NE is the Transmission Provider of Regional Network Service (RNS) and Through or Out Service over PTF, and certain Participating Transmission Owners (PTO's) also provide local transmission service over Non-PTF within the RTO footprint and are responsible for calculating TTC and ATC associated with Local Service provided under Schedule 21. VEC is a Transmission Provider for Local Service under Schedule 21-VEC in accordance with the Transmission Operating Agreement (TOA). Pursuant to CFR§37.6(b) of the FERC Regulations, Transmission Providers are obligated to calculate and post TTC and ATC for each Posted Path.

Posted Path means any control area to control area interconnection; any path for which service is denied, curtailed or interrupted for more than 24 hours in the past 12 months; and any path for which a customer requests to have ATC or TTC posted. For this last category, the posting must continue for 180 days and thereafter until 180 days have elapsed from the most recent request for service over the requested path.

For purposes of this definition, an hour includes any part of any hour during which service was denied, curtailed, or interrupted.

**Scope:**

The scope of this Attachment A is limited to the following functions performed by VEC as the Transmission Provider of Local Point-to-Point Transmission service over Non-PTF pursuant to this Schedule 21-VEC, the TOA, and the ISO OATT:

- Total Transfer Capability (TTC) methodology
- Available Transfer Capability (ATC) methodology
- Existing Transmission Commitment (ETC) calculations
- Use of Rollover Rights (ROR) in the calculation of ETC
- Use of Transmission Reliability Margin (TRM) and Capacity Benefit Margin (CBM)

As explained below, TTC and ATC are required to be calculated only for certain Non-PTF internal Posted Paths over which Local Point-to-Point transmission service is provided under Schedule 21-VEC.

**Transmission Service in the New England Markets**

Since the inception of the OATT for New England, the process by which generation located inside New England supplies energy to bulk electric system has differed from the Commission pro forma OATT. The fundamental difference is that internal generation is dispatched in an economic security constrained manner by the ISO rather than utilizing a system of physical rights, advance reservations, and point-to-point transmission service. Through this process, internal generation provides offers that are utilized by the ISO in the Real-Time Energy Market dispatch software. This process provides the least-cost dispatch to satisfy Real-Time load on the system.

In addition to offers from generation within New England, entities may submit External Transactions to move energy into the New England Control Area, out of the New England Control Area or through the New England Control Area. The Real-Time Energy Market clears these External Transactions based on forecast Locational Marginal Pricing (LMPs) and the transfer capability of the associated external interfaces. With those External Transactions in place, the Real-Time Energy Market dispatches internal generation in an economic, security constrained manner to meet Real-Time load within the region. This

process for submitting External Transactions into the New England Real-Time Energy Market does not require an advance physical reservation for use of the PTF. In the event that the net of economic External Transactions is greater than transfer the capability of the associated external interface, the External Transactions selected to flow are selected based on the rules specified in the Tariff. For any External Transactions that are confirmed to flow in Real-Time based on the economics of the system, a transmission reservation for RNS and Through or Out Service is created after-the-fact to satisfy the transparency needs of the market.

The process described above is applicable to the PTF within the ISO Area, and non-PTF Local Facilities utilized for Local Network Service by generation or load. However, VEC provides service over Non-PTF over which advance transmission service reservations for firm or non-firm transmission service may be required. On those Local Facilities, the market participant must obtain a transmission service reservation under Schedule 21-VEC prior to delivery of energy into the New England Wholesale Market. This document addresses the calculation of ATC and TTC for the non-PTF internal paths.

#### **Capacity Benefit Margin (CBM):**

CBM is defined as the amount of firm transmission transfer capability set aside by a TSP for use by the Load Serving Entities. The ISO-NE does not set aside any CBM for use by the Load Serving Entities, because of the New England approach to capacity planning requirements in the ISO New England Operating Documents. Load Serving Entities operating within the New England Control Area are required to arrange for their Capacity Requirements prior to the beginning of any given month in accordance with ISO Tariff, Section III.13.7.3.1 (Calculation of Capacity Requirement and Capacity Load Obligation). Load Serving Entities do not utilize CBM to ensure that their capacity needs are met; therefore, CBM is not applicable within the New England market design. Accordingly, for purposes of ATC calculation, as long as this market design is in place in New England, the CBM is set to zero (0). VEC provides local transmission service over its non-PTF facilities that are connected to VELCO, the Vermont distribution utilities, and local generation. Therefore, VEC does not reserve CBM for these paths, and the CBM is presently set to zero.

#### **Counterflows:**

The scheduled energy values of transactions utilizing a Firm Transmission Service on the path in opposite



direction for which an ATC is being calculated, i.e., for the purposes of ATC calculations, Counterflows are firm tagged counter-schedules

**Existing Transmission Commitments, Firm (ETC<sub>F</sub>):**

The ETC<sub>F</sub> are those Native Load forecast commitments (NL<sub>F</sub>), plus Network Integration Transmission Service (NITS<sub>F</sub>), plus grandfathered Transmission Service (GF<sub>F</sub>), plus confirmed Firm transmission reservation (PTP<sub>F</sub>), plus any rollover rights for Firm transmission reservations (ROR<sub>F</sub>), and other service(s), contract(s) or agreement(s) (OS<sub>F</sub>).

The ETC<sub>F</sub> algorithm is:

$$ETC_F = NL_F + NITS_F + GF_F + PTP_F + ROR_F + OS_F$$

**Existing Transmission Commitments, Non-Firm (ETC<sub>NF</sub>):**

The (ETC<sub>NF</sub>) are Non-Firm Network Integration Transmission Service (NITS<sub>NF</sub>), plus Non-Firm grandfathered Transmission Service (GF<sub>NF</sub>), plus confirmed Non-Firm transmission reservations (PTP<sub>NF</sub>), and or other service(s), contract(s) or agreement(s) (OS<sub>NF</sub>).

The ETC<sub>NF</sub> algorithm is:

$$ETC_{NF} = NITS_{NF} + GF_{NF} + PTP_{NF} + OS_{NF}$$

**Operating Horizon (OH):**

For the purpose of this Attachment A, the OH is noon through midnight of the next day for a total of 36 hours. As time progresses the total hours remaining in the OH decreases each hour until noon the following day when the OH is once again reset to 36 hours.

**Planning Horizon (PH):**

For the purpose of this Attachment A, PH is any time before the OH.

**Postbacks:**

A Postback is the confirmed firm transmission reservation that has been redirected to another transmission path for the period of time that the redirection is effective. Postbacks for the non-firm ATC calculation also include any non scheduled portion of a firm transmission service

reservation on the associated path.

**Scheduling Horizon (SH):**

For the purpose of this Attachment A, SH is Real-Time and the hour before.

**Total Transfer Capability (TTC):**

TTC is the amount of electric power that can be transferred reliably from one area to another area of the interconnected systems by way of all transmission lines (or paths) between those areas under specified system conditions. VEC provides local transmission deliveries over non-Pool Transmission Facilities (Non-PTF). Some of these facilities are interconnected exclusively with the ISO-NE system, through the Vermont Transco, LLC system (VT Transco or VELCO), either directly or indirectly through the transmission of others. Other portions of VEC's transmission can be electrically configured to accept deliveries directly from the Hydro Quebec system, which is asynchronous with the ISO-NE system. To accept these Hydro Quebec deliveries, VEC transfers portions of its system (electrical loads) from ISO-NE to Hydro Quebec. The transfer of these radial loads to Hydro Quebec is commonly referred to as "Block Loading".

As a practical matter, the ratings of VEC's radial transmission paths are always higher than the transmission requirements of the Transmission Customers connected to that path. As such, transmission services over these posted paths are considered to be always available. For transmission service deliveries over VEC's facilities that are interconnected exclusively with the ISO-NE system, these posted paths are considered to be always available. For radial deliveries over VEC's facilities that are interconnected with Hydro-Quebec Block Loading constraints limiting the transferability of capacity or energy may arise because there is insufficient load available to receive or deliver all of the capacity or energy scheduled for delivery by the Transmission Customer from the Hydro Quebec source. The Hydro Quebec Block Loading point to point transmission TTC's planning horizon analysis of the hourly loads available for Block Loading are posted on VEC's website:

<http://www.vermontelectric.coop/open-access-transmission#rates>.

**Transmission Reliability Margin (TRM):**

The Transmission Reliability Margin (TRM) is the portion of the TTC that cannot be used for the

reservation of firm transmission service because of uncertainties in system operation conditions and the need for operating flexibility to ensure reliable system operation as system conditions change. It is used only for external interfaces under the New England market design. Since VEC provides transmission service over its non-PTF facilities that are connected only to the internal New England system, VEC does not reserve TRM for these paths, and the TRM is presently set to zero.

**Calculation of ATC for VEC's Local Facilities:**

VEC uses a contract path method to calculate Firm and Non-Firm Available Transfer Capability (ATC). As described below, ATC for transactions relating to VEC's Transmission System will be determined for a path in the direction of the transfer. Path calculations are determined based on the two types of facilities on VEC's Transmission System that are covered under this Schedule 21-VEC: (1) non-Pool Transmission Facilities (Non-PTF) that do not involve the use of rights for deliveries from Hydro Quebec, and (2) Non-PTF that do involve the use of rights for deliveries from Hydro Quebec. Pre-OATT grandfathered Transmission Service deliveries from Hydro Quebec are pursuant to the non-FERC jurisdictional Block Loading Facilities Transmission Agreement (BLFTA). ATC for any specific contract path represents the amount of unused capacity after consideration of reliability requirements to meet obligations of existing and pending valid Applications for Network Service including VEC's existing use of such service to serve its native load; and obligations under existing firm and pending valid Applications for Firm Point-to-Point Transmission Service or other existing agreements predating this Tariff and Local Service Schedule.

NERC Standards MOD-001-1 - Available Transmission System Capability and MOD-029-1 - Rated System Path Methodology defines the required items to be identified when describing a transmission provider's ATC methodology.

All of VEC's Schedule 21-VEC transmission facilities are Non-PTF and used to serve its native loads and the connected loads of its Transmission Customers. VEC has obligations to serve its native loads and the connected loads of grandfathered Transmission Customers under Vermont Public Service Board jurisdictional transmission agreements. One of these non-OATT agreements is the BLFTA. BLFTA obligations will affect the contract path determination of ETC's. The availability of load for Block Loading limits the transferability of energy from Hydro Quebec. VEC also has long-term firm OATT

Schedule 21-VEC reservations to provide local point to point transmission for generation which is located within the Block Loading area.

For paths affected by Hydro-Quebec Block Loading, VEC prioritizes ETC<sub>F</sub> components such that ETC<sub>F</sub> cannot exceed the TTC. The prioritization order is as follows:

1. PTP<sub>F</sub> generation located within the block load path that utilizes Firm Long-Term Schedule 21-VEC service.
2. GF<sub>F</sub> Hydro-Quebec Block Load third-party reservations submitted pursuant to the BLFTA.
3. NL<sub>F</sub> VEC's native load committed to accept VEC's Hydro-Quebec Block Load schedule reservations.
4. NITS<sub>F</sub> firm capacity reserved for network integration service serving load.
5. ROR<sub>F</sub> firm capacity reserved for Roll-over rights for contracts granting the Transmission Customers the right of first refusal to take or continue to take Transmission Service when the Transmission Customer's Transmission Service contract expires or is eligible for renewal.
6. OS<sub>F</sub> firm capacity reserved for any other service(s), contract(s), or agreement(s).

The Block Loading ETC<sub>F</sub> algorithm expressed in the order of prioritization is:

$$\text{Block Loading ETC}_F = \text{PTP}_F + \text{GF}_F + \text{NL}_F + \text{NITS}_F + \text{ROR}_F + \text{OS}_F$$

Where: the Block Loading ETC<sub>F</sub> cannot exceed the Block Loading TTC

If the sum of the Block Loading ETC<sub>F</sub> component reservations exceeds the TTC the availability will be curtailed in the reverse prioritization order. For example, OS<sub>F</sub> would be curtailed first; ROR<sub>F</sub> would be curtailed second; etc. If curtailments are required within a prioritization group and there are multiple Transmission Customers within the group the reductions will be made pro rata.

For Non-PTF transmission paths unaffected by Hydro-Quebec Block Loading the ratings of the radial transmission paths are always higher than the transmission requirements of the Transmission Customers connected to that path. As such, transmission services over these posted paths are considered to be always available. Common practice is not to calculate, recalculate, or post firm and non-firm ATC values for the non-PTF assets described above, on any given interval as set out in Reliability Standard MOD-1, as ATC is positive and listed as 9999. Transmission customers are not restricted from

reserving firm or non-firm transmission service on Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading.

As Real-Time approaches, ISO-NE utilizes the Real-Time energy market rules to determine which of the submitted energy transactions will be scheduled in the coming hour. Basically, the ATC of the Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading is almost always positive. The ATC is equal to the amount of net energy transactions that ISO-NE will schedule on an interface for the designated hour. With this simplified version of ATC, there is no detailed algorithm to be described or posted other than, for Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading: ATC equals TTC. Thus, for those Non-PTF transmission paths that unaffected by Hydro-Quebec Block Loading VEC has posted the ATC as 9999, consistent with industry practice. ATC on these paths varies depending on the time of day. However, it is posted with an ATC of "9999" to reflect the fact that there are no restrictions on these paths for commercial transactions.

#### **Calculation of $ATC_F$ in the Planning Horizon (PH):**

For purposes of this Attachment A, PH is any period before the Operating Horizon. Consistent with the NERC definition,  $ATC_F$  is the capability for Firm transmission reservations that remain after allowing for TRM, CBM,  $ETC_F$ ,  $Postbacks_F$  and  $counterflows_F$ . As discussed above, TRM and CBM are zero. Firm Transmission Service over Schedule 21-VEC that is available in the PH includes: Yearly, Monthly, Weekly, and Daily.  $Postbacks_F$  and  $counterflows_F$  of Schedule 21-VEC reservations are not considered in the ATC calculation. Therefore,  $ATC_F$  in the PH is equal to the TTC minus  $ETC_F$

#### **Calculation of $ATC_F$ in the Operating Horizon (OH):**

Consistent with the NERC definition,  $ATC_F$  is the capability for Firm transmission reservations that remain after allowing for  $ETC_F$ , CBM, TRM,  $Postbacks_F$  and  $counterflows_F$ . As discussed above, TRM and CBM is zero. Daily Firm Transmission Service over Schedule 21-VEC is the only firm service offered in the Operating Horizon (OH).  $Postbacks_F$  and  $counterflows_F$  of Schedule 21-VEC transmission reservations are not considered in the  $ATC_F$  calculation. Therefore,  $ATC_F$  in the OH is equal to the TTC minus  $ETC_F$ .

#### **Calculation of $ATC_F$ in the Scheduling Horizon (SH):**

Firm Schedule 21-VEC transmission service is not offered in the SH. Therefore  $ATC_F$  in the SH is zero.

#### **Calculation of $ATC_{NF}$ in the PH:**

$ATC_{NF}$  is the capability for Non-Firm transmission reservations that remain after allowing for  $ETC_F$ ,  $ETC_{NF}$ , scheduled CBM ( $CBM_S$ ), unreleased TRM ( $TRM_U$ ), Non-Firm Postbacks ( $Postback_{NF}$ ) and Non-Firm counterflows ( $counterflow_{NF}$ ). As discussed above, the TRM and CBM for Schedule 21-VEC are zero.  $Postback_{NF}$  and  $counterflow_{NF}$  of Schedule 21-VEC transmission reservations are not considered in this calculation. Therefore,  $ATC_{NF}$  in the PH is equal to the TTC minus  $ETC_F$  and  $ETC_{NF}$ .

#### **Calculation of $ATC_{NF}$ in the OH:**

$ATC_{NF}$  is the capability for Non-Firm transmission reservations that remain after allowing for TTC,  $ETC_F$ ,  $ETC_{NF}$ , scheduled CBM ( $CBM_S$ ), unreleased TRM ( $TRM_U$ ), Non-Firm Postbacks ( $Postback_{NF}$ ), and Non-Firm counterflows ( $counterflow_{NF}$ ).  $ATC_{NF}$  available in the OH includes: Daily and Hourly. As discussed above TRM and CBM are zero.  $TRM_U$ , counterflows and  $ETC_{NF}$  are not considered in this calculation. Therefore,  $ATC_{NF}$  in the OH is equal to the TTC minus  $ETC_F$ , plus postbacks of  $PTP_F$  in OH as  $PTP_{NF}$  ( $Postback_{NF}$ )

#### **Calculation of $ATC_{NF}$ in the SH**

$ATC_{NF}$  in the SH is equal to the  $ATC_{NF}$  in the OH for the designated hour. With this simplified version of ATC, there is no detailed algorithm or flow chart to be described or posted other than:  $ATC_{NF}$  in the SH equals  $ATC_{NF}$  in the OH.

#### **Posting of ATC:**

ATC values for VEC Non-PTF Posted Paths will be posted on the VEC page of ISO's OASIS site. As described above, the ATC values for Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading are always positive, and are thus set at 9999. The ATC values for these internal posted paths are posted in accordance with NAESB standards on VEC's provider page of the ISO-NE OASIS website. Common practice is not to calculate or post firm and non-firm ATC values for the non-PTF assets described above, as ATC is positive and listed as 9999. Transmission customers are not restricted from reserving firm or non-firm transmission service on Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading.

**Updates To ATC:**

When any of the variables in the ATC equations change, the ATC values are recalculated and reposted.

**Negative ATC:**

For paths affected by Hydro-Quebec Block Loading, the ATC cannot exceed the TTC. Therefore, ATC for paths affected by Hydro-Quebec Block Loading, may become zero, but will not become negative.

For Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading the ratings of radial paths will always higher than the transmission requirements of Transmission Customers connected to such path. Therefore, ATC values for Non-PTF transmission paths that are unaffected by Hydro-Quebec Block Loading are considered to be always available and will not be negative.

**Coordination of ATC Calculations:**

Schedule 21-VEC is does not require the coordination of ATC values with external interfaces. Therefore it is not necessary to coordinate the values.

**Jointly Owned or Controlled Transmission Facilities**

Where VEC jointly owns or controls transmission with other utilities or adjoining areas, will consider in its determination of ATC its entitlement for use of such lines in accordance with provisions of this Tariff and consistent with pre-existing agreements on its rights governing such use. Obtaining Firm Transmission Service over other utilities' facilities is the responsibility of the requesting Transmission Customer.

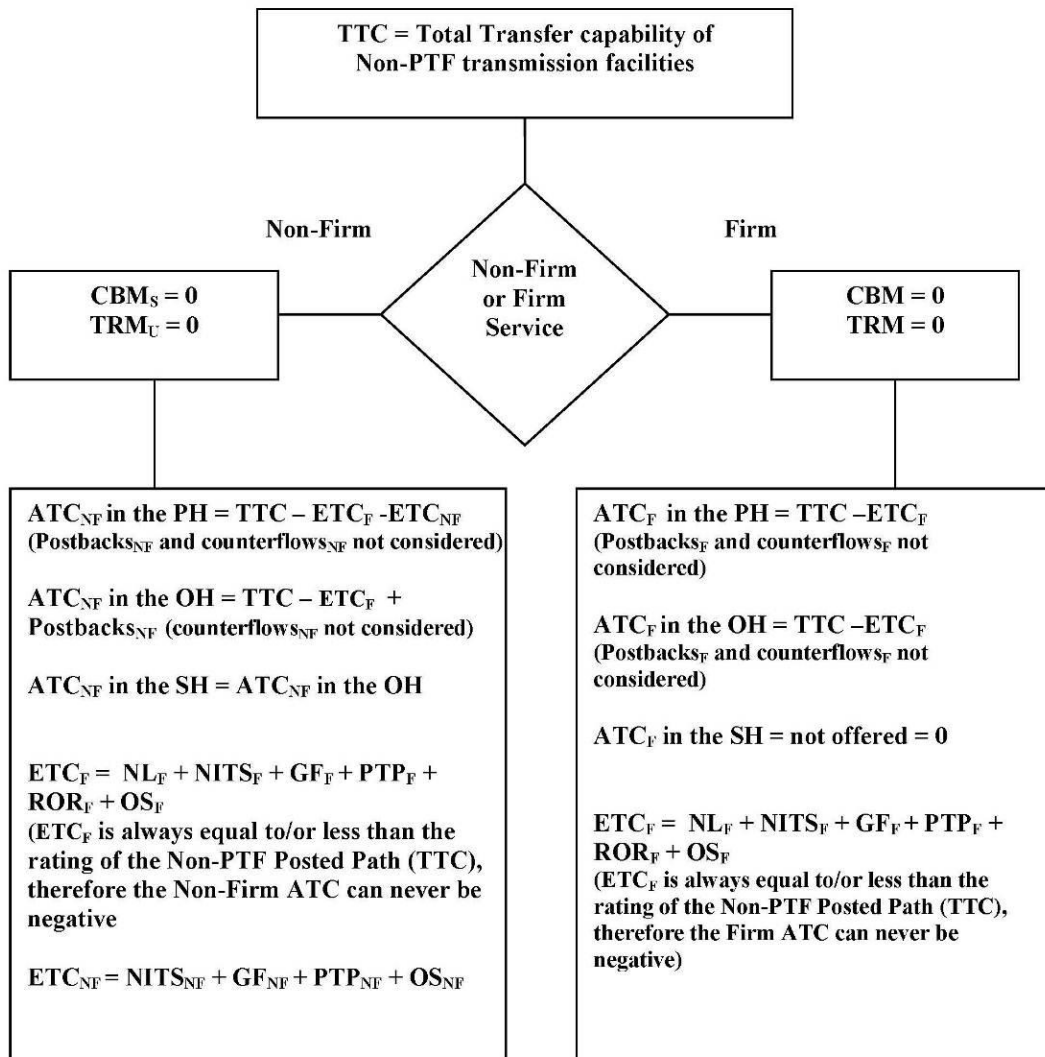
**Mathematical Algorithms:**

A link to the actual mathematical algorithm for the calculation of ATC for VEC's non-PTF internal interfaces is located on VEC's website at:

[<http://www.vermontelectric.coop/content/Mathematical\\_Algorithms\\_for\\_the\\_Calculation\\_of\\_ATC.pdf>](http://www.vermontelectric.coop/content/Mathematical_Algorithms_for_the_Calculation_of_ATC.pdf)

**ATC Process Flow Diagram**

This process flow diagram illustrates the steps through which ATC is calculated in the operating, planning and scheduling horizons.





**ATTACHMENT B**  
**Methodology for Completing a System Impact Study**

When VEC determines on a non-discriminatory basis that a System Impact Study is needed because its Transmission System may be inadequate to accommodate a request for Firm Point-to-Point Transmission Service, VEC will employ the following methodology to estimate the transmission system impact of the application for service and/or any costs for system re-dispatch, Direct Assignment Facilities or Network Upgrades that would be incurred in order to provide the requested transmission service.

**1. System Impact** will be estimated based on consideration of reliability requirements to meet obligations under VEC's agreements that predate this Tariff and Local Service Schedule;

- meet obligations of existing and pending applications for firm transmission service under the Tariff, inclusive of Schedules 20A and 21-VEC
- meet obligations pursuant to previous commitments for service under the Tariff, inclusive of Schedules 20A and 21-VEC, including service to meet VEC's native load; and
- maintain thermal, voltage and stability system performance within acceptable regional practices.

**2. Guidelines and Principles** followed by VEC - VEC is a ISO Participant and a member of the NPCC. When performing the System Impact Study, VEC will apply the following, if applicable, and as amended and/or adopted from time to time:

- Good Utility Practice;
- ISO criteria, rules and reliability standards;
- NPCC criteria and guidelines; and
- VEC's criteria and guidelines, including the following.

**3. Transmission System Model Representation** - The Transmission System model will be based on a library of load flow cases prepared by the ISO (and formerly NEPOOL) for studies of the New England area. The models may include representations of other NPCC and neighboring systems. These

load flow cases include individual system model representations provided by the ISO (and formerly NEPOOL) Participants and represent forecasted system conditions for up to ten years into the future. This library of load flow cases is maintained and updated as appropriate by the ISO (and formerly NEPOOL), and is consistent with information filed in FERC Form 715. VEC will use system models that it deems appropriate for study of the Application. Additional system models and operating conditions, including assumptions specific to a particular analysis, may be developed for conditions not available in the library of load flow cases. The system models may be modified, if necessary, to include additional system information on load, transfers and configuration, as it becomes available.

**4. System Conditions** - For study purposes, loading of transmission system elements shall take into consideration the normal ratings for pre-contingency conditions, long term emergency (LTE) ratings for post-contingency conditions, and short-term emergency (STE) ratings for post-contingency conditions. Transmission System steady state voltages shall be within the applicable design ratings of connected equipment for normal and emergency conditions. Normal and post-contingency voltages shall be in accordance with VEC and ISO standards.

**5. Short Circuits** - Transmission system short circuit currents shall be within the applicable equipment design ratings.

**6. Study Analysis** - System impact of the integration of a new Network Resource or new interconnection point will be evaluated to meet the requirements of design, identified in the guidelines and principles under Item 2, to provide sufficient transmission capability to maintain stability and to maintain thermal and voltage levels of lines and equipment within applicable limits. The same applies to the evaluation of Firm Local Point-to-Point Transmission Service when it has been determined that insufficient transmission capacity is available and a System Impact Study must be conducted.

**7. Loss Evaluation** - The impact of losses on VEC's Transmission System will be taken into account in the System Impact Study to ensure Good Utility Practice in the design and operation of its system.

**8. System Protection** - Protection requirements will be evaluated by VEC in accord with its

standard procedures.

**9. Approvals** - VEC will conduct the System Impact Study to ensure compliance with its planning and design policies and practices. However, the actions to be taken by the Parties to implement the recommendations of the System Impact Study are subject to approval under the ISO criteria, rules and standards, as amended and/or adopted from time to time.

**10. Study Scope and Reporting** - The study will determine the impacts and identify changes required, if any, to VEC's existing Transmission System. VEC will provide the Eligible Customer with a written report of the physical interconnection alternative(s), required VEC system additions and/or modifications, if any, associated study grade cost estimates (+/-25% accuracy) and the results of the analysis.

**ATTACHMENT C**  
**Local Network Operating Agreement**

**1.0 Preamble**

This Local Network Operating Agreement is an implementing agreement for the Tariff and Local Service Schedule 21-VEC and is subject to and in accordance with the Tariff and Local Service Schedule 21-VEC. All definitions and other terms and conditions of the Tariff and Local Service Schedule 21-VEC are incorporated herein by reference.

**2.0 General Terms and Conditions**

VEC agrees to provide transmission service to the Local Network Customer's equipment or facilities subject to the Local Network Customer operating its facilities in accordance with applicable VEC, or its Affiliates, ISO, VTransco, REMVEC and NPCC criteria, rules, standards, procedures, or guidelines as they may be adopted and/or amended from time to time. In addition to the provisions defined in those documents, service to the Local Network Customer's equipment or facilities, etc. is provided subject to the following specified terms and conditions.

**2.1 Electrical Supply:** The electrical supply to the Point(s) of Delivery shall be in the form of three-phase sixty-hertz alternating current at a voltage class determined by mutual agreement of the parties.

**2.2 Coordination of Operations:** VEC shall consult the Local Network Customer and/or its Designated Agent regarding timing of scheduled maintenance of the VEC Transmission System. In the event of a curtailment of service or the implementation of load shedding procedures, VEC shall use due diligence to resume delivery of electric power as quickly as possible.

**2.3 Reporting Obligations:** The Local Network Customer shall be responsible for all information required by NPCC, ISO, and VEC's dispatching functions. The Local Network Customer shall respond promptly and completely to VEC's reasonable requests for information, including but not limited to, data necessary for operations, maintenance, regulatory requirements and analysis. In particular, that information may include:

**i. For Network Loads:** 10-year annual peak load forecast, load power factor performance, under frequency load shedding capability, load shedding capability, disturbance/interruption reports; protection system setting conformance; system testing and maintenance conformance; planned changes to protection systems; metering testing and maintenance conformance; planned changes in transformation capability; conformance to harmonic and voltage fluctuation limits; dead station tripping conformance; and voltage reduction capability conformance.

**ii. For Network Resources** and interconnected generators: 10-year forecast of generation capacity retirements and additions; generator reactive capability verification; generator under frequency relaying conformance; protection system testing and maintenance conformance; planned changes to protection system; and planned changes to generation parameters.

The Local Network Customer shall supply accurate and reliable information to the system operators regarding metered values for MW, MVAR, volt, amp, frequency, breaker status indication, and all other information deemed necessary by VEC for reliable operation. Information shall be gathered for electronic communication using one or more of the following: supervisory control and data acquisition (SCADA), remote terminal unit (RTU) equipment, remote access pulse recorders (RAPR), used for metering, SCADA, RTU, RAPR, and communications must be approved by VEC.

**2.4 Operational Obligation:** The Transmission Customer shall request permission from the system operators prior to opening and/or closing circuit breakers per applicable switching and operating procedures. The Local Network Customer shall carry out all switching orders from VEC, VTransco, ISO, its successor, Hydro-Quebec, or VEC's designee in a timely manner.

The Local Network Customer shall balance the load at the Point(s) of Delivery such that the difference in the individual phase currents are acceptable to VEC.

The Transmission Customer's equipment shall conform with harmonic distortion and voltage fluctuation standards of VEC.

The Transmission Customer's equipment must comply with all environmental requirements to the extent they impact the operation of VEC's system.

The Transmission Customer shall operate all of its equipment and facilities connected to VEC's system in a safe and efficient manner and in accordance with manufacturers' recommendations, Good Utility Practice, applicable regulations, and requirements of VEC, ISO, VTransco, the National Electric Safety Code, the National Electric Code and NPCC. The Local Network Customer is responsible for supplying voltage regulation equipment on its subtransmission and distribution facilities.

To facilitate deliveries from the Canadian grid, it is necessary that the Local Network Customer has or has arranged for sufficient load available on the portion of VEC's system that can be connected to the Canadian grid to receive all of the capacity and energy that the Local Network Customer has scheduled. Since VEC controls which loads are connected to the Canadian grid, however, the Transmission Customer's loads may or may not be connected to the portion of VEC's system blocked to the Canadian grid at the time of such scheduled delivery. During such periods when the Local Network Customer's loads are available, but are not blocked to the Canadian grid due to circumstances under VEC's control, VEC will substitute loads that will allow the Local Network Customer to receive its scheduled capacity and energy. If scheduled deliveries from the Canadian Grid must be reduced due to circumstances beyond VEC's control (e.g., there is a facilities outage, or the Canadian grid operator restricts imports), reductions in schedules will be made on a *pro rata* basis.

**2.5 Notice of Transmission Service Interruptions:** If at any time, in the reasonable exercise of the system operator's judgment, operation of the Local Network Customer's equipment adversely affects the quality of service or interferes with the safe and reliable operation of the system, VEC may discontinue transmission service until the condition has been corrected. Unless the risk of interruption is imminent, the system operators shall give notice of its intention to discontinue transmission service and, where practical, allow suitable time for the Local Network Customer to remove the interfering condition. VEC's judgment with regard to the discontinuance of service under this paragraph shall be made in accordance with Good Utility Practice. In the case of such discontinuance, VEC shall immediately confer with the Local Network Customer regarding the conditions causing such discontinuance and its recommendation concerning timely correction thereof.

**2.6 Access and Control:** Properly accredited representatives of VEC shall at all reasonable times have access to the Local Network Customer's facilities to make reasonable inspections and obtain information required in connection with this Tariff and Local Service Schedule 21-VEC. Such representatives shall make themselves known to the Local Network Customer's personnel, state the object of their visit, and conduct themselves in a manner that will not interfere with the construction or operation of the Local Network Customer's facilities. VEC or its designee will have control such that it may open or close the circuit breaker or disconnect and place safety grounds at the Point(s) of Delivery, or at the station, if the Point(s) of Delivery is remote from the station.

**2.7 Point(s) of Delivery or Remote Delivery Point(s):** Local Network Service will be delivered by VEC at the Point(s) of Delivery or Remote Delivery Point(s) as specified in the Local Network Customer's Service Agreement, and as amended from time to time. Each Point of Delivery shall have a unique identifier, meter location, meter number, metered voltage, terms on meter compensation and, the projected in-service year.

**2.8 Maintenance of Equipment:** Unless other agreed, VEC will own all metering equipment. The Local Network Customers shall maintain all of its equipment and facilities connected to VEC's system in a safe and efficient manner and in accordance with manufacturers' recommendations, Good Utility Practice, applicable regulations, and requirements of VEC, ISO, VTransco and NPCC.

VEC may request that the Local Network Customer test, calibrate, verify or validate the data link, metering data acquisition, transmission, protective, or other equipment or software consistent with the Local Network Customer's routine obligation to maintain its equipment and facilities or for the purposes of trouble shooting problems on the network facilities. The Local Network Customer will be responsible for the cost to test, calibrate, verify or validate the equipment or software.

VEC shall have the right to inspect the tests, calibrations, verifications and validations of the data link, metering, data acquisition, transmission, protective, or other equipment or other software connected to VEC's system.

The Local Network Customer, at VEC's request, shall supply VEC with a copy of the installation test, and calibration records of the data link, metering, data acquisition, transmission, protective or other equipment or software connected to VEC's system.

VEC shall have the right, at the Local Network Customer's expense, to monitor the factory acceptance test, the field acceptance test, and the installation of any metering, data acquisition, transmission, protective or other equipment or software connected to VEC's system.

**2.9 Emergency System Operations:** The Transmission Customer's equipment and facilities shall be subject to all applicable emergency operation standards required of and by VEC to operate in an interconnected transmission network.

VEC reserves the right to have the system operators take whatever actions or inactions they deem necessary during emergency operating conditions to: (i) preserve the integrity of the Transmission System, (ii) limit or prevent damage, (iii) expedite restoration of service, or (iv) preserve public safety.

**2.10 Cost Responsibility:** The Local Network Customer shall be responsible for all costs incurred by VEC relative to the Local Network Customer's facilities. Some costs may be allocated to several Local Network Customers. If the method for allocating costs is not clearly defined, then the method for allocation will be at VEC's discretion.

### **3.0 Service For a Network Resource**

The following Terms and Conditions are specific to service for a generator Network Resource.

**3.1 Voltage or Reactive Control Requirements:** Unless directed otherwise, the Local Network Customer will operate its existing interconnected generation facility(ies) with an automatic voltage regulator(s). The voltage regulator will control voltage at the Point(s) of Receipt consistent with the range of voltage scheduled by VEC, VEC's agent or the ISO or its successor.

At the discretion of VEC, VEC's agent, ISO or its successor, or REMVEC, the Transmission Customer may be directed to deactivate the automatic voltage regulator and to supply reactive power per a schedule



provided by VEC, VEC's agent, or the ISO or its successor.

If the Local Network Customer has not installed capacity sufficient to operate its generation facility consistent with recommendations of VEC resulting from the System Impact and Facilities Studies or fails to operate at such capacity, VEC may install, at the Local Network Customer's expense, reactive compensation equipment necessary to ensure the proper voltage or reactive supply at the Point(s) of Receipt.

**3.2 Station Service:** When the Transmission Customer's generation facility is producing electricity, the Local Network Customer must supply its own station service power from its own supplies or from power purchased from another supplier. If and when the Local Network Customer's generation facility is not producing electricity, the Local Network Customer must obtain station service capacity and energy from another supplier or another of its resources.

**3.3 Protection Requirements:** The Local Network Customer's relay and protection systems must comply with all applicable VEC, ISO and NPCC criteria, rules, procedures, guidelines, standards or requirements as may be adopted or amended from time to time.

**3.4 Operational Obligations:** The ISO may require the generator to be equipped for Automatic Generation Control (AGC). The Local Network Customer will be responsible for all costs associated with installing and maintaining and AGC system on the generator(s).

VEC retains the right to require reduced generation at times when the system conditions present transmission restrictions or otherwise adversely affect VEC's other customers. VEC will use due diligence to resolve the problems to allow the generator to return to the operating level prior to VEC's notice to reduce generation.

All operations (including start-up, shutdown and determination of hourly generation) will be coordinated by the ISO, its successor, or VEC's Designated Agent.

**3.5 Coordination of Operations:** The Local Network Customer shall furnish VEC with generator

annual maintenance schedules, and advise VEC if its Network Resource is capable of participation in system restoration and/or if it has black start capability.

VEC reserves the right to specify turbine and/or generator control (e.g., droop) settings as determined by the system impact or facilities study or subsequent studies. The transmission customer agrees to comply with such specifications by the comply with such specifications by VEC at the Local Network Customer's expense.

If the generator is not dispatchable by the ISO, the Local Network Customer shall notify VEC at least 48 hours in advance of its intent to take its resource temporarily off-line and its intent to resume generation. In circumstances such as forced outages, the Local Network Customer shall notify VEC as promptly as possible of the Network Resource's temporary interruption of generation and/or transmission.

**4.0 Service for Delivery to Load** The following Terms and Conditions are specific to Service for Delivery to Load.

**4.1 Power Factor Requirement:** The Local Network Customer agrees to maintain an overall Load Power Factor and reactive power supply within predefined sub-areas as measured at the Point(s) of Delivery within ranges specified by VEC or by ISO criteria, rules and standards which identify the power factor levels that must be maintained throughout the applicable sub-area for each anticipated level of total ISO load. The Local Network Customer agrees to maintain Load Power Factor and reactive power requirements within the range specified by VEC, VTransco, or the ISO as appropriate for the sub-area based on total ISO load during that hour. The ISO may revise the power factor limits required from time to time. If the Transmission Customer lacks the capability to maintain the Load Power Factor within the ranges specified, VEC may install, at the Local Network Customer's expense, reactive compensation equipment necessary to ensure proper Load Power Factor at the Point(s) of Delivery.

**4.2 Protection Requirements:** The Local Network Customer's relay and protection systems must comply with all applicable VEC, ISO and NPCC criteria, rules, procedures, guidelines, standards or requirements as may be adopted or amended from time to time.

**4.3 Operational Obligations:** The Local Network Customer shall be responsible for operating and maintaining security of its electric system in a manner that avoids adverse impact to VEC's or others' interconnected systems and complies with all applicable VEC, ISO, VTransco and NPCC operating criteria, rules, procedures, guidelines and interconnection standards as may be amended or adopted from time to time. These actions include, but are not limited to:

- Voltage Reduction Load Shedding
- Under-frequency Load Shedding
- Block Load Shedding
- Dead Station Tripping
- Transferring Load Between Points(s) of Delivery
- Implementing Voluntary Load Reductions Including Interruptible Customers
- Starting Stand-by Generation
- Permitting VEC Controlled Service Restoration Following Supply Delivery Contingencies on VEC Facilities

**5.0 Failure to perform:** If the Local Network Customer fails to carry out its obligations under this Agreement the matter will be subject to the dispute resolution procedures of the Tariff.

The parties whose authorizing signatures appear below warrant that they will abide by the foregoing terms and conditions.

**VEC:**

By: \_\_\_\_\_

\_\_\_\_\_

Date

Name and Title

**Local Network Customer:**

By: \_\_\_\_\_

\_\_\_\_\_

Date

Name and Title



## **ATTACHMENT D**

### **Procedures for Determination of Average Metered Energy Line Losses Under the Local Service Schedule**

For purposes of the above provisions, transmission losses shall be determined on the basis of average metered energy line losses. VEC shall determine average metered energy line losses from meter readings. Losses to be applied to service in each 12 month period beginning April 1 shall be based on meter readings for the preceding calendar year. VEC shall notify Transmission Customers of the average metered energy line losses to be applied to service in a coming period and provide them with supporting technical data at least two weeks before that period begins.

**ATTACHMENT E**  
**Notice of Adoption of NERC TLR Procedures**

VEC adopts the Transmission Line-loading Relief (“TLR”) procedures of the North American Reliability Council (“NERC”) as filed with this Commission on February 22, 2000, and amended on March 10, 2000.

## **ATTACHMENT L**

### **Creditworthiness**

#### **1. Overview**

This provision is applicable to any new or existing Transmission Customer taking service under ISO New England Inc., ISO New England Inc. Transmission, Markets and Services Tariff, Section II - Open Access Transmission Tariff Schedule 21-VEC and Schedule 20A-VEC. The creditworthiness of each Transmission Customer must be established prior to receiving transmission service from VEC, or in the case of any existing Transmission Customer, within ninety (90) days from the date of a Commission order approving this Attachment L. A Transmission Customer will be evaluated at the time its application for transmission service is provided to VEC. A credit review shall thereafter be conducted for each Transmission Customer not less than biannually or more frequently upon reasonable request by the Transmission Customer. A summary of VEC's Creditworthiness Requirements are described in this Attachment L, and posted on its website at <http://www.vermontelectric.coop/open-access.htm>.

Upon receipt of a Transmission Customer's information, VEC will review it for completeness and will notify the Transmission Customer if additional information is required. Upon completion of an evaluation of a customer under this Attachment L, upon the Transmission Customer's request, VEC will forward a written evaluation if the Transmission Customer is required to provide Financial Assurance (as defined in Section 4) within twenty (20) calendar days.

#### **2. Financial Information**

Transmission Customers requesting transmission service or requesting interconnection service must submit, if available, the following information:

- All current rating agency reports of the Transmission Customer issued by Standard and Poor's ("S&P"), Moody's Investment Service, and/or Fitch Ratings.
- Audited financial statements provided by a registered independent auditor for the two most recent years, on an annual and quarterly basis if available, or the period of its existence, if shorter than two years.

#### **3. Standards for Creditworthiness Determination**

A. Transmission Customers, whether rated or un-rated by any of the three named rating agencies set out above, will be required to meet specific creditworthiness requirements, as detailed below:

- a) The Transmission Customer must not be in default of any payment obligation under

either Schedule 21-VEC or Schedule 20A-VEC, or under any other obligation to VEC.

**b)** If rated, the Transmission Customer's lowest senior unsecured long-term debt rating from the three named rating agencies (or if the customer does not have a senior unsecured long-term debt rating, then one rating notch below the issuer and/or corporate credit rating) of:

- Standard and Poor's or Fitch rating of at least a BBB+, or
- Moody's rating of at least a Baa1.

**c)** If un-rated or if rated below BBB+/Baa1, as stated in b), the Transmission Customer must demonstrate that it meets all of the following criteria for the last 4 quarters, or the last 2 years if quarterly information is not available:

- A Current Ratio of at least 2.0 times (current assets divided by all current liabilities);
- A Total Capitalization Ratio of less than 55% debt, defined as total debt (including all capitalized leases and all short-term borrowings) divided by the sum of total shareholders' equity plus total debt;
- EBITDA-to-Fixed Charge Ratio of at least 3.0 times, defined as Earnings before interest, taxes, depreciation and amortization divided by fixed charges (interest on debt as defined in Total Capitalization Ratio above plus preferred dividends on any outstanding preferred equity); and
- Unqualified audit opinions in audited financial statements provided.

**d)** If the Transmission Customer relies on the creditworthiness of a parent company or other party reasonably acceptable to VEC, the Transmission Customer's parent company or such other party must meet the criteria set out in (a) through (c) above, and must provide to VEC a written guarantee for the duration of any service requested that it will be unconditionally responsible for all financial obligations associated with the Transmission Customer's use of transmission service from VEC pursuant to this Tariff.

#### **4. Financial Assurance**



If the Transmission Customer does not meet the applicable requirements for Creditworthiness set out in Section 3, then it must provide Financial Assurance upon the request of VEC by satisfaction of any one or more of the following:

**A.** For Transmission Service for less than one month: pay to VEC or place in an escrow account that is accessible to VEC the total charge for Transmission Service by the later of five business days prior to the commencement of Service or the time when it makes the request for Transmission Service; or

**B.** For Transmission Service of one month or greater: pay to VEC or place in an escrow account that is accessible to VEC the charge for each month's Transmission Service not less than five business days prior to the beginning of the month of service; or

**C.** Irrespective of the length of Transmission Service requested: not less than five days prior to the commencement of Transmission Service, provide an unconditional and irrevocable Letter of Credit (as defined below) from a financial institution reasonably acceptable to VEC or an alternative form of security proposed by the Transmission Customer and acceptable to VEC and consistent with commercial practices established by the Uniform Commercial Code that is equal to the lesser of the total charge for Transmission Service or the charge for 90 days of service. For the purposes of this section, "Letter of Credit" means one or more irrevocable, transferable standby letters of credit issued by a U.S. commercial bank or a U.S. branch of a foreign bank provided that such Transmission Customer is not an affiliate of such bank, and provided further that such bank has an issuer and/or corporate credit rating of at least A2 from Moody's or A from Standard and Poor's or Fitch Ratings. In the event of different ratings from the rating agencies, the lowest rating shall apply.

All costs of a Letter of Credit shall be borne by the Transmission Customer. If the credit rating of the bank issuing the Letter of Credit falls below the specified rating, the Transmission Customer shall notify VEC in writing within five business days of such event and shall have two business days following written notice to provide other appropriate Financial Assurance.

## **5. Credit Levels**

If the Transmission Customer meets the applicable criteria outlined in Section 3, that Transmission

Customer may receive unsecured credit equivalent to the greater of (i) \$25,000 in Transmission Service charges, or (ii) three-months of Transmission Service charges.

#### **6. Contesting Creditworthiness Determination**

The Transmission Customer may contest VEC's determination of creditworthiness by submitting a written request for re-evaluation within 20 calendar days of notification of the Creditworthiness Determination. Such request should be mailed to:

Chief Financial Officer  
Vermont Electric Cooperative, Inc.  
42 Wescom Road  
Johnson, VT 05656-9579

The request should provide information supporting the basis for a request to re-evaluate the Transmission Customer's creditworthiness. VEC will review and respond to the request within 20 calendar days.

#### **7. Process for Changing Credit Requirements**

In the event that VEC plans to revise its credit level or collateral requirements, VEC shall issue no less than 15 calendar days' advance notice of the revised changes. A Transmission Customer may thereafter request that VEC provide an explanation of the reasons for the changes by contacting VEC at:

Chief Financial Officer  
Vermont Electric Cooperative, Inc.  
42 Wescom Road  
Johnson, VT 05656-9579

#### **8. Transmission Customer Responsibility**

When there is a change in requirements set forth in Section 7, it is the responsibility of the Transmission Customer to forward updated financial information to VEC, to the address noted above, and indicate whether the change affects the Transmission Customer's ability to meet the requirements of the Creditworthiness Policy. In such cases where the Transmission Customer's status has changed, it must

take the necessary steps to comply with the revised requirements of the Creditworthiness Policy by the effective date of the change.

## **9. Posting Collateral Requirements**

### **A. Changes in Customer's Financial Condition**

Each Transmission Customer must inform VEC, in writing, within five-business days of any material change in its financial condition or the financial condition of a parent providing a guarantee. VEC may thereafter elect to conduct a revised review of Transmission Customer's status under this Attachment L. A material change in financial condition may include, but is not limited to, the following:

- Change in ownership by way of a merger, acquisition or substantial sale of assets;
- A downgrade of long- or short-term debt rating by one of the three named rating agencies;
- Being placed on a credit watch with negative implications (or any similar negative outlook indication) by one of the three named rating agencies;
- A bankruptcy filing;
- Any action requiring filing of a Form 8-K;
- A declaration of or acknowledgement of insolvency;
- A report of a significant quarterly loss or decline in earnings;
- The resignation of key officer(s);
- The issuance of a regulatory order and/or the filing of a lawsuit that could materially adversely impact current or future financial results.

### **B. Change in Creditworthiness Status**

A Transmission Customer who has been extended unsecured credit under this policy must comply with the terms of Financial Assurance in Section 4 if one or more of the following conditions apply:

- The Transmission Customer no longer meets the applicable criteria for Creditworthiness;
- The Transmission Customer exceeds the amount of unsecured credit extended by VEC,

in which case Financial Assurance equal to the amount of excess must be provided within five-business days; or

- The Transmission Customer has missed one or more payments for any of the Transmission Services offered by VEC in the last 12 months.

#### **10. Ongoing Financial Review**

Each Transmission Customer is required to submit to VEC annually or when issued, as applicable:

- Current rating agency reports;
- Audited financial statements from a registered independent auditor; and
- 10-Ks, 10-Q's and 8-Ks, promptly upon their issuance.

#### **11. Suspension of Service:**

VEC may immediately suspend service (with notification to Commission) to a Transmission Customer, and may initiate proceedings with Commission to terminate service, if the Transmission Customer does not meet the terms described in items 3 through 10 at any time during the term of service or if the Transmission Customer's payment obligations to VEC exceed the amount of unsecured or secured credit to which it is entitled under this Attachment L. A Transmission Customer is not obligated to pay for Transmission Service that is not provided as a result of a suspension of service.