Massachusetts Electric
A **National Grid** Company

Amy G. Rabinowitz
Counsel

May 20, 2004

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station
Boston, MA 02110

Re: D.T.E. 02-38

Dear Secretary Cottrell:

Massachusetts Electric Company and Nantucket Electric Company (collectively "Company") hereby file a third amended compliance tariff in the above-captioned docket. In this amended tariff, the Company has deleted the word "Draft" in Section 4.2.1 with regard to the IEEE P1547 Standard, as this standard is now in final form.

Thank you very much for your time and attention to this matter.

Very truly yours,

Amy G. Rabinowitz

cc: Service List

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Massachusetts Electric Company

Nantucket Electric Company

Standards for Interconnecting Distributed Generation

M.D.T.E. No. 1071-B

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Effective: April 1, 2004

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4.1.3 Frequency

The interconnected electric power system in North America, which is maintained at 60 hertz ("Hz") frequency on its alternating current services, is subject to certain deviations. The usual maximum instantaneous deviation from the standard 60 Hz is ±2/100 cycle (±0.033%), except on infrequent occasions when the deviation may reach ±1/10 cycle (±0.17%). The usual normal deviation is approximately ±1/20 cycle (±0.083%). These conditions are subject to occur at any time of the day or night and should be considered in the design of the Facility. All are measured on a 60 Hz base.

4.1.4 Voltage Level

All electricity flow across the PCC shall be in the form of single-phase or three-phase 60 Hz alternating current at a voltage class determined by mutual agreement of the Parties.

4.1.5 Machine Reactive Capability

Facilities less than 1 megawatt ("MW") will not be required to provide reactive capability, except as may be provided by the retail rate schedule and Terms and Conditions for Distribution Services under which the Customer takes service.

Facilities greater than or equal to 1 MW interconnected with the Company EPS shall be required to provide reactive capability to regulate and maintain EPS voltage at the PCC as per NEPOOL requirements. The Company and NEPOOL shall establish a scheduled range of voltages to be maintained by the Facility. The reactive capability requirements shall be reviewed as part of the Impact Study and Facilities Study.

4.2 Protection Requirements For New or Modified Facility Interconnections with the EPS

4.2.1 General Requirements

Any Facility desiring to interconnect with the Company EPS or modify an existing interconnection must meet minimum specifications, where applicable, as set forth in the following documents and standards and requirements in this Section.

- IEEE P1547 Standard for Distributed Resources Interconnected with Electric Power Systems.

  Deleted: Draft

  UL Standard 1741, November 1, 2002 "Inverters, Converters and Charge Controllers for Use in Independent Power Systems

  IEEE Standard 929-2000, "IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems."

The specifications and requirements listed herein are intended to mitigate possible adverse impacts caused by the Facility on the Company's equipment and personnel and on other Interconnecting Customers of the Company. They are not intended to address protection of the Facility itself or its internal load. It is the responsibility of the Facility to comply with the requirements of all appropriate standards, codes, statutes and authorities to protect itself and its loads.

Massachusetts Electric Company

Nantucket Electric Company

Standards for Interconnecting Distributed Generation

M.D.T.E. No. 1071-B

Effective: April 1, 2004

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1.0 Introduction

1.1 Applicability

This document ("Interconnection Tariff") describes the process and requirements for an Interconnecting Customer to connect a power-generating facility to the Company's Electric Power System ("Company EPS"), including discussion of technical and operating requirements, metering and billing options, and other matters.

The procedure for momentary paralleling to the Company EPS with back-up generation is described within Section 4.0 Interconnection Requirements.

If the Facility will always be isolated from the Company's EPS, (i.e., it will never operate in parallel to the Company's EPS), then this Interconnection Tariff does not apply.

1.2 Definitions

The following words and terms shall be understood to have the following meanings when used in this Interconnection Tariff:

Affected System: Any neighboring EPS not under the control of the Company (i.e., a municipal electric light company or other regulated utility).

Affiliate: A person or entity controlling, controlled by or under common control with a Party.

Anti-Islanding: Describes the ability of a Facility to avoid unintentional islanding through some form of active control technique.

Application: The notice (which will serve as the Notice of Intent to Interconnect under 220 C.M.R. §§ 8.0 et seq. when required) provided by Interconnecting Customer to the Company in the form shown in Exhibits C and D, which initiates the interconnection process.

Area EPS: The Company EPS. This term is used in "Standards for Interconnecting Distributed Resources with Electric Power Systems" of the Institute of Electrical and Electronics Engineers ("IEEE 1547").

Company: Massachusetts Electric Company and Nantucket Electric Company, as applicable.

Company EPS: The electric power system owned, controlled or operated by the Company used to provide distribution service to its Customers.

Customer: Company's retail customer; host site or premises, may be the same as Interconnecting Customer.

Department: The Massachusetts Department of Telecommunications and Energy.

Detailed Study: The final phase of engineering study, if necessary, conducted by the Company to determine substantial System Modifications to its EPS, resulting in project

cost estimates for such modifications that will be required to provide the requested interconnection service.

DG: Distributed Generation.

DR: The Facility**.** This term is used in the IEEE 1547 draft standard.

Expedited Process: As described in Section 3.2, process steps for certified Facilities from initial application to final written authorization, using a set of technical screens to determine grid impact.

Facility: A source of electricity owned by the Interconnecting Customer that is located on the Interconnecting Customer's side of the PCC, and all facilities ancillary and appurtenant thereto, including interconnection equipment, which the Interconnecting Customer requests to interconnect to the Company EPS.

FERC: Federal Energy Regulatory Commission.

Good Utility Practice: Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Impact Study: The engineering study conducted by the Company under the Standard Process to determine the scope of the required modifications to its EPS and/or the Facility to provide the requested interconnection service.

In-Service Date: The date on which the Facility and System Modifications (if applicable) are complete and ready for service, even if the Facility is not placed in service on or by that date.

Interconnecting Customer (IC): Entity who owns and/or operates the Facility interconnected to the Company EPS.

Interconnection Service Agreement: An agreement for interconnection service, the form of which is provided in Exhibit A, between the Interconnecting Customer and the Company. The agreement also includes any amendments or supplements thereto entered into by the Interconnecting Customer and the Company.

Islanding: A situation where electrical power remains in a portion of an electrical power system when the Company's transmission or distribution system has ceased providing power for whatever reason (emergency conditions, maintenance, etc.) Islanding may be intentional, such as when certain segregated loads in a Customer's premises are provided power by a Facility after being isolated from the Company EPS after a power failure. Unintentional Islanding, especially past the PCC, is to be strictly avoided.

ISO-New England, Inc ("ISO-NE"): The Independent System Operator established in accordance with the NEPOOL Agreement and applicable FERC approvals, which is responsible for managing the bulk power generation and transmission systems in New England.

Isolated: The state of operating the Facility when electrically disconnected from the Company EPS on the Interconnecting Customer's side of the PCC.

Local EPS: The customer premises within which are contained the Facility**.** This term is used in the IEEE 1547.

Metering Point: For meters that do not use instrument transformers, the point at which the billing meter is connected. For meters that use instrument transformers, the point at which the instrument transformers are connected.

NEPOOL: New England Power Pool.

Net Metering: A customer of the Company with an on-site Facility of 60 kilowatts ("KW") or less in size exercising the option to run the meter backward and thus choosing to receive a credit from the Company equal to the average monthly market price of generation per kilowatt hour, as determined by the Department, in any month during which there was a positive net difference between kilowatt hours ("KWH") generated and consumed. (See 220 C.M.R. § 11.04(7)(c)).

Network Distribution System (Area or Spot): Electrical service from an EPS consisting of one or more primary circuits from one or more substations or transmission supply points arranged such that they collectively feed secondary circuits serving one (a spot network) or more (an area network) Interconnecting Customers.

Non-Islanding: Describes the ability of a Facility to avoid unintentional islanding through the operation of its interconnection equipment.

NPCC: Northeast Power Coordinating Council.

On-Site Generating Facility: A class of Interconnecting Customer-owned generating Facilities with peak capacity of 60 KW or less, as defined in 220 C.M.R. § 8.02.

Parallel: The state of operating the Facility when electrically connected to the Company EPS (sometimes known as grid-parallel).

Parties: The Company and the Interconnecting Customer.

Point Of Common Coupling (PCC): The point where the Interconnecting Customer's local electric power system connects to the Company EPS, such as the electric power revenue meter or premises service transformer. See the Company for the location at a particular Interconnecting Customer site.

Point of Delivery: A point on the Company EPS where the Interconnecting Customer makes capacity and energy available to the Company. The Point of Delivery shall be specified in the Interconnection Service Agreement.

Point of Receipt: A point on the Company EPS where the Company delivers capacity and energy to the Interconnecting Customer. The Point of Receipt shall be specified in the Interconnection Service Agreement.

Qualifying Facility: A generation Facility that has received certification as a Qualifying Facility from the FERC in accordance with the Federal Power Act, as amended by the Public Utility Regulatory Policies Act of 1978, as defined in 220 C.M.R. § 8.02.

Radial Distribution Circuit: Electrical service from an EPS consisting of one primary circuit extending from a single substation or transmission supply point arranged such that the primary circuit serves Interconnecting Customers in a particular local area.

Screen(s): Criteria by which the Company will determine if a proposed Facility's installation will adversely impact the Company EPS in the Simplified and Expedited Processes as set forth in Section 3.

Simplified Process: As described in Section 3.1, process steps from initial application to final written authorization for Facilities that are 10KW or less, qualified, and inverter-based.

System Modification: Modifications or additions to distribution-related Company facilities that are integrated with the Company EPS for the benefit of the Interconnecting Customer.

Supplemental Review: Additional engineering study to evaluate the potential impact of the Facility on the Company EPS so as to determine any requirements for processing the application through the Expedited Process.

Standard Process: As described in Section 3.3, process steps from initial application to final written authorization for Facilities that do not qualify for Simplified or Expedited treatment.

Unintentional Islanding: A situation where the electrical power from the Facility continues to supply a portion of the Company EPS past the PCC when the Company's transmission or distribution system has ceased providing power for whatever reason (emergency conditions, maintenance, etc.).

1.2 Forms and Agreements

The following documents for the interconnection process are included as Exhibits:

1. Application form
    a. Simplified (≤10 KW qualified inverter based) includes interconnection agreement for simplified projects
    b. Expedited and Standard Process application form
2. Supplemental Review Agreement for those projects which have failed one or more screens in the Expedited Process.
3. Impact Study Agreement under the Standard Process

4. Detailed Study Agreement for the more detailed study under the Standard Process which requires substantial System Modifications.
5. Interconnection Service Agreement and required attachments (i.e., description of Facilities, System Modifications and their costs, special operating requirements, etc.)Template Third Party Owner Agreement

2.0 Basic Understandings

Interconnecting Customer intends to install a Facility on the Customer's side of the PCC that will be connected electrically to the Company EPS and operate in parallel, synchronized with the voltage and frequency maintained by the Company during all operating conditions. It is the responsibility of the Interconnecting Customer to design, procure, install, operate, and maintain all necessary equipment on its property for connection to the Company EPS. The Interconnecting Customer and the Company shall enter into an Interconnection Service Agreement to provide for parallel operation of an Interconnecting Customer's Facility with Company EPS. A form of this agreement is attached as Exhibit A to this Interconnection Tariff. If the Interconnecting Customer is not the Customer, a Third Party Owner Agreement must be signed and included as an attachment to the Interconnection Service Agreement.

The interconnection of the Facility with the Company EPS must be reviewed for potential impact on the Company EPS under the process described in Section 3.0 and meet the technical requirements in Section 4.0, and must be operated as described under Section 6. In order to meet these requirements, an upgrade or other modifications to the Company EPS may be necessary. Subject to the requirements contained in this Interconnection Tariff, the Company or its Affiliate shall modify the Company EPS accordingly. Unless otherwise specified, the Company will build and own, as part of the Company EPS, all facilities necessary to interconnect the Company EPS with the Facility up to and including terminations at the PCC. The Interconnecting Customer shall pay all System Modification costs as set forth in Section 5.

The Interconnecting Customer should consult the Company before designing, purchasing and installing any generation equipment, in order to verify the nominal utilization voltages, frequency, and phase characteristics of the service to be supplied, the capacity available, and the suitability of the proposed equipment for operation at the intended location. Attempting to operate a generator at other than its nameplate characteristics may result in unsatisfactory performance or, in certain instances, injury to personnel and/or damage to equipment. The Interconnecting Customer will be responsible for ascertaining from the Company, and the Company will diligently cooperate in providing, the service characteristics of the Company EPS at the proposed PCC. The Company will in no way be responsible for damages sustained as a result of the Interconnecting Customer's failure to ascertain the service characteristics at the proposed PCC.

The Facility should operate in such a manner that does not compromise, or conflict with, the safety or reliability of the Company EPS. The Interconnecting Customer should design its equipment in such a manner that faults or other disturbances on the Company EPS do not cause damage to the Interconnecting Customer's equipment.

Authorization to interconnect will be provided once the Interconnecting Customer has met all terms of the interconnection process as outlined below.

This Interconnection Tariff does not cover general distribution service needed to serve the Interconnecting Customer. Please refer to the Company's Terms and Conditions for Distribution Service. This Interconnection Tariff does not cover the use of the distribution system to export power, or the purchase of excess power unless covered under 220 C.M.R. §§ 8.00 et seq.

3.0 Process Overview

There are three basic paths for interconnection of the Interconnecting Customer's Facility in Massachusetts. They are described below and detailed in Figures 1 and 2 with their accompanying notes. Tables 1 and 2, respectively, describe the timelines and fees for these paths. Unless otherwise noted, all times in the Interconnection Tariff reference Company business days under normal work conditions.

1. **Simplified** – This is for qualified inverter-based facilities with a power rating of 10 KW or less on radial or spot network EPSs under certain conditions.
2. **Expedited** – This is for certified facilities that pass certain pre-specified screens on a radial EPS.
3. **Standard** – This is for all facilities not qualifying for either the Simplified or Expedited interconnection processes on radial and spot network EPSs, and for all Facilities on area network EPSs.

All proposed new sources of electric power without respect to generator ownership, dispatch control, or prime mover that plan to operate in parallel with the Company EPS must submit a completed application and pay the appropriate application fee to the Company with which it wishes to interconnect. The application will be acknowledged by the Company, and the Interconnecting Customer will be notified of the application's completeness. Interconnecting Customers who are not likely to qualify for Simplified or Expedited Process may opt to go directly into the Standard Process path. Interconnecting Customers proposing to interconnect on area networks will also go directly to the Standard Process. All other Interconnecting Customers must proceed through a series of screens to determine their ultimate interconnection path. (Interconnecting Customers not sure whether a particular location is on a radial circuit, spot network, or area network should check with the Company serving the proposed Facility location prior to filing and the Company will verify the circuit type upon filing.)

3.1 Simplified Process

Interconnecting Customers using qualified (UL 1741) inverter-based facilities with power ratings 10 KW or less requesting an interconnection on radial EPSs where the aggregate Facility capacity on the circuit is less than 7.5% of circuit annual peak load qualify for Simplified interconnection. This is the fastest and least costly interconnection path. There is also a Simplified interconnection path for qualified inverter-based facilities on spot networks when the aggregate Facility capacity is less than one-fifteenth of the Customer's minimum load.

The Simplified Process is as follows:

a. Application process:
    i. Interconnecting Customer submits a Simplified application filled out properly and completely.
    ii. Company acknowledges to the Interconnecting Customer receipt of the application within 3 business days of receipt.
    iii. Company evaluates the application for completeness and notifies the Interconnecting Customer within 10 days of receipt that the application is or is not complete and, if not, advises what is missing.

b. Company verifies Facility equipment passes screens 1, 2, and 3 in Figure 1 if a radial EPS, or the screens in Figure 2 if a network EPS.

c. Company signs application approval line and sends to Customer. In certain rare circumstances, the Company may require the Interconnecting Customer to pay for minor System Modifications.

d. Upon receipt of signed application and completion of installation, Interconnecting Customer returns Certificate of Completion. Company may inspect Facility for compliance with standards and may arrange for a witness test.

e. If the witness test is not satisfactory, the Company has the right to disconnect the Facility. The Interconnecting Customer has no right to operate in parallel until a witness test has been performed or previously waived on the Application Form. The Company is obligated to complete this witness test within 10 days of the receipt of the Certificate of Completion. If the Company does not inspect in 10 days or by mutual agreement of the Parties, the Witness Test is deemed waived.

f. Assuming inspection/test is satisfactory, Company notifies Interconnecting Customer in writing that interconnection is authorized.

When the application review is complete, the Company signs the approval field of the Simplified Application. If the Interconnecting Customer does not substantially complete construction within twelve months after receiving approval from the Company, the Company will require the Interconnecting Customer to reapply for interconnection

3.2 Expedited Process

Other Interconnecting Customers not qualifying for the Simplified Process or not in the Standard process must pass a series of screens before qualifying for Expedited interconnection. Depending on whether one or more screens are passed, additional steps may be required.

The Expedited Process is as follows:

a. Application process:
    i. Interconnecting Customer submits an Expedited/Standard application filled out properly and completely.
    ii. Company acknowledges to the Interconnecting Customer receipt of the application within 3 days of receipt.
    iii. Company evaluates the application for completeness and notifies the Interconnecting Customer within 10 days of receipt that the application is or is not complete and, if not, advises what is missing.

b. Company then conducts an initial review which includes applying the screening methodology (Screens 1 through 8).

c. The Company reserves the right to conduct internal studies if deemed necessary and at no additional cost to the Interconnecting Customer, such as but not limited to: protection review, aggregate harmonics analysis review, aggregate power factor

review and voltage regulation review. Likewise, when the proposed interconnection may result in reversed load flow through the Company's load tap changing transformer(s), line voltage regulator(s), control modifications necessary to mitigate the effects may be made to these devices by the Company at the Interconnecting Customer's expense or the Facility may be required to limit its output so reverse load flow cannot occur or to provide reverse power relaying that trips the Facility.

As part of the Expedited Process, the Company will assess whether any System Modifications are required for interconnection, even if the project passes all of the applicable Screens. If the needed modifications are minor, that is, the requirement can be determined within the time allotted through the application fee and any internal studies, then the modification requirements, reasoning, and costs for these minor modifications will be identified and included in the executable Interconnection Service Agreement. If the requirements cannot be determined within the time and cost alloted in the initial review and any internal studies, the Company may require that the project undergo additional review to determine those requirements. The time allocated for additional review is a maximum of 10 hours of engineering time.

If after this review, the Company still cannot determine the requirements, the Company will document the reasons why and will meet with the Interconnecting Customer to determine how to move the process forward to the Parties' mutual satisfaction. In all cases, the Interconnecting Customer will pay for the cost of modifications as discussed in Section 5.

d. Assuming all applicable Screens are passed, Company sends the Interconnecting Customer an executable Interconnection Service Agreement and a quote for any required System Modifications or reasonable witness test costs.

e. If one or more Screens are not passed, the Company will provide a Supplemental Review Agreement. If the Interconnecting Customer executes the agreement, the Company will conduct the review. If the Supplemental Review determines the requirements for processing the application through the Expedited Process including any System Modifications, then the modification requirements, reasoning, and costs for these modifications as defined in Section 5 will be identified and included in an executable Interconnection Service Agreement sent to the Interconnecting Customer for execution. If the Supplemental Review does not determine the requirements, it will include a proposed Impact Study Agreement as part of the Standard Process which will include an estimate of the cost of the study. Even if a proposed project initially fails a particular Screen in the Expedited Process, if Supplemental Review shows that it can return to the Expedited Process then it will do so. Supplemental Review includes up to 10 hours of engineering time.

f. Interconnecting Customer returns the signed Interconnection Service Agreement which is then executed by the Company.

g. Interconnecting Customer completes installation and, upon receipt of payment, the Company completes System Modifications, if required.

h. Company inspects completed installation for compliance with standards and attends witness test, if required.

i. Assuming inspection is satisfactory, Company notifies Interconnecting Customer in writing that interconnection is authorized.

3.3 Standard Process

The Standard Process has the longest maximum time period and highest potential costs. There are three ways to enter the Standard Process:

a. Interconnecting Customers may choose to proceed immediately to the Standard Process. Application process:
   i. Interconnecting Customer submits an Expedited/Standard Application filled out properly and completely.
   ii. Company acknowledges to the Interconnecting Customer receipt of the application within 3 business days.
   iii. Company evaluates the application for completeness and notifies the Interconnecting Customer within 10 days of receipt that the application is or is not complete and, if not, advises what is missing.

b. Based upon the results of the initial and Supplemental Reviews, Interconnecting Customers may be required to enter the Standard Process.

c. Based on the results of the Screens in Figure 2 for networks, Interconnecting Customers may be required to enter the Standard Process.

The Standard Process is as follows:

a. The Company will conduct an initial review that includes a scoping meeting/discussion with the Interconnecting Customer (if necessary) to review the application. At the scoping meeting the Company will provide pertinent information such as:
   - The available fault current at the proposed location;
   - The existing peak loading on the lines in the general vicinity of the Facility;
   - The configuration of the distribution lines.

b. Company provides an Impact Study Agreement, including a cost estimate for the study. Where there are other potentially Affected Systems, and no single Party is in a position to prepare an Impact Study covering all potentially Affected Systems, the Company will coordinate but not be responsible for the timing of any studies required to determine the impact of the interconnection request on other potentially Affected Systems. The Interconnecting Customer will be directly responsible to the potentially Affected System operators for all costs of any additional studies required to evaluate the impact of the interconnection on the potentially Affected Systems.

c. Once the Interconnecting Customer executes the Impact Study Agreement and pays pursuant to the terms thereof, the Company will conduct the Impact Study.

d. If the Company determines, in accordance with Good Utility Practice, that the System Modifications to the Company EPS are not substantial, the Impact Study will determine the scope and cost of the modifications as defined in Section 5. If the Company determines, in accordance with Good Utility Practice, that the System Modifications to the Company EPS are substantial, the Impact Study will produce an estimate for the modification costs (within ±25%) and a Detailed Study Agreement and cost for Interconnecting Customer's approval.

e. Once the Interconnecting Customer executes the Detailed Study Agreement and pays pursuant to the terms thereof, the Company will conduct the Detailed Study.

f. Upon completion of any necessary studies, the Company shall send the Interconnecting Customer an executable Interconnection Service Agreement including a quote for any required System Modifications and reasonable witness test costs.

g. Interconnecting Customer returns signed Interconnection Service Agreement.

h. Interconnecting Customer completes installation and Company completes System Modifications, if required.

i. Company inspects completed installation for compliance with requirements and attends witness test, if required.

j. Assuming inspection is satisfactory, Company notifies Interconnecting Customer in writing that interconnection is authorized.

3.4 Time Frames

Unless otherwise noted, all days in the Tariff reference Company business days under normal work conditions.

Table 1 lays out the maximum timeframes allowed under the Simplified, Expedited, and Standard Review processes. The maximum time allowed for the Company to execute the entire Simplified Process is 15 days. The maximum time allowed for the Company to execute the entire Expedited Process on a radial system is 40 days where no Supplemental Review is needed and 60 days where it is needed. The maximum time allowed for the Company to execute the entire Standard Process is 125 days for the Standard Review Process if the Customer goes directly to Standard Review and 150 days if the Customer goes from the Expedited Process into Standard Review. For Customers qualifying for the Simplified Process on a spot network, the maximum time is 40 days if load data is available and 100 days if it is not. The Company clock is stopped when awaiting information from Customers. Any delays caused by Customer will interrupt the applicable clock. Moreover, if an Interconnecting Customer fails to act expeditiously to continue the interconnection process or delays the process by failing to provide necessary information within the longer of 15 days or half the time allotted to the Company to perform a given step, or as extended by mutual agreement, then the Company may terminate the application and the Interconnecting Customer must re-apply. However, the Company will be required to retain the work previously performed in order to reduce the initial and Supplemental Review costs incurred for a period of no less than 1 year. Notwithstanding these maximum time

frames, the Company shall endeavor to meet the Customer's needs.

3.5 Fee Schedules

Table 2 lays out the fees required for Interconnecting Customers to apply for interconnection. There are no fees for those facilities that qualify for the Simplified path (except in certain unique cases where a System Modification would be needed which would be covered by the Interconnecting Customer). Those qualifying for the Expedited Process on a radial EPS will pay a $3/KW application fee (minimum of $300 and maximum of $2,500) plus $125/hour up to 10 hours ($1,250) for Supplemental Review, when applicable, plus the actual cost as defined in Section 5 of any required System Modifications. Those on the Standard Process path would pay the same application fee as in the Expedited path as well as the actual cost as defined in Section 5 of any required System Modifications, plus the actual cost of any Impact and Facility Studies, if required. Facilities qualifying for the Simplified Process on a spot network will pay a flat application fee of $100 for 3KW or less, and $300 for Facilities up to and including 10 KW, plus any System Modification costs.

Figure 1: Schematic of Massachusetts DG Interconnection Process

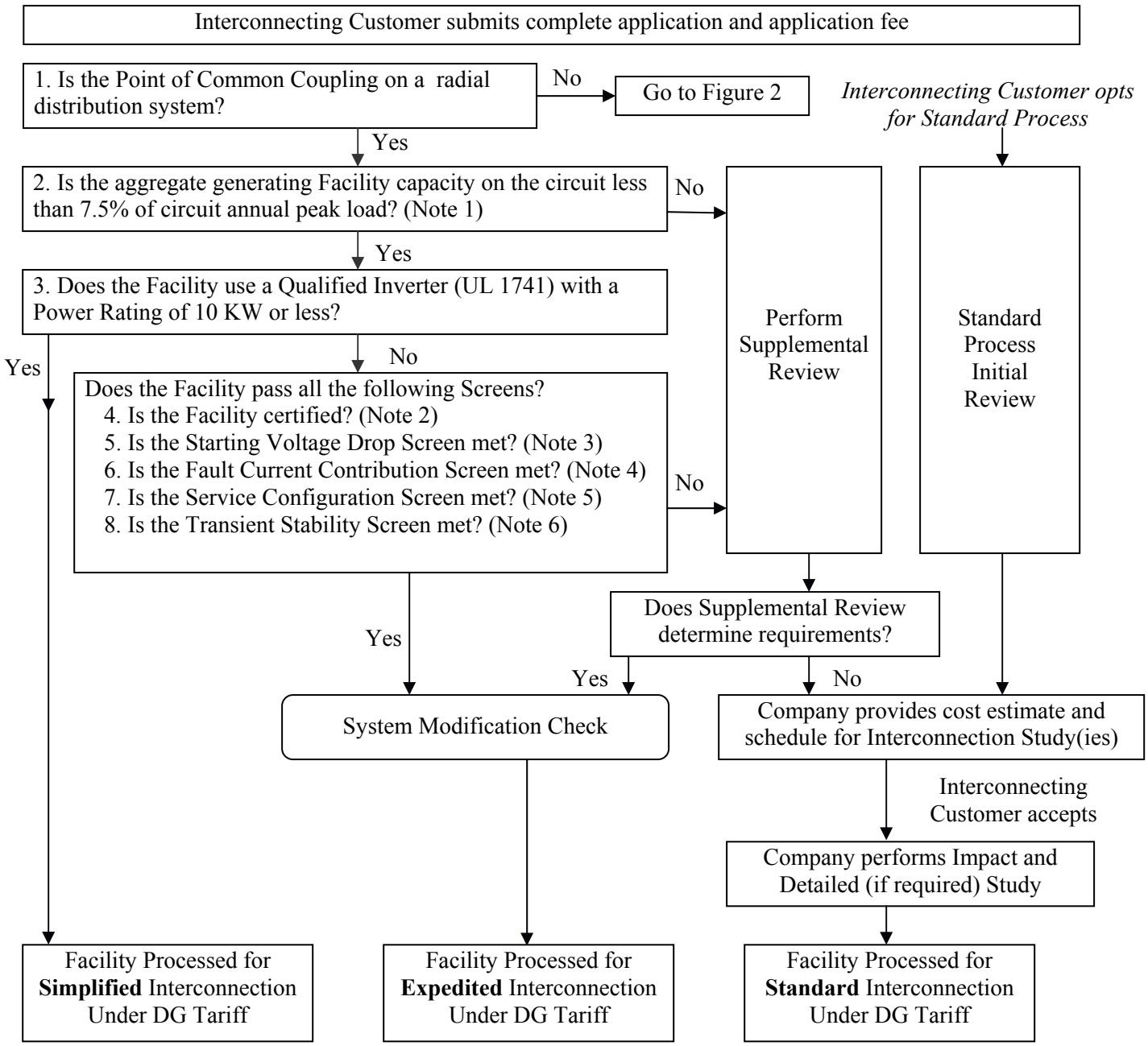
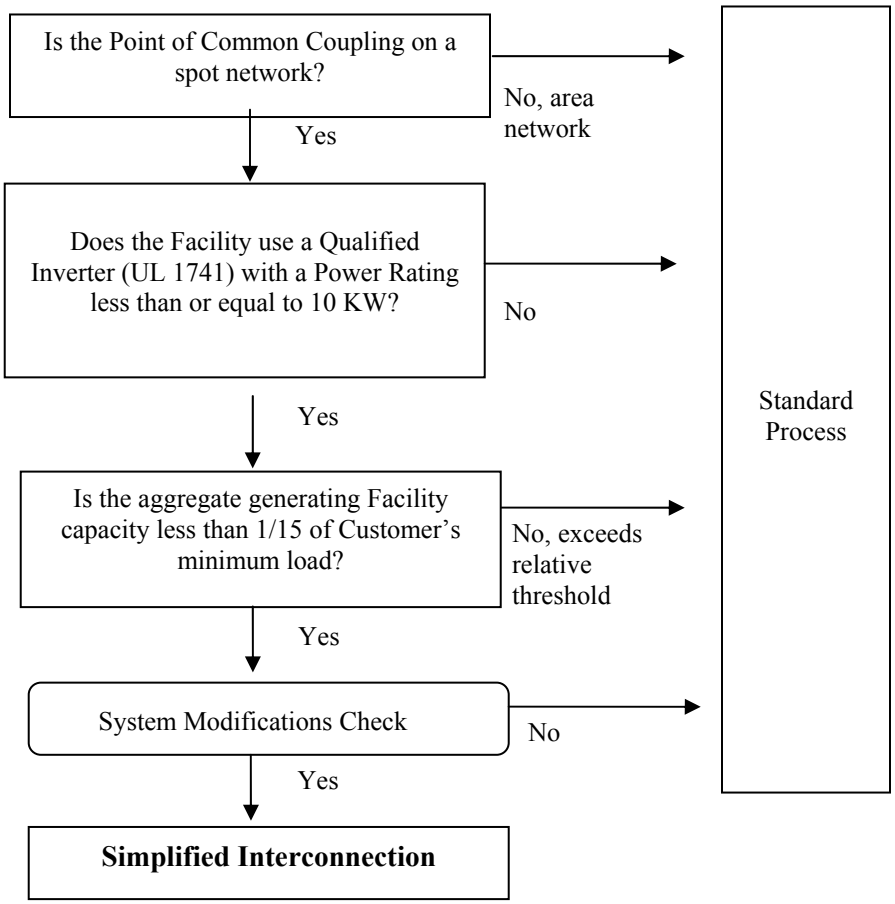


Figure 2 - Simplified Interconnection to Networks



Explanatory Notes to Accompany Figure 1

Note 1. On a typical radial distribution EPS circuit ("feeder") the annual peak load is measured at the substation circuit breaker, which corresponds to the supply point of the circuit. A circuit may also be supplied from a tap on a higher-voltage line, sometimes called a subtransmission line. On more complex radial EPSs, where bidirectional power flow is possible due to alternative circuit supply options ("loop service"), the normal supply point is the loop tap.

Note 2: California and New York have adopted certification rules for expediting application review and approval of Facility interconnections onto Company electric systems. Facilities in these states must meet the applicable commission-approved certification tests and criteria to qualify for the Expedited Process in Massachusetts. Since the certification criterion is based on testing results from recognized national testing laboratories, the Company will accept Facilities certified in California and New York as candidates for the Expedited Process. It is the Interconnecting Customer's responsibility to determine if, and submit verification that, the proposed Facility has been certified in California or New York.

The above states and Massachusetts have adopted Underwriters Laboratories Inc. ("UL") standard UL 1741, *"Inverters, Converters and Charge Controllers for Use in Independent Power Systems"*, for certifying the electrical protection functionality of independent power systems. UL 1741 compliance is established by nationally recognized testing laboratories. Interconnecting Customers should contact the Facility supplier to determine if it has been listed to this standard.

The IEEE P1547 Standard includes design specifications and provides technical and test specifications for Facilities rated up to 10MVA. To meet the IEEE standard, Interconnecting Customers must provide information or documentation that demonstrates how the Facility is in compliance with the IEEE P1547 Standard. A Facility will be deemed to be in compliance with the IEEE P1547 Standard if the Company previously determined it was in compliance. A registry of Facilities previously certified in other states or in compliance with the IEEE standard can be obtained from the Massachusetts Division of Energy Resources or as otherwise determined by the Department.

Applicants who can demonstrate Facility compliance with either UL 1741 or IEEE P1547 standard will be eligible for the Expedited Process.

Note 3. This Screen only applies to Facilities that start by motoring the generating unit(s) or the act of connecting synchronous generators. The voltage drops should be less than the criteria below. There are two options in determining whether Starting Voltage Drop could be a problem. The option to be used is at the Company's discretion:

> **Option 1:** The Company may determine that the Facility's starting inrush current is equal to or less than the continuous ampere rating of the Facility's service equipment.
>
> **Option 2:** The Company may determine the impedances of the service distribution transformer (if present) and the secondary conductors to the Facility's service equipment and perform a voltage drop calculation. Alternatively, the Company may use tables or nomographs to determine the voltage drop. Voltage drops caused by starting a

generating unit as a motor must be less than 2.5% for primary interconnections and 5% for secondary interconnections.

Note 4. The purpose of this Screen is to ensure that fault (short-circuit) current contributions from all Facilities will have no significant impact on the Company's protective devices and EPS. All of the following criteria must be met when applicable:

a. The proposed Facility, in aggregation with other generation on the distribution circuit, will not contribute more than l0% to the distribution circuit's maximum fault current under normal operating conditions at the point on the high voltage (primary) level nearest the proposed PCC.

b. The proposed Facility, in aggregate with other generation on the distribution circuit, will not cause any distribution protective devices and equipment (including but not limited to substation breakers, fuse cutouts, and line reclosers), or Interconnecting Customer equipment on the EPS to exceed 85% of the short-circuit interrupting capability. In addition, the proposed Facility will not be installed on a circuit that already exceeds 85 % of the short-circuit interrupting capability.

c. When measured at the secondary side (low side) of a shared distribution transformer, the short-circuit contribution of the proposed Facility must be less than or equal to 2.5% of the interrupting rating of the Company's service equipment.

Coordination of fault-current protection devices and systems will be examined as part of this Screen.

Note 5. This Screen includes a review of the type of electrical service provided to the Interconnecting Customer, including line configuration and the transformer connection to limit the potential for creating over voltages on the Company EPS due to a loss of ground during the operating time of any anti-islanding function.

Primary Distribution Line Type	**Type of Interconnection to Primary Distribution Line**	**Result/Criteria**
Three-phase, three wire	3-phase or single phase, phase-to-phase	Pass Screen
Three-phase, four wire	Effectively-grounded 3 phase or single-phase, line-to-neutral	Pass Screen

If the proposed generator is to be interconnected on a single-phase transformer shared secondary, the aggregate generation capacity on the shared secondary, including the proposed generator, will not exceed 20 kVA.

If the proposed generator is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition will not create an imbalance between the two sides of the 240 volt service of more than 20% of nameplate rating of the service transformer.

Note 6. The proposed Facility, in aggregate with other Facilities interconnected to the distribution low voltage side of the substation transformer feeding the distribution circuit where the Facility proposes to interconnect, will not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (e.g., 3 or 4 transmission voltage level buses from the PCC).

Table 1: Time Frames (Note 1)

	Certified Inverter ≤10KW	Qualified DG	Any DG	Certified Inverter ≤10 KW
	Simplified	**Expedited**	**Standard**	**Simplified Spot Network**
Acknowledge Receipt of Application	(3 days)	(3 days)	(3 days)	(3 days)
Review Application for Completeness	10 days	10 days	10 days	10 days
Complete Review of All Screens	10 days	25 days		Site review 30/90 days (Note2)
Complete Supplemental Review (if needed)		20 days		
Complete Standard Process Initial Review			20 days	
Send Follow-on Studies Cost/Agreement			5 days	
Complete Impact Study (if needed)			55 days	
Complete Detailed Study (if needed)			30 days	
Send Executable Agreement (Note 3)	Done	10 days	15 days	Done (Comparable to Simplified Radial)
Total Maximum Days (Note 4)	15 days	40/60 days (Note 5)	125/150 days (Note 6)	40/100 days
Notice/ Witness Test	<1 day with 10 day notice or by mutual agreement	1-2 days with 10 day notice or by mutual agreement	By mutual agreement	1 day with 10 day notice or by mutual agreement

Table 2: Fee Schedule

	Certified Inverter ≤10KW	Qualified DG	Any DG	Certified Inverter ≤10 KW
	Simplified	**Expedited**	**Standard**	**Simplified Spot Network**
Application Fee (covers Screens)	0 (Note 1)	$3/KW, minimum $300, maximum $2,500	$3/KW, minimum $300, maximum $2,500	≤$3/KW $100, >3KW $300
Supplemental Review or Additional Review (if applicable)	N/A	Up to 10 engineering hours at $125/hr ($1,250 maximum) (Note2)	N/A	N/A
Standard Interconnection Initial Review	N/A	N/A	Included in application fee (if applicable)	N/A
Impact and Detailed Study (if required)	N/A	N/A	Actual cost (Note 3)	N/A
Facility Upgrades	N/A (Note 4)	Actual cost	Actual cost	N/A
O&M (Note 5)	N/A	TBD	TBD	N/A
Witness Test	0	Actual cost, up to $300 + travel time (Note 6)	Actual Cost	0 (Note 7)

Explanatory Notes to Accompany Tables 1 and 2

Table 1: Time Frames

Note 1. All days listed apply to Company business days under normal work conditions. All numbers in this table assume a reasonable number of applicants under review. All timelines may be extended by mutual agreement. Any delays caused by Interconnecting Customer will interrupt the applicable clock. Moreover, if an Interconnecting Customer fails to act expeditiously to continue the interconnection process or delays the process by failing to provide necessary information within the longer of 15 days or half the time allotted to the Company to perform a given step, or as extended by mutual agreement, then the Company may terminate the application and the Interconnecting Customer must reapply. However, the Company will be required to retain the work previously performed in order to reduce the initial and Supplemental Review costs incurred for a period of no less than 1 year.

Note 2. 30 days if load is known or can be reasonably determined, 90 days if it has to be metered.

Note 3. Company delivers an executable agreement form. Once the Interconnection Service Agreement is delivered by the Company, any further modification and timetable will be established by mutual agreement.

Note 4. Actual totals laid out in columns exceed the maximum target. The Parties further agree that average days (fewer than maximum days) is a performance metric that will be tracked.

Note 5. Shorter time applies to Expedited without Supplemental Review, longer time applies to Expedited with Supplemental Review.

Note 6. 125 day maximum applies to an Interconnecting Customer opting to begin directly in Standard Process, and 150 days is for an Interconnecting Customer who goes through initial Expedited Process first. In both cases this assumes that both the Impact and Facilities Studies are needed. If the Detailed Study is not needed, the timelines will be shorter.

Table 2: Fee Schedule

Note 1. If the Company determines that the Facility does not qualify for the Simplified Process, it will let the Interconnecting Customer know what the appropriate fee is.

Note 2. Supplemental Review and additional review are defined in Section 3.2.

Note 3. This is the actual cost only attributable to the applicant. Any costs not expended from the application fee previously collected will go toward the costs of these studies.

Note 4. Not applicable except in certain rare cases where a System Modification would be needed. If so, the modifications are the Interconnecting Customer's responsibility.

Note 5. O & M is defined as the Company's operations and maintenance carrying charges on the incremental costs associated with serving the Interconnecting Customer.

Note 6. The fee will be based on actual cost up to $300 plus driving time, unless Company representatives are required to do additional work due to extraordinary circumstances or due to problems on the Interconnecting Customer's side of the PCC (e.g., Company representative required to make two trips to the site), in which case Interconnecting Customer will cover the additional cost.

Note 7. Unless extraordinary circumstances.

4.0 Interconnection Requirements

4.1 General Design Considerations

Interconnecting Customer shall design and construct the Facility in accordance with the applicable manufacturer's recommended maintenance schedule, in compliance with all aspects of the Company's Interconnection Tariff. Interconnecting Customer agrees to cause its Facility to be constructed in accordance with applicable specifications that meet or exceed those provided under this Section of the Interconnection Tariff.

4.1.1 Transient Voltage Conditions

Because of unusual events in the Company's EPS, there will be transient voltage fluctuations, which will result in voltages exceeding the limits of the stated ranges. These transient voltage fluctuations, which generally last only a few milliseconds, arise due to EPS disturbances including, but not limited to, lightning strikes, clearing of faults, and other switching operations. The magnitude of transient voltage fluctuations varies with EPS configuration, grounding methods utilized, local short circuit availability, and other parameters, which vary from point-to-point and from time-to-time on the distribution EPS.

The fluctuations may result in voltages exceeding the limits of the stated ranges and occur because of EPS disturbance, clearing of faults and other switching operations. These unavoidable transients are generally of too short duration and insufficient magnitude to have any adverse effects on general service applications. They may, however, cause malfunctions in equipment highly sensitive to voltage changes, and protective devices may operate to shut down such devices. The magnitude, duration and frequency of transient fluctuations will vary due to EPS configuration and/or circuit arrangement. In addition, disturbances of indeterminate magnitude and duration may occur on infrequent occasions due to short circuits, faults, and other unpredictable conditions.

Transient voltages should be evaluated in the design of the Facility.

4.1.2 Noise and Harmonics

The introduction of abnormal noise/harmonics can cause abnormal neutral current flow, and excessive heating of electrical equipment. Harmonics may also cause distortion in TV pictures, telephone interference, and malfunctions in digital equipment such as computers. The permissible level of harmonics is dependent upon the voltage level and short circuit ratio at a given location. IEEE Standard 519 provides these levels at the point of common coupling. In requiring adherence to IEEE 519 the Company is in no way making a recommendation regarding the level of harmonics that a given piece of equipment can tolerate nor is it making a recommendation as to the permissible level in the Interconnecting Customer's Facility.

4.1.3 Frequency

The interconnected electric power system in North America, which is maintained at 60 hertz ("Hz") frequency on its alternating current services, is subject to certain deviations. The usual maximum instantaneous deviation from the standard 60 Hz is ±2/100 cycle (±0.033%), except on infrequent occasions when the deviation may reach ±1/10 cycle (±0.17%). The usual normal deviation is approximately ±1/20 cycle (±0.083%). These conditions are subject to occur at any time of the day or night and should be considered in the design of the Facility. All are measured on a 60 Hz base.

4.1.4 Voltage Level

All electricity flow across the PCC shall be in the form of single-phase or three-phase 60 Hz alternating current at a voltage class determined by mutual agreement of the Parties.

4.1.5 Machine Reactive Capability

Facilities less than 1 megawatt ("MW") will not be required to provide reactive capability, except as may be provided by the retail rate schedule and Terms and Conditions for Distribution Services under which the Customer takes service.

Facilities greater than or equal to 1 MW interconnected with the Company EPS shall be required to provide reactive capability to regulate and maintain EPS voltage at the PCC as per NEPOOL requirements. The Company and NEPOOL shall establish a scheduled range of voltages to be maintained by the Facility. The reactive capability requirements shall be reviewed as part of the Impact Study and Facilities Study.

4.2 Protection Requirements For New or Modified Facility Interconnections with the EPS

4.2.1 General Requirements

Any Facility desiring to interconnect with the Company EPS or modify an existing interconnection must meet minimum specifications, where applicable, as set forth in the following documents and standards and requirements in this Section.

- IEEE P1547 Standard for Distributed Resources Interconnected with Electric Power Systems.

- UL Standard 1741, November 1, 2002 "Inverters, Converters and Charge Controllers for Use in Independent Power Systems

- IEEE Standard 929-2000, "IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems."

The specifications and requirements listed herein are intended to mitigate possible adverse impacts caused by the Facility on the Company's equipment and personnel and on other Interconnecting Customers of the Company. They are not intended to address protection of the Facility itself or its internal load. It is the responsibility of the Facility to comply with the requirements of all appropriate standards, codes, statutes and authorities to protect itself and its loads.

The Company shall not be responsible for the protection of the Facility. The Facility shall be responsible for protection of its system against possible damage resulting from parallel operation with the Company so long as the Company adheres to Good Utility Practice. If requested by the Interconnecting Customer, the Company will provide system protection information for the line terminal(s) directly related to the interconnection. This protection information contained herein is provided exclusively for use by the Interconnecting Customer to evaluate protection of its Facility during parallel operation.

At its sole discretion, the Company may consider approving alternatives that satisfy the intent of the requirements contained in this Section.

4.2.3 Facility Classification
To determine the protection requirements for a given Facility, the following Groups have been established:

Group	Type of Interconnection
1	Facilities Qualified for Simplified Interconnection
2	All Facilities Not Qualified for Simplified Interconnection

4.2.4 Protection Requirements
All Facilities must meet performance requirements set forth in relevant sections of the IEEE P1547 Standard. **All the following italicized text is excerpted directly from IEEE P1547 Standard and applies to Section 4.2.4 only. The numbering is also from the Standard and therefore is not in sequence with the Tariff numbering.**

4.1.1 Voltage Regulation
The DR [distributed resource] shall not actively regulate the voltage at the PCC unless required by NEPOOL's operating procedures. *The DR shall not cause the Area EPS service voltage at other Local EPS' to go outside the requirements of ANSI C84.1, Range A.*

4.1.2 Integration with Area EPS Grounding

The grounding scheme of the DR interconnection shall not cause overvoltages that exceed the rating of the equipment connected to the Area EPS and shall not disrupt the coordination of the ground fault protection of the Area EPS.

4.1.3 Synchronization
The DR unit shall parallel with the Area EPS without causing a voltage fluctuation at the PCC greater than ± 5% of the prevailing voltage level of the Area EPS at the PCC, and meet the flicker requirements of clause 4.3.2.

4.1.8.2 Surge Withstand Performance
The interconnection system shall have the capability to withstand voltage and current surges in accordance with the environments defined in IEEE/ANSI C62.41.2 or IEEE C37.90.1 as applicable.

4.2 Response to Area EPS Abnormal Conditions1

Abnormal conditions can arise on the Area EPS that require a response from the connected DR. This response contributes to the safety of utility maintenance personnel and the general public, as well as the avoidance of damage to connected equipment, including the DR. All voltage and frequency parameters specified in these sub-clauses shall be met at the PCC, unless otherwise stated.

4.2.1 Area EPS Faults

The DR unit shall cease to energize the Area EPS for faults on the Area EPS circuit to which it is connected.

4.2.2 Area EPS Reclosing Coordination

The DR shall cease to energize the Area EPS circuit to which it is connected prior to reclosure by the Area EPS.

4.2.3 Voltage

The protection functions of the interconnection system shall detect the effective (RMS) or fundamental frequency value of each phase-to-phase voltage, except where the transformer connecting the Local EPS to the Area EPS is a grounded wye-wye configuration, or single phase installations, the phase to neutral voltage shall be detected. When any voltage is in a range given below (Table 1), the DR shall cease to energize the Area EPS within the clearing time as indicated. Clearing time is the time between the start of the abnormal condition and the DR ceasing to energize the Area EPS. For DR less than or equal to 30 KW in peak capacity, the voltage set points and clearing times shall be either fixed or field adjustable. For DR greater than 30 KW the voltage set points shall be field adjustable.

The voltages shall be detected at either the PCC or the point of DR connection when any of the following conditions exist:

(a) The aggregate capacity of DR systems connected to a single PCC is less than or equal to 30 KW, (b) the interconnection equipment is certified to pass a non-islanding test for the system to which it is to be connected, (c) the aggregate DR capacity is less than 50% of the total Local EPS minimum annual integrated electrical demand for a 15 minute time period, and export of real or reactive power by the DR to the Area EPS is not permitted.

Table 1. Interconnection System Response to Abnormal Voltages	
Voltage Range (% of base voltage[a])	*Clearing Time [b] (s)*
V< 50	*0.16*
50 ≤V<88	*2*
110<V<120	*1*

[1] *The isolation of a portion of the Area EPS, presenting the potential for an unintended DR island, is a special concern and is addressed in clause 4.4.1. Setting adjustments may only be made as approved by the authority who has jurisdiction over the DR interconnection.*

V ≥120	*0.16*
Notes. (a) Base voltages are the nominal system voltages stated in ANSI C84.1 Table 1. *(b) DR ≤ 30KW, Maximum Clearing Times; DR > 30KW, Default Clearing Times*	

4.2.4 Frequency

When the system frequency is in a range given below (Table 2), the DR shall cease to energize the Area EPS within the clearing time as indicated. Clearing time is the time between the start of the abnormal condition and the DR ceasing to energize the Area EPS. For DR less than or equal to 30 KW in peak capacity, the frequency set points and clearing times shall be either fixed or field adjustable. For DR greater than 30 KW the frequency set points shall be field adjustable. Adjustable underfrequency trip settings shall be coordinated with Area EPS operations.

Table 2. Interconnection System Response to Abnormal Frequencies		
DR SIZE	***Frequency Range (Hz)***	***Clearing Time [a] (s)***
≤30 KW	*> 60.5*	*0.16*
	<59.3	*0.16*
>30 KW	*>60.5*	*0.16*
	< {59.8 - 57.0} (adjustable setpoint)	*Adjustable 0.16 to 300*
	<57.0	*0.16*
Note. (a) DR ≤30 KW, Maximum Clearing Times; DR > 30 KW, Default Clearing Times		

4.2.5 Loss of Synchronism

Loss of synchronism protection is not required except as necessary to meet clause 4.3.2.

4.2.6 Reconnection To Area EPS

After an Area EPS disturbance, no DR reconnection shall take place until the Area EPS voltage is within Range B of ANSI C84.1 Table 1, and frequency range of 59.3Hz to 60.5Hz.

The DR interconnection system shall include an adjustable delay (or a fixed delay of five minutes) that may delay reconnection for up to five minutes after the Area EPS steady state voltage and frequency are restored to the ranges identified above.

4.3 Power Quality

4.3.1 Limitation of DC Injection

The DR and its interconnection system shall not inject dc current greater than 0.5% of the full rated output current at the point of DR connection.

4.3.2 Limitation of Flicker Induced by the DR

The DR shall not create objectionable flicker for other Interconnecting Customers on the Area EPS.2

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[2] *Flicker is considered objectionable when it either causes a modulation of the light level of lamps sufficient to be*

4.3.3 Harmonics

When the DR is serving balanced linear loads, harmonic current injection into the Area EPS at the PCC shall not exceed the limits stated below (Table 3). The harmonic current injections shall be exclusive of any harmonic currents due to harmonic voltage distortion present in the Area EPS without the DR connected.

Table 3. Maximum Harmonic Current Distortion in Percent of Current (a) (I)						
Individual Harmonic Order h (Odd Harmonics) (b)	*h <11*	*11≤h < 17*	*17 ≤h < 23*	*23≤h <35*	*35 ≤h*	*Total Demand Distortion (TDD)*
Percent (%)	*4.0*	*2.0*	*1.5*	*0.6*	*0.3*	*5.0*
(a) I = the greater of the Local EPS maximum load current integrated demand (15 or 30 min) without the DR unit, or the DR unit rated current capacity (transformed to the PCC when a transformer exists between the DR unit and the PCC). *(b) Even harmonics are limited to 25% of the odd harmonic limits above.*						

4.4.1 Unintentional Islanding

For an unintentional island in which the DR energizes a portion of the Area EPS through the PCC, the DR interconnection system shall detect the island and cease to energize the Area EPS within two seconds of the formation of an island.3

4.2.4.1 Group 1 Facilities

a. The inverter-based Facility shall be considered *qualified* if it meets requirements set forth in Section 3.1 "Simplified Process".

b. **External Disconnect Switch**: For qualified inverters, the Company **may** require an external disconnect switch (or comparable device by mutual agreement of the Parties) at the PCC with the Company or at another mutually agreeable point that is accessible to Company personnel at all times and that can be opened for isolation if the switch is required. The switch shall be gang operated, have a visible break when open, be rated to interrupt the maximum generator output and be capable of being locked open, tagged and grounded on the Company side by Company personnel. The visible break requirement can be met by opening the enclosure to observe the contact separation. The Company

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irritating to humans, or causes equipment mis-operation. For guidance, refer to IEEE STD 519-1992 IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems; IEEE P1453 Draft Recommended Practice for Measurement and Limits of Voltage Flicker on AC Power Systems; International Electrotechnical Commission IEC/TR3 61000-3-7Assessment of Emission Limits for Fluctuating Loads in MV and HV Power Systems; IEC 61000-4-15 Flickermeter - Functional and Design Specifications,; and IEC 61400-21 IEC 61400-21, Wind Turbine Generator Systems - Part 21: Measurement and assessment of power quality characteristics of grid connected wind turbines - Ed. 1.0 (2000-12)

[3] *Some examples by which this requirement may be met are:*
1. The DR aggregate capacity is less than one-third of the minimum load of the Local EPS.
2. The DR is certified to pass an applicable non-islanding test.
3. The DR installation contains reverse or minimum power flow protection, sensed between the Point of DR Connection and the PCC, which will disconnect or isolate the DR if power flow from the Area EPS to the Local EPS reverses or falls below a set threshold.
4. The DR contains other non-islanding means such as a) forced frequency or voltage shifting, b) transfer trip, or c) governor and excitation controls that maintain constant power and constant power factor.

shall have the right to open this disconnect switch in accordance with this Tariff.

4.2.4.2 Group 2 Facilities

4.2.4.2.1 General Requirements

a. Non Export Power: If the Parties mutually agree that non-export functionality will be part of the interconnection protection equipment then it will include one of the following: (1) a reverse power relay with mutually agreed upon delay intervals, or (2) a minimum power function with mutually agreed upon delay intervals, or (3) or other mutually agreeable approaches, for example, a comparison of nameplate rating versus certified minimum Customer premises load.

b. The ISO-NE is responsible for assuring compliance with NPCC criteria. For the interconnection of some larger units, the NPCC criteria may additionally require:

NPCC Protective Relaying Requirements: The Company may require the Facility to be equipped with two independent, redundant relaying systems in accordance with NPCC criteria, where applicable, for the protection of the bulk power system if the interconnection is to the bulk power system or if it is determined that delayed clearing of faults within the Facility adversely affects the bulk power system.

NPCC Requirements: During system conditions where local area load exceeds system generation, NPCC Emergency Operation Criteria requires a program of phased automatic under frequency load shedding of up to 25% of area load to assist in arresting frequency decay and to minimize the possibility of system collapse. Depending on the point of connection of the Facility to the Company's EPS and in conformance with the NPCC Emergency Operating Criteria, the Facility may be required to remain connected to the EPS during the frequency decline to allow the objectives of the automatic load shedding program to be achieved, or to otherwise provide compensatory load reduction, equivalent to the Facility's generation lost to the system, if the Interconnecting Customer elects to disconnect the Facility at a higher under-frequency set point.

c. **Disconnect Switch:** The Facility shall provide a disconnect switch (or comparable device mutually agreed upon by the Parties) at the point of Facility interconnection that can be opened for isolation. The switch shall be in a location easily accessible to Company personnel at all times. The switch shall be gang operated, have a visible break when open, be rated to interrupt the maximum generator output and be capable of being locked open, tagged and grounded on the Company side by Company personnel. The visible break requirement can be met by opening the enclosure to observe the contact separation. The Company shall exercise such right in accordance with Section 7 of this Interconnection Tariff.

d. **Transfer Tripping:** A direct transfer tripping system, if one is required by either the Interconnecting Customer or by the Company, shall use equipment generally accepted for use by the Company and shall, at the option of the Company, use dual channels.

4.2.4.2.2 Requirements for Induction and Synchronous Generator Facilities

a. **Interconnection Interrupting Device:** An interconnection Interrupting Device such as a circuit breaker shall be installed to isolate the Facility from the Company's EPS. If there is more than one Interrupting Device, this requirement applies to each one individually. The Interconnection Interrupting Device must be capable of interrupting the current produced when the Facility is connected out of phase with the Company's EPS, consistent with Section 4.1.8.3 of the IEEE P1547 Draft Standard which states, "the interconnection system paralleling-device shall be capable of withstanding 220% of the interconnection system rated voltage."

b. **Synchronizing Devices:** The Interconnecting Customer shall designate one or more Synchronizing Devices such as motorized breakers, contactor/breaker combinations, or a fused contactor (if mutually agreeable) to be used to connect the Facility's generator to the Company's EPS. This Synchronizing Device could be a device other than the interconnection Interrupting Device. The Synchronizing Device must be capable of interrupting the current produced when the Facility is connected out of phase with the Company's EPS, consistent with Section 4.1.8.3 of the IEEE P1547 Draft Standard which states, "the interconnection system paralleling-device shall be capable of withstanding 220% of the interconnection system rated voltage."

c. **Transformers:** The Company reserves the right to specify the winding connections for the transformer between the Company's voltage and the Facility's voltage ("Step-Up Transformer") as well as whether it is to be grounded or ungrounded at the Company's voltage. In the event that the transformer winding connection is grounded-wye/grounded-wye the Company reserves the right to specify whether the generator stator is to be grounded or not grounded. The Interconnecting Customer shall be responsible for procuring equipment with a level of insulation and fault-withstand capability compatible with the specified grounding method.

d. **Voltage relays:** Voltage relays shall be frequency compensated to provide a uniform response in the range of 40 to 70Hz.

e. **Protective Relaying Redundancy:** For induction generators greater than 1/15 of on-site minimum verifiable load that is not equipped with on-site capacitors or that is greater than 200 KW, and for all synchronous generators, protective relays utilized by the Facility shall be sufficiently redundant and functionally separate so as to provide adequate protection, consistent with Company practices and standards, upon the failure of any one component.

f. **Protective Relay Hard-Wire Requirement:** Unless authorized otherwise by the Company, protective relays must be hardwired to the device they are tripping. Further, interposing computer or programmable logic controller or the like is not permitted in the trip chain between the relay and the device being tripped.

g. **Protective Relay Supply:** Where protective relays are required in this Section, their control circuits shall be DC powered from a battery/charger system or a UPS. Solid-state relays shall be self-powered, or DC powered from a battery/charger system or a UPS. If the Facility uses a Company-acceptable non-latching interconnection contactor, AC powered relaying shall be allowed provided the relay and its method of application

are fail safe, meaning that if the relay fails or if the voltage and/or frequency of its AC power source deviate from the relay's design requirements for power, the relay or a separate fail-safe power monitoring relay acceptable to the Company will immediately trip the generator by opening the coil circuit of the interconnection contactor.

h. **Current Transformers (CT):** CT ratios and accuracy classes shall be chosen such that secondary current is less than 100 amperes and transformation errors are consistent with Company practices. CTs used for revenue class metering must have a secondary current of 20 amperes or less.

i. **Voltage Transformers (VT)s and Connections:** The Facility shall be equipped with a direct voltage connection or a VT, connected to the Company side of the Interrupting Device. The voltage from this VT shall be used in an interlock scheme, if required by the Company. For three-phase applications, a VT for each phase is required. All three phases must be sensed either by three individual relays or by one relay that contains three elements. If the voltage on any of the three phases is outside the bounds specified by the Company the unit shall be tripped. If the Facility's Step-Up Transformer is ungrounded at the Company voltage, this VT shall be a single three-phase device or three single-phase devices connected from each phase to ground on the Company's side of the Facility's Step-Up Transformer, rated for phase-to-phase voltage and provided with two secondary windings. One winding shall be connected in open delta, have a loading resistor to prevent ferroresonance, and be used for the relay specified in these requirements.

4.2.4.2.3 Additional Requirements for Induction Generator Facilities

a. **Self-Excitation:** A Facility using induction generators connected in the vicinity of capacitance sufficient to self-excite the generator(s) shall meet the requirements for synchronous machines. The capacitors that enable self-excitation may actually be external to the Facility. The Company will not restrict its existing or future application of capacitors on its lines nor restrict their use by other Interconnecting Customers of the Company to accommodate a Facility with induction machines. If self-excitation becomes possible due to the installation of or presence of capacitance, the protection requirements of the Facility may need to be reviewed and revised, if applicable.

   The Facility may be required to install capacitors to limit the adverse effects of drawing reactive power from the EPS for excitation of the generator. Capacitors for supply of reactive power at or near the induction generator with a kVAR rating greater than 30% of the generator's KW rating may cause the generator to become self-excited. (If self-excitation can occur, the Facility shall be required to provide protection as specified in synchronous machines requirements.)

4.2.4.2.4 Additional Requirements for Synchronous Generator Facilities

a. **Ungrounded Transformers:** If the Facility's Step-Up Transformer connection is ungrounded, the Facility shall be equipped with a zero sequence over-voltage relay fed from the open delta of the three-phase VT specified in the Voltage Transformers and Connections Section 4.6.2.

b. **High-Speed Protection:** The Facility may be required to use high-speed protection if time-delayed protection would result in degradation in the existing sensitivity or speed of the protection systems on the Company's EPS.

c. **Breaker Failure Protection:** The Facility may be required to be equipped to provide local breaker failure protection which may include direct transfer tripping to the Company's line terminal(s) in order to detect and clear faults within the Facility that cannot be detected by the Company's back-up protection.

d. **Communications Channels:** The Interconnecting Customer is responsible for procuring any communications channels necessary between the Facility and the Company's stations, and for providing protection from transients and over-voltages at all ends of these communication channels. The Interconnecting Customer will also bear the ongoing cost to lease these communication channels. Examples include, but are not limited to, connection to a line using high-speed protection, transfer tripping, generators located in areas with low-fault currents, or back up for generator breaker failure.

4.2.5 Protection System Testing and Maintenance

The Company shall have the right to witness the commissioning testing as defined in IEEE P1547 Draft Standard Section 5.4 at the completion of construction and to receive a copy of all test data. The Facility shall be equipped with whatever equipment is required to perform this test.

Testing typically includes, but is not limited to:

- CT and CT circuit polarity, ratio, insulation, excitation, continuity and burden tests,
- VT and VT circuit polarity, ratio, insulation and continuity tests,
- Relay pick-up and time delay tests,
- Functional breaker trip tests from protective relays,
- Relay in-service test to check for proper phase rotation and magnitudes of applied currents and voltages,
- Breaker closing interlock tests, and
- Paralleling and disconnection operation.

Prior to final approval by the Company or anytime thereafter, the Company reserves the right to test the generator relaying and control related to the protection of the Company's EPS.

The Interconnecting Customer has the full responsibility for the proper periodic maintenance of its generating equipment and its associated control, protective equipment and interrupting devices.

The Interconnecting Customer is responsible for the periodic maintenance of those relays, interrupting devices, control schemes, and batteries that involve the protection of the Company's EPS. A periodic maintenance program, mutually agreeable to both the Company and to the Interconnecting Customer is to be established in each case. The Company shall have the right to monitor the periodic maintenance performed.

For relays installed in accordance with the NPCC Criteria for the Protection of the Bulk Power

System, maintenance intervals shall be in accordance with such criteria. The results of these tests shall be summarized by the Interconnecting Customer and reported in writing to the Company.

The Company reserves the right to install special test equipment as may be required to monitor the operation of the Facility and its control or for evaluating the quality of power produced by the Facility at a mutually agreed upon location. The cost of this testing will be borne by the Company unless there is shown to be a problem associated with the Facility or if the test was performed at the request of the Interconnecting Customer.

Each routine check shall include both a calibration check and an actual trip of the circuit breaker or contactor from the device being tested. Visually setting a calibration dial, index or tap is not considered an adequate calibration check.

Inverters with field adjustable settings for their internal protective elements shall be periodically tested if those internal elements are being used by the Facility to satisfy the requirements of this Section.

4.2.6 Protection Requirements – Momentary Paralleling of Standby Generators
Protective relays to isolate the Facility for faults in the Company EPS are not required if the paralleling operation is automatic and takes place for less than one-half of a second. An Interrupting Device with a half-second timer (30 cycles) is required as a fail-safe mechanism.

Parallel operation of the Facility with the Company EPS shall be prevented when the Company's line is dead or out of phase with the Facility.

The control scheme for automatic paralleling must be submitted by the Interconnecting Customer for review and acceptance by the Company prior to the Facility being allowed to interconnect with the Company EPS.

4.2.7 Protection System Changes
The Interconnecting Customer must provide the Company with reasonable advance notice of any proposed changes to be made to the protective relay system, relay settings, operating procedures or equipment that affect the interconnection. The Company will determine if such proposed changes require re-acceptance of the interconnection per the requirements of this Section.

In the future, should the Company implement changes to the EPS to which the Facility is interconnected, the Interconnecting Customer will be responsible at its own expense for identifying and incorporating any necessary changes to its protection equipment. These changes to the Facility’s protection equipment are subject to review and approval by the Company.

5.0 Responsibility for Costs of Interconnecting a Facility

5.1 Review and Study Costs
The Interconnecting Customer shall be responsible for the reasonably incurred costs of the review by the Company and any interconnection studies conducted as defined by Table 2 ("Fee Schedules") of Section 3 of this Tariff solely to determine the requirements of interconnecting a Facility with the Company EPS.

5.2 Interconnection Equipment Costs
The Interconnecting Customer shall be responsible for all costs associated with the installation and construction of the Facility and associated interconnection equipment on the Interconnecting Customer's side of the PCC.

5.3 System Modification Costs
The Interconnecting Customer shall also be responsible for all costs reasonably incurred by Company attributable to the proposed interconnection project in designing, constructing, operating and maintaining the System Modifications. To the extent that Company Terms and Conditions and/or tariffs allow, the Company will refund the appropriate portion of System Modification costs to the Interconnecting Customer as required by the applicable tariff.

5.4 Separation of Costs
Should the Company combine the installation of System Modifications with additions to the Company's EPS to serve other customers or interconnecting customers, the Company shall not include the costs of such separate or incremental facilities in the amounts billed to the Interconnecting Customer for the System Modifications required pursuant to this Tariff.

The Interconnecting Customer shall only pay for that portion of the interconnection costs resulting solely from the System Modifications required to allow for safe, reliable parallel operation of the Facility with the Company EPS.

5.5 Normal Payment Procedure
All application, study fees and System Modification costs (except as noted below) are due in full prior to the execution of the work as outlined in this Tariff. If the anticipated costs exceed $25,000, the Interconnecting Customer is eligible for a payment plan. At the request of the Interconnecting Customer, the Company will break the costs into phases in which the costs will be collected prior to Company expenditures for each phase of the study and/or construction including ordering equipment. The payment plan will be attached as an exhibit to the Interconnection Service Agreement or relevant study agreements.

5.6 Security and Creditworthiness.
In order for the Company to agree to any payment plan where some work may be performed in advance of payment, the Company may require the Interconnecting Customer to provide evidence of creditworthiness. In the event that Interconnecting Customer cannot provide such evidence to the satisfaction of the Company, then the Company may require the Interconnecting Customer to provide sufficient security in order to take advantage of a payment plan. Interconnecting Customer acknowledges that it will be responsible for the actual costs of the System Modifications described in the attached exhibit to the Interconnection Service

Agreement, whether greater or lesser than the amount of the payment security provided under this section.

6.0 Operating Requirements

6.1 General Operating Requirements

Interconnecting Customer shall operate and maintain the Facility in accordance with the applicable manufacturer's recommended maintenance schedule, in compliance with all aspects of the Company's Interconnection Tariff. The Interconnecting Customer will continue to comply with all applicable laws and requirements after interconnection has occurred. In the event the Company has reason to believe that the Interconnecting Customer's installation may be the source of problems on the Company EPS, the Company has the right to install monitoring equipment at a mutually agreed upon location to determine the source of the problems. If the Facility is determined to be the source of the problems, the Company may require disconnection as outlined in Section 7.0 of this Tariff. The cost of this testing will be borne by the Company unless the Company demonstrates that the problem or problems are caused by the Facility or if the test was performed at the request of the Interconnecting Customer.

6.2 No Adverse Effects; Non-interference

Company shall notify Interconnecting Customer if there is evidence that the operation of the Facility could cause disruption or deterioration of service to other Customers served from the same Company EPS or if operation of the Facility could cause damage to Company EPS or Affected Systems. The deterioration of service could be, but is not limited to, harmonic injection in excess of IEEE STD519, as well as voltage fluctuations caused by large step changes in loading at the Facility. Each Party will notify the other of any emergency or hazardous condition or occurrence with its equipment or facilities which could affect safe operation of the other Party's equipment or facilities. Each Party shall use reasonable efforts to provide the other Party with advance notice of such conditions.

The Company will operate the EPS in such a manner so as to not unreasonably interfere with the operation of the Facility. The Interconnecting Customer will protect itself from normal disturbances propagating through the Company EPS, and such normal disturbances shall not constitute unreasonable interference unless the Company has deviated from Good Utility Practice. Examples of such disturbances could be, but are not limited to, single-phasing events, voltage sags from remote faults on the Company EPS, and outages on the Company EPS. If the Interconnecting Customer demonstrates that the Company EPS is adversely affecting the operation of the Facility and if the adverse effect is a result of a Company deviation from Good Utility Practice, the Company shall take appropriate action to eliminate the adverse effect.

6.3 Safe Operations and Maintenance

Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for, the facility or facilities that it now or hereafter may own unless otherwise specified in this Agreement. Each Party shall be responsible for the maintenance, repair and condition of its respective lines and appurtenances on their respective side of the PCC. The Company and the Interconnecting Customer shall each provide equipment on its respective side of the PCC that adequately protects the Company's EPS, personnel, and other persons from damage and injury.

6.4 Access

The Company shall have access to the disconnect switch of the Facility at all times.

6.4.1. Company and Interconnecting Customer Representatives
Each Party shall provide and update as necessary the telephone number that can be used at all times to allow either Party to report an emergency.

6.4.2 Company Right to Access Company-Owned Facilities and Equipment
If necessary for the purposes of this Tariff and in the manner it describes, the Interconnecting Customer shall allow the Company access to the Company's equipment and the Company's facilities located on the Interconnecting Customer's or Customer's premises. To the extent that the Interconnecting Customer does not own all or any part of the property on which the Company is required to locate its equipment or facilities to serve the Interconnecting Customer under this Tariff, the Interconnecting Customer shall secure and provide in favor of the Company the necessary rights to obtain access to such equipment or facilities, including easements if the circumstances so require.

6.4.3. Right to Review Information
The Company shall have the right to review and obtain copies of Interconnecting Customer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Interconnecting Customer's Facility or its interconnection with the Company EPS. This information will be treated as customer-confidential and only used for the purposes of meeting the requirements of Section 4.2.5.

7.0 Disconnection

7.1 Temporary Disconnection.

a. **Emergency Conditions.** Company shall have the right to immediately and temporarily disconnect the Facility without prior notification in cases where, in the reasonable judgment of Company, continuance of such service to Interconnecting Customer is imminently likely to (i) endanger persons or damage property or (ii) cause a material adverse effect on the integrity or security of, or damage to, Company EPS or to the electric systems of others to which the Company EPS is directly connected. Company shall notify Interconnecting Customer promptly of the emergency condition. Interconnecting Customer shall notify Company promptly when it becomes aware of an emergency condition that affects the Facility that may reasonably be expected to affect the Company EPS. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, or the expected effect on the operation of both Parties' facilities and operations, its anticipated duration and the necessary corrective action.

b. **Routine Maintenance, Construction and Repair.** Company shall have the right to disconnect the Facility from the Company EPS when necessary for routine maintenance, construction and repairs on the Company EPS. The Company shall provide the Interconnecting Customer with a minimum of seven calendar days planned outage notification consistent with the Company's planned outage notification protocols. If the Interconnecting Customer requests disconnection by the Company at the PCC, the Interconnecting Customer will provide a minimum of seven days notice to the Company. Any additional notification requirements will be specified by mutual agreement in the Interconnection Service Agreement. Company shall make an effort to schedule such curtailment or temporary disconnection with Interconnecting Customer.

c. **Forced Outages.** During any forced outage, Company shall have the right to suspend interconnection service to effect immediate repairs on the Company EPS; provided, however, Company shall use reasonable efforts to provide the Interconnecting Customer with prior notice. Where circumstances do not permit such prior notice to Interconnecting Customer, Company may interrupt Interconnection Service and disconnect the Facility from the Company EPS without such notice.

d. **Non-Emergency Adverse Operating Effects.** The Company may disconnect the Facility if the Facility is having an adverse operating effect on the Company EPS or other customers that is not an emergency, and the Interconnecting Customer fails to correct such adverse operating effect after written notice has been provided and a maximum of 45 days to correct such adverse operating effect has elapsed.

e. **Modification of the Facility.** Company shall notify Interconnecting Customer if there is evidence of a material modification to the Facility and shall have the right to immediately suspend interconnection service in cases where such material modification has been implemented without prior written authorization from the Company.

f. **Re-connection.** Any curtailment, reduction or disconnection shall continue only for so long as reasonably necessary. The Interconnecting Customer and the Company shall cooperate with each other to restore the Facility and the Company EPS, respectively, to their normal operating state as soon as reasonably practicable following the cessation or remedy of the event that led to the temporary disconnection.

7.2 Permanent Disconnection

The Interconnecting Customer has the right to permanently disconnect at any time with 30 days written notice to the Company.

The Company may permanently disconnect the Facility upon termination of the Interconnection Service Agreement in accordance with the terms thereof.

8.0 Metering, Monitoring, and Communication

This Section sets forth the rules, procedures and requirements for metering, monitoring and communication between the Facility and the Company EPS where the Facility exports power or is net metered or is otherwise subject to NEPOOL requirements. Interconnecting Customer will be responsible for reasonable and necessary costs incurred by Company for the purchase, installation, operation, maintenance, testing, repair and replacement of metering and data acquisition equipment specified in the Attachments to the Interconnection Service Agreement. Interconnecting Customer's metering (and data acquisition, as required) equipment shall conform to rules and applicable operating requirements.

8.1 Metering, Related Equipment and Billing Options:

The Company shall furnish, read and maintain all revenue metering equipment. The Interconnecting Customer shall furnish and maintain all meter mounting equipment such as or including meter sockets, test switches, conduits, and enclosures. Except as provided below, the Company shall own the meter and the Interconnecting Customer shall pay to the Company a monthly charge to cover taxes, meter maintenance, incremental reading and billing costs, the allowable return on the invoice cost of the meter and the depreciation of the meter. These charges are set forth in the applicable Company tariff(s), as amended from time to time. If the Facility is a Qualifying Facility or On-Site Generating Facility the Interconnecting Customer may elect to own the meter, in which case, the Interconnecting Customer shall pay to the Company a monthly charge to cover meter maintenance and incremental reading and billing costs. Metering requirements and associated charges for Qualifying Facilities and On-Site Generating Facilities are set forth in the applicable Company tariff(s), as amended from time to time. If the Interconnecting Customer elects to install its own meter under the terms of 220 CMR 8.0, the Interconnecting Customer shall be responsible for purchasing and installing software, hardware and/or other technology that may be required by the Company to read billing meters.

The Interconnecting Customer shall provide suitable space within the Facility for installation of the metering, and communication equipment at no cost to the Company.

All metering equipment installed pursuant to this Tariff and associated with the Facility shall be routinely tested by the Company at Interconnecting Customer's expense, in accordance with applicable Company and/or ISO-New England criteria, rules and standards. If, at any time, any metering equipment is found to be inaccurate by a margin greater than that allowed under applicable criteria, rules and standards, the Company shall cause such metering equipment to be made accurate or replaced. The cost to repair or replace the meter shall be borne by the Company, if the Company owns the meter, or by the Interconnecting Customer if the Interconnecting Customer owns the meter. Meter readings for the period of inaccuracy shall be adjusted so far as the same can be reasonably ascertained; provided, however, no adjustment prior to the beginning of the preceding month shall be made except by agreement of the Parties. Each Party shall comply with any reasonable request of the other concerning the sealing of meters, the presence of a representative of the other Party when the seals are broken and the tests are made, and other matters affecting the accuracy of the measurement of electricity delivered from the Facility. If either Party believes that there has been a meter failure or stoppage, it shall immediately notify the other.

If the Metering Point and the Point of Receipt or Point of Delivery are not at the same location, the metering equipment shall record delivery of electricity in a manner that accounts for losses occurring between the Metering Point and the Point of Receipt or Point of Delivery. Losses between the Metering Point and Point of Receipt will be reflected pursuant to applicable Company, NEPOOL or ISO-New England criteria, rules or standards.

The type of metering equipment to be installed at a Facility is dependent on the Category (size) of the Facility and how and if the Facility plans to export power or net meter. For those that will export power or net meter, the available equipment options and associated requirements are:

- Net Metering – For Facilities under 60 KW, unless the Interconnecting Customer elects another form of metering, the Facilities will be equipped with net metering in which metering equivalent to or replicating that of a standard distribution class meter is installed and is enabled to run in a normal direction during periods of net consumption and to run backwards during periods of net generator output. All metering equipment included in this type of installation, including self-contained meters and instrument transformers and meters, shall meet ANSI C12.1 Metering Accuracy Standards and ANSI C57.13 accuracy requirements for instrument transformers. See 220 CMR 11.04 (7)(c).

- Bi-directional, non-interval meter without remote access – in which a distribution class meter with multiple registers is installed. One set of registers will record energy flows from the Company to the Facility during periods when the Facility is a net consumer of energy (the other register will record no flow during these periods) and a second set of registers will record energy flows from the Facility to the Company during periods when the Facility is a net producer of energy (the other register will record no flow during these periods). Each set of registers will record total flows only and will not record flows during specific intervals. All metering equipment included in this type of installation, including self-contained meters and instrument transformers and meters, shall meet ANSI C12.1 Metering Accuracy Standards and ANSI C57.13 accuracy requirements for instrument transformers.

- Bi-directional, interval meter with remote access – in which a distribution class meter with multiple registers is installed. One set of registers will record energy flows from the Company to the Facility during periods when the Facility is a net consumer of energy (the other register will record no flow during these periods) and a second set of registers will record energy flows from the Facility to the Company during periods when the Facility is a net producer of energy (the other register will record no flow during these periods). Each set of registers will record total flows as well as flows during hourly intervals. In addition, the meters will be equipped with remote access capability that may include communication to the extent required by applicable NEPOOL standards. All metering equipment included in this type of installation shall meet the requirements contained in NEPOOL Operating Procedure No. 18, "Metering and Telemetering Criteria" and the Company's "Policy and Practices for Metering and Telemetering

Requirements for New or Modified Interconnections". Copies of both publications are available from the Company upon request. The Interconnecting Customer shall be responsible for providing all necessary leased telephone lines and any necessary protection for leased lines and shall furthermore be responsible for all communication required by ISO-New England, or by ISO-New England's designated satellite. The Interconnecting Customer shall maintain all communication and transducer equipment at the Facility in accordance with ISO-New England criteria, rules and standards. The Company will purchase, own and maintain all communication equipment located on the Interconnecting Customer's Facilities, if the Interconnecting Customer desires, at the Interconnecting Customer's expense. The Interconnecting Customer shall provide, install and own Company-approved or Company-specified test switches in the transducer circuits.

Units over 60 KW: Will be equipped with a bi-directional meter. Such meter will have remote access capability and may be an interval meter.

Units over 1 MW: Shall be equipped with bi-directional, interval meters with remote access. In addition, Facilities which are 5 MW or greater are required by NEPOOL Operating Procedure No. 18 to provide communication equipment and to supply accurate and reliable information to system operators regarding metered values for MW, MVAR, volt, amp, frequency, breaker status and all other information deemed necessary by ISO-NE and the NEPOOL Satellite (REMVEC).

8.3 Additional Monitoring and Communication requirements

As the amount of distributed generation on the Company EPS grows significantly, additional monitoring and communication may be required by the Department pursuant to a future proceeding.

9.0 Dispute Resolution Process

The Dispute Resolution process is a multi-stage process described below, beginning with negotiation, then mediation, followed by non-binding arbitration and then adjudication. All days in this Section are calendar days.

9.1 Good Faith Negotiation

a. One party submits a request in writing to the other party for initiation of Step 1 of the Dispute Resolution process. The Parties will elevate the dispute to a Vice President or senior management with sufficient authority to make a decision.
b. If, after 8 days, the dispute is still not resolved, one or both Parties may initiate Section 9.2(A)

9.2 Mediation/Non-binding Arbitration

a. One party to the dispute requests dispute resolution assistance by submitting a written request to the Department, with a summary of the situation. The other party may also submit a summary.
b. The Parties will meet with a Department hearing officer or other Department staff person within 14 days to convene the dispute resolution process. During that meeting, the Department staff person may assist the Parties in attempting to resolve outstanding differences.
c. If the differences are not resolved in Step 2.B, the Department will provide a list of qualified neutrals and manage the selection of individual neutrals for the case. The Department will use a list of pre-qualified neutrals maintained at the Department and, the Parties will select a mutually agreeable mediator pursuant to a reverse-strike-out process[4] or another mutually-agreeable method. If either party requests a technical expert, both a mediator and a technical expert will be selected, and the technical expert will be selected using the same strike out process or another mutually-agreeable method as that used for selection of the mediator.
d. Parties will complete the neutral selection process with the Department within seven days. This timetable will only be possible if the Department has, during the initial 14 days, identified mediators and technical experts who have the time available to assist the Parties in a timely manner.
e. The Department will arrange for the selected mediator to contact Parties.
f. The Parties will contract with neutrals for services, splitting the fees 50/50.
g. The mediator begins by discussing the case with the disputing Parties to assess the scope of issues and understand the Parties' positions and interests. The mediator and Parties will establish a schedule for completion of mediation within 30 days. Ten days after the 30-day time period begins, the Department will issue a public notice of the proceeding and will schedule a pre-hearing conference for Section 9.3 The mediator will assist the Parties in developing a scope of work for the technical expert if one is needed. The mediator will also assist the Parties in estimating the ADR costs and addressing any concerns about those costs.
h. Mediation meeting or meetings are held.

4 A "reverse strike out process" involves each party eliminating the least desirable mediator until one is left standing.

i. If the Parties reach agreement, the dispute resolution process ends here.
j. If the Parties do not reach a mediated agreement, the neutral(s) will issue a brief recommended solution or decision.
k. If the Parties accept the neutral's recommendation, the dispute resolution process ends here.
l. If one or both Parties do not accept the neutral recommendation and there is still no agreement, the dispute proceeds to Step 3.

9.3 Department Adjudicatory Hearing

The goal of this Step is an adjudicatory hearing at the Department, with witnesses, evidence, etc. that results in a binding precedential decision, appealable to the Massachusetts Supreme Judicial Court.

a. In the event a party does not accept the recommendation in Step 2, it may request, in writing, a Department adjudication.
b. The Department holds a pre-hearing conference for which notice has been provided in accordance with Section 9.2(G). The Parties, to the extent desirable and feasible, exchange information and establish an expedited schedule during the pre-hearing conference.
c. The Department and the Parties engage in pre-hearing discovery, as needed in the specific case, building on the information developed in Step 2, including the mediator's recommendation.
d. The Department conducts a hearing.
e. The Parties file briefs, if one or both desire to do so or the Department requests they do so. The Parties and the Department will complete Step 3.B through 3.E in 90 days.
f. The Department issues its order within 20 days. If it is unable to do so, it will notify the Parties and provide a revised decision date.

The Department will appoint a hearing officer or other Department staff person familiar with the DG interconnection process in Massachusetts to oversee the selection of private neutrals and otherwise serve as a resource for DG cases.

Disputes subject to the dispute resolution process on these issues are not meant to be considered as Interconnecting Customer complaints as part of the Company's service quality plans. The docket number for this plan is D.T.E. 01-71. This does not preclude the Interconnecting Customer from filing Interconnecting Customer complaints for which they are otherwise eligible.

10.0 Confidentiality Statement

Information including identifying information and specific Facility information may be shared with the Department. A list of all executed DG Interconnection Service Agreements will be submitted to the Department annually. Interconnecting Customers may elect to petition the Department to maintain confidentiality with their information, however, the Department is under no obligation to grant this confidentiality.

In an ongoing effort to improve the interconnection process for Interconnecting Customer-owned Facilities, the information provided by Interconnecting Customers and the results of the application process will be aggregated with the information of other applicants and periodically reviewed by a DG Collaborative authorized by the Department consisting of industry participants. The aggregation process will not reveal specific details for any one Interconnecting Customer. In addition to this process, Interconnecting Customers may choose to allow non-identifying information specific to their applications to be shared with the Collaborative by answering "Yes" to the Confidentiality Statement question on the first page of the application form.

11.0 Insurance Requirements

11.1 General Liability:
In connection with Interconnecting Customer's performance of its duties and obligations under the Interconnection Service Agreement, Interconnecting Customer shall maintain, during the term of the Agreement, general liability insurance with a combined single limit of not less than:

a. Five million dollars for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than (5) MW.

b. Two million dollars for each occurrence and five million dollars ($5,000,000) in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than one (1) MW and less than or equal to (5) MW;

c. One million dollars ($1,000,000) for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than one hundred (100) KW and less than or equal to 1 MW;

d. Five hundred thousand dollars ($500,000) for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than ten (10) KW and less than or equal to one hundred (100) KW.

No insurance is required for Facilities less than or equal to ten (10) KW. However, the Company recommends that the Interconnecting Customer obtain adequate insurance to cover potential liabilities.

11.2 Insurer Requirements and Endorsements
All required insurance shall be carried by reputable insurers qualified to underwrite insurance in MA having a Best Rating of "A-". In addition, all insurance shall, (a) include Company as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Company shall not incur liability to the insurance carrier for payment of premium for such insurance; and (c) provide for thirty (30) calendar days' written notice to Company prior to cancellation, termination, or material change of such insurance; provided that to the extent the Interconnecting Customer is satisfying the requirements of subpart (d) of this paragraph by means of a presently existing insurance policy, the Interconnecting Customer shall only be required to make good faith efforts to satisfy that requirement and will assume the responsibility for notifying the Company as required above.

If the requirement of clause (a) in the paragraph above prevents Interconnecting Customer from obtaining the insurance required without added cost or due to written refusal by the insurance carrier, then upon Interconnecting Customer's written Notice to Company, the requirements of clause (a) shall be waived.

11.3 Evidence of Insurance
Evidence of the insurance required shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by Interconnecting Customer.

The Interconnecting Customer is responsible for providing the Company with evidence of insurance in compliance with this Tariff on an annual basis.

Prior to the Company commencing work on System Modifications, the Interconnecting Customer shall have its insurer furnish to the Company certificates of insurance evidencing the insurance coverage required above. The Interconnecting Customer shall notify and send to the Company a certificate of insurance for any policy written on a "claims-made" basis. The Company may at its discretion require the Interconnecting Customer to maintain tail coverage for three years on all policies written on a "claims-made" basis.

11.4 Self Insurance

If Interconnecting Customer is a company with a self-insurance program established in accordance with commercially acceptable risk management practices. Interconnecting Customer may comply with the following in lieu of the above requirements as reasonably approved by the Company:

a. Interconnecting Customer shall provide to Company, at least thirty (30) calendar days prior to the Date of Initial Operation, evidence of such program to self-insure to a level of coverage equivalent to that required.

b. If Interconnecting Customer ceases to self-insure to the standards required hereunder, or if Interconnecting Customer is unable to provide continuing evidence of Interconnecting Customer's financial ability to self-insure, Interconnecting Customer agrees to promptly obtain the coverage required under section 11.1.

Exhibit A – Interconnection Service Agreement

1. **Parties**. This Interconnection Service Agreement ("Agreement"), dated as of _____ ("Effective Date") _____ is entered into, by and between _____, a Massachusetts corporation with a principal place of business at _____ (hereinafter referred to as the "Company"), and _____, a _____ corporation with a principal place of business at _____ ("Interconnecting Customer"). (The Company and Interconnecting Customer are collectively referred to as the "Parties"). Terms used herein without definition shall have the meanings set forth in the Tariff Section 1.2 which is attached to this Agreement as Attachment 1.

2. **Basic Understandings**. This Agreement provides for parallel operation of an Interconnecting Customer's Facility with the Company EPS to be installed and operated by the Interconnecting Customer at _____ (Facility name, address, and end-use customer account number, if applicable). A description of the Facility is located in Attachment 2. If the Interconnecting Customer is not the Customer, a Third Party Owner Agreement must be signed and included as an Attachment 6 to this document.

   The Interconnecting Customer has the right to operate its Facility in parallel with the Company EPS immediately upon successful completion of the protective relays testing as witnessed by the Company and receipt of written notice from the Company that interconnection with the Company EPS is authorized ("Authorization Date").

3. **Term**. This Agreement shall become effective as of the Effective Date. The Agreement shall continue in full force and effect until terminated pursuant to Section 4 of this Agreement.

4. **Termination**.

   4.1 This Agreement may be terminated under the following conditions.

   4.1.1 The Parties agree in writing to terminate the Agreement.

   4.1.2 The Interconnecting Customer may terminate this agreement at any time by providing sixty (60) days written notice to Company.

   4.1.3 The Company may terminate this Agreement upon the occurrence of an Event of Default by the Interconnecting Customer as provided in Section 18 of this Agreement.

   4.1.4. The Company may terminate this Agreement if the Interconnecting Customer either: (1) fails to energize the Facility within 12 months of the Authorization Date; or, (2) permanently abandons the Facility. Failure to operate the Facility for any consecutive 12 month period after the Authorization Date shall constitute permanent abandonment unless otherwise agreed to in writing between the Parties.

   4.1.5 The Company, upon 30 days notice, may terminate this Agreement if there are any changes in Department regulations or state law that have a material adverse effect on the Company's ability to perform its obligations under the terms of this Agreement.

   4.2 Survival of Obligations. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of termination. Sections 5, 10, 12, 13, and 25 as it relates to disputes pending or for wrongful termination of this Agreement shall survive the termination of this Agreement.

   4.3 Related Agreements. Any agreement attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

5. **General Payment Terms**. The Interconnecting Customer shall be responsible for the System Modification costs and payment terms identified in Attachment 4 of this Agreement and any approved cost increases pursuant to the terms of the Interconnection Tariff.

5.1 Cost or Fee Adjustment Procedures. The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% only. All costs that exceed the 10% increase cap will be borne solely by the Company. Any such changes to the Company's costs for the work shall be subject to the Interconnecting Customer's consent. The Interconnecting Customer shall, within thirty (30) days of the Company's notice of increase, authorize such increase and make payment in the amount up to the 10% increase cap, or the Company will suspend the work and the corresponding agreement will terminate.

5.2 Final Accounting. Upon request by the Interconnecting Customer, the Company within ninety (90) business days after completion of the construction and installation of the System Modifications described in an attached exhibit to the Interconnection Service Agreement, shall provide Interconnecting Customer with a final accounting report of any difference between (a) Interconnecting Customer's cost responsibility under the Interconnection Service Agreement for the actual cost of such System Modifications, and (b) Interconnecting Customer's previous aggregate payments to the Company for such System Modifications. To the extent that Interconnecting Customer's cost responsibility in the Interconnection Service Agreement exceeds Interconnecting Customer's previous aggregate payments, the Company shall invoice Interconnecting Customer and Interconnecting Customer shall make payment to the Company within 45 days. To the extent that Interconnecting Customer's previous aggregate payments exceed Interconnecting Customer's cost responsibility under this agreement, the Company shall refund to Interconnecting Customer an amount equal to the difference within forty five (45) days of the provision of such final accounting report.

6. Operating Requirements

6.1 General Operating Requirements. Interconnecting Customer shall operate and maintain the Facility in accordance with the applicable manufacturer's recommended maintenance schedule, in compliance with all aspects of the Company's Interconnection Tariff. The Interconnecting Customer will continue to comply with all applicable laws and requirements after interconnection has occurred. In the event the Company has reason to believe that the Interconnecting Customer's installation may be the source of problems on the Company EPS, the Company has the right to install monitoring equipment at a mutually agreed upon location to determine the source of the problems. If the Facility is determined to be the source of the problems, the Company may require disconnection as outlined in Section 7.0 of this Tariff. The cost of this testing will be borne by the Company unless the Company demonstrates that the problem or problems are caused by the Facility or if the test was performed at the request of the Interconnecting Customer.

6.2 No Adverse Effects; Non-interference. Company shall notify Interconnecting Customer if there is evidence that the operation of the Facility could cause disruption or deterioration of service to other Customers served from the same Company EPS or if operation of the Facility could cause damage to Company EPS or Affected Systems. The deterioration of service could be, but is not limited to, harmonic injection in excess of IEEE STD519, as well as voltage fluctuations caused by large step changes in loading at the Facility. Each Party will notify the other of any emergency or hazardous condition or occurrence with its equipment or facilities which could affect safe operation of the other Party's equipment or facilities. Each Party shall use reasonable efforts to provide the other Party with advance notice of such conditions.

The Company will operate the EPS in such a manner so as to not unreasonably interfere with the operation of the Facility. The Interconnecting Customer will protect itself from normal disturbances propagating through the Company EPS, and such normal disturbances shall not constitute unreasonable interference unless the Company has deviated from Good Utility Practice. Examples of such disturbances could be, but are not limited to, single-phasing events, voltage sags from remote faults on the Company EPS, and outages on the Company EPS. If the Interconnecting Customer demonstrates that the Company EPS is adversely affecting the operation of the Facility and if the adverse effect is a result of a Company deviation from Good Utility Practice, the Company shall take appropriate action to eliminate the adverse effect.

6.3 Safe Operations and Maintenance. Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for, the facility or facilities that it now or hereafter may own unless otherwise specified in this Agreement. Each Party shall be responsible for the maintenance, repair and condition of its respective lines and appurtenances on their respective side of the PCC. The Company and the Interconnecting Customer

shall each provide equipment on its respective side of the PCC that adequately protects the Company's EPS, personnel, and other persons from damage and injury.

6.4 Access

The Company shall have access to the disconnect switch of the Facility at all times.

6.4.1. Company and Interconnecting Customer Representatives. Each Party shall provide and update as necessary the telephone number that can be used at all times to allow either Party to report an emergency.

6.4.2 Company Right to Access Company-Owned Facilities and Equipment. If necessary for the purposes of this Tariff and in the manner it describes, the Interconnecting Customer shall allow the Company access to the Company's equipment and the Company's facilities located on the Interconnecting Customer's or Customer's premises. To the extent that the Interconnecting Customer does not own all or any part of the property on which the Company is required to locate its equipment or facilities to serve the Interconnecting Customer under this Tariff, the Interconnecting Customer shall secure and provide in favor of the Company the necessary rights to obtain access to such equipment or facilities, including easements if the circumstances so require.

6.4.3. Right to Review Information. The Company shall have the right to review and obtain copies of Interconnecting Customer's operations and maintenance records, logs, or other information such as, unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Interconnecting Customer's Facility or its interconnection with the Company EPS. This information will be treated as customer-confidential and only used for the purposes of meeting the requirements of Section 4.2.5.

7. Disconnection

7.1 Temporary Disconnection

7.1.1 Emergency Conditions. Company shall have the right to immediately and temporarily disconnect the Facility without prior notification in cases where, in the reasonable judgment of Company, continuance of such service to Interconnecting Customer is imminently likely to (i) endanger persons or damage property or (ii) cause a material adverse effect on the integrity or security of, or damage to, Company EPS or to the electric systems of others to which the Company EPS is directly connected. Company shall notify Interconnecting Customer promptly of the emergency condition. Interconnecting Customer shall notify Company promptly when it becomes aware of an emergency condition that affects the Facility that may reasonably be expected to affect the Company EPS. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, or the expected effect on the operation of both Parties' facilities and operations, its anticipated duration and the necessary corrective action.

7.1.2 Routine Maintenance, Construction and Repair. Company shall have the right to disconnect the Facility from the Company EPS when necessary for routine maintenance, construction and repairs on the Company EPS. The Company shall provide the Interconnecting Customer with a minimum of seven calendar days planned outage notification consistent with the Company's planned outage notification protocols. If the Interconnecting Customer requests disconnection by the Company at the PCC, the Interconnecting Customer will provide a minimum of seven days notice to the Company. Any additional notification requirements will be specified by mutual agreement in the Interconnection Service Agreement. Company shall make an effort to schedule such curtailment or temporary disconnection with Interconnecting Customer.

7.1.3 Forced Outages. During any forced outage, Company shall have the right to suspend interconnection service to effect immediate repairs on the Company EPS; provided, however, Company shall use reasonable efforts to provide the Interconnecting Customer with prior notice. Where circumstances do not permit such prior notice to Interconnecting Customer, Company may interrupt Interconnection Service and disconnect the Facility from the Company EPS without such notice.

7.1.4 Non-Emergency Adverse Operating Effects. The Company may disconnect the Facility if the Facility is having an adverse operating effect on the Company EPS or other customers that is not an emergency, and the Interconnecting Customer fails to correct such adverse operating effect after written notice has been provided and a maximum of 45 days to correct such adverse operating effect has elapsed.

7.1.5 Modification of the Facility. Company shall notify Interconnecting Customer if there is evidence of a material modification to the Facility and shall have the right to immediately suspend interconnection service in cases where such material modification has been implemented without prior written authorization from the Company.

7.1.6 Re-connection. Any curtailment, reduction or disconnection shall continue only for so long as reasonably necessary. The Interconnecting Customer and the Company shall cooperate with each other to restore the Facility and the Company EPS, respectively, to their normal operating state as soon as reasonably practicable following the cessation or remedy of the event that led to the temporary disconnection.

7.2 Permanent Disconnection

The Interconnecting Customer has the right to permanently disconnect at any time with 30 days written notice to the Company.

7.2.1 The Company may permanently disconnect the Facility upon termination of the Interconnection Service Agreement in accordance with the terms thereof.

8. Metering. Metering of the output from the Facility shall be conducted pursuant to the terms of the Interconnection Tariff.

9. Assignment. Except as provided herein, Interconnecting Customer shall not voluntarily assign its rights or obligations, in whole or in part, under this Agreement without Company's written consent. Any assignment Interconnecting Customer purports to make without Company's written consent shall not be valid. Company shall not unreasonably withhold or delay its consent to Interconnecting Customer's assignment of this Agreement. Notwithstanding the above, Company's consent will not be required for any assignment made by Interconnecting Customer to an Affiliate or as collateral security in connection with a financing transaction. In all events, the Interconnecting Customer will not be relieved of its obligations under this Agreement unless, and until the assignee assumes in writing all obligations of this Agreement and notifies the Company of such assumption.

10. Confidentiality. Company shall maintain confidentiality of all Interconnecting Customer confidential and proprietary information except as otherwise required by applicable laws and regulations, the Interconnection Tariff, or as approved by the Interconnecting Customer in the Simplified or Expedited/Standard Application form or otherwise.

11. Insurance Requirements

11.1 General Liability. In connection with Interconnecting Customer's performance of its duties and obligations under the Interconnection Service Agreement, Interconnecting Customer shall maintain, during the term of the Agreement, general liability insurance with a combined single limit of not less than:

a. Five million dollars for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than (5) MW.

b. Two million dollars for each occurrence and five million dollars ($5,000,000) in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than one (1) MW and less than or equal to (5) MW;

c. One million dollars ($1,000,000) for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than one hundred (100) KW and less than or

equal to 1 MW;

d. Five hundred thousand dollars ($500,000) for each occurrence and in the aggregate if the Gross Nameplate Rating of Interconnecting Customer's Facility is greater than ten (10) KW and less than or equal to one hundred (100) KW.

No insurance is required for Facilities less than or equal to ten (10) KW. However, the Company recommends that the Interconnecting Customer obtain adequate insurance to cover potential liabilities.

11.2 Insurer Requirements and Endorsements. All required insurance shall be carried by reputable insurers qualified to underwrite insurance in MA having a Best Rating of "A-". In addition, all insurance shall, (a) include Company as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Company shall not incur liability to the insurance carrier for payment of premium for such insurance; and (c) provide for thirty (30) calendar days' written notice to Company prior to cancellation, termination, or material change of such insurance; provided that to the extent the Interconnecting Customer is satisfying the requirements of subpart (d) of this paragraph by means of a presently existing insurance policy, the Interconnecting Customer shall only be required to make good faith efforts to satisfy that requirement and will assume the responsibility for notifying the Company as required above.

If the requirement of clause (a) in the paragraph above prevents Interconnecting Customer from obtaining the insurance required without added cost or due to written refusal by the insurance carrier, then upon Interconnecting Customer's written Notice to Company, the requirements of clause (a) shall be waived.

11.3 Evidence of Insurance.

Evidence of the insurance required shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by Interconnecting Customer.

The Interconnecting Customer is responsible for providing the Company with evidence of insurance in compliance with this Tariff on an annual basis.

Prior to the Company commencing work on System Modifications, the Interconnecting Customer shall have its insurer furnish to the Company certificates of insurance evidencing the insurance coverage required above. The Interconnecting Customer shall notify and send to the Company a certificate of insurance for any policy written on a "claims-made" basis. The Company may at its discretion require the Interconnecting Customer to maintain tail coverage for three years on all policies written on a "claims-made" basis.

11.4 Self Insurance. If Interconnecting Customer is a company with a self-insurance program established in accordance with commercially acceptable risk management practices. Interconnecting Customer may comply with the following in lieu of the above requirements as reasonably approved by the Company:

- Interconnecting Customer shall provide to Company, at least thirty (30) calendar days prior to the Date of Initial Operation, evidence of such program to self-insure to a level of coverage equivalent to that required.

- If Interconnecting Customer ceases to self-insure to the standards required hereunder, or if Interconnecting Customer is unable to provide continuing evidence of Interconnecting Customer's financial ability to self-insure, Interconnecting Customer agrees to promptly obtain the coverage required under section 11.1.

11.5 All insurance certificates, statements of self insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the following:

[Company Name]
Attention: _____
_____
_____
_____ (specific requirements)

12. **Indemnification**. Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, Affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of or are in any manner connected with the performance of this Agreement by that Party except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the Party seeking indemnification.

13. **Limitation of Liability.** Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including court costs and reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage or liability actually incurred. In no event shall either Party be liable to the other Party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever.

14. **Amendments and Modifications**. No amendment or modification of this Agreement shall be binding unless in writing and duly executed by both Parties.

15. **Permits and Approvals**. Interconnecting Customer shall obtain all environmental and other permits lawfully required by governmental authorities for the construction and operation of the Facility. Prior to the construction of System Modifications the interconnecting customer will notify the Company that it has initiated the permitting process. Prior to the commercial operation of the Facility the Customer will notify the Company that it has obtained all permits necessary. Upon request the Interconnecting Customer shall provide copies of one or more of the necessary permits to the Company.

16. **Force Majeure**: For purposes of this Agreement, "Force Majeure Event" means any event:

    a. that is beyond the reasonable control of the affected Party; and
    b. that the affected Party is unable to prevent or provide against by exercising commercially reasonable efforts, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: acts of war or terrorism, public disorder, insurrection, or rebellion; floods, hurricanes, earthquakes, lighting, storms, and other natural calamities; explosions or fire; strikes, work stoppages, or labor disputes; embargoes; and sabotage. If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, such Party will promptly notify the other Party in writing, and will keep the other Party informed on a continuing basis of the scope and duration of the Force Majeure Event. The affected Party will specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the affected Party is taking to mitigate the effects of the event on its performance. The affected Party will be entitled to suspend or modify its performance of obligations under this Agreement, other than the obligation to make payments then due or becoming due under this Agreement, but only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of reasonable efforts. The affected Party will use reasonable efforts to resume its performance as soon as possible. In no event will the unavailability or inability to obtain funds constitute a Force Majeure Event.

17. **Notices**.

17.1 Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given on the date actually delivered in person or five (5) business days after being sent by certified mail, e-mail or fax with confirmation of receipt and original follow-up by mail, or any nationally-recognized delivery service with proof of delivery, postage prepaid, to the person specified below:

If to Company: Name _____
Attention: _____
_____
_____
_____
Phone: _____
FAX: _____

If to Interconnecting Customer: Name: _____
Address: _____
City: _____
Phone: _____
FAX: _____

17.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 16.1.

17.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

18. Default and Remedies

18.1 Defaults. Any one of the following shall constitute "An Event of Default."

(i) One of the Parties shall fail to pay any undisputed bill for charges incurred under this Agreement or other amounts which one Party owes the other Party as and when due, any such failure shall continue for a period of thirty (30) days after written notice of nonpayment from the affected Party to the defaulting Party, or

(ii) One of the Parties fails to comply with any other provision of this Agreement or breaches any representation or warranty in any material respect and fails to cure or remedy that default or breach within sixty (60) days after notice and written demand by the affected Party to cure the same or such longer period reasonably required to cure (not to exceed an additional 90 days unless otherwise mutually agreed upon), provided that the defaulting Party diligently continues to cure until such failure is fully cured.

18.2 Remedies. Upon the occurrence of an Event of Default, the affected Party may at its option, in addition to any remedies available under any other provision herein, do any, or any combination, as appropriate, of the following:

a. Continue to perform and enforce this Agreement;
b. Recover damages from the defaulting Party except as limited by this Agreement;
c. By written notice to the defaulting Party terminate this Agreement;
d. Pursue any other remedies it may have under this Agreement or under applicable law or in equity.

19. Entire Agreement. This Agreement, including any attachments or appendices, is entered into pursuant to the Interconnection Tariff. Together the Agreement and the Interconnection Tariff represent the entire understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each Party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated tariff schedules and rules.

20. Supercedence. In the event of a conflict between this Agreement, the Interconnection Tariff, or the terms of any other tariff, Exhibit or Attachment incorporated by reference, the terms of the Interconnection Tariff, as the same may be amended from time to time, shall control. In the event that the Company files a revised tariff related to interconnection for Department approval after the effective date of this Agreement, the Company shall, not later than the date of such filing, notify the signatories of this Agreement and provide them a copy of said filing.

21. **Governing Law**. This Agreement shall be interpreted, governed, and construed under the laws of the Commonwealth of Massachusetts without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

22. **Non-waiver**. None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

23. **Counterparts**. This Agreement may be signed in counterparts.

24. **No Third Party Beneficiaries**. This Agreement is made solely for the benefit of the Parties hereto. Nothing in the Agreement shall be construed to create any rights in or duty to, or standard of care with respect to, or any liability to, any person not a party to this Agreement.

25. **Dispute Resolution**. Unless otherwise agreed by the Parties, all disputes arising under this Agreement shall be resolved pursuant to the dispute resolution procedures set forth in the Interconnection Tariff.

26. **Severability.** If any clause, provision, or section of this Agreement is ruled invalid by any court of competent jurisdiction, the invalidity of such clause, provision, or section, shall not affect any of the remaining provisions herein.

Signatures

IN WITNESS WHEREOF, the Parties hereto have caused two (2) originals of this Agreement to be executed under seal by their duly authorized representatives.

Interconnecting Customer		Company	
By:	_____	By:	_____
Name	_____	Name:	_____
Title:		Title:	

The following attachments would be developed and included as appropriate for each specific Interconnection Service Agreement, except for Attachment 6, which is included below:

Attachment 1:	Definitions (See Section 1.2 of Tariff)
Attachment 2:	Description of Facilities, including demarcation of Point of Common Coupling
Attachment 3:	Description of System Modifications
Attachment 4:	Costs of System Modifications and Payment Terms
Attachment 5:	Special Operating Requirements, if any
Attachment 6:	Third Party Owner Agreement (see below)

Attachment 6 to Interconnection Service Agreement – Third Party Owner Agreement

Customer Interconnection Acknowledgement Agreement

Parties. This Customer Interconnection Acknowledgement Agreement ("Agreement"), dated as of _____ ("Effective Date" of this Agreement) _____ is entered into, by and between _____, a Massachusetts corporation with a principal place of business at _____ (hereinafter referred to as the "Company"), and _____, a _____ corporation with a principal place of business at _____ ("Interconnecting Customer"). (The Company and Interconnecting Customer are collectively referred to as the "Parties"). Terms used herein without definition shall have the meanings set forth in the Tariff Section 1.2 which is attached to this Agreement as Attachment 1.

1. SCOPE, PURPOSE, AND RELATED AGREEMENTS

   This Agreement, in conjunction with the Interconnection Service Agreement identified in Section 2.2 and attached as Attachment 6, allows the Interconnecting Customer (as identified in Section 2.2) to utilize Customer's electrical facilities to interconnect and operate the Facility in Parallel with Company's EPS. The purpose of the Facility is to serve the Customer's electrical loads at the location identified in Section 2.1

2. SUMMARY AND DESCRIPTION OF THE PARTIES AND LOCATION OF GENERATING FACILITY

   2.1 The name and address used by Company to locate the Customer or electric service account where the Facility interconnects with Company's EPS is:

   _____
   Attention:
   Address:
   City:
   Phone
   FAX:
   Company Account Number:

   2.2 The Facility shall be Interconnected with Company's EPS pursuant to an Interconnection Services Agreement between Company and Interconnecting Customer, its successors or assigns ("Interconnecting Customer") dated _____ ("Interconnection Services Agreement").

   2.3 Interconnecting Customer's contact information:

   _____
   Attention:
   Address:
   City:
   Phone
   FAX:

3. CUSTOMER ACKNOWLEDGMENT AND OBLIGATIONS

   3.1 Customer acknowledges that it has authorized the Facility to be installed and operated by Interconnecting Customer in accordance with Company's Interconnection Tariff in or adjacent to Customer's premises. Such Facility shall be used to serve all or a portion of Customer's electrical loads associated with the electric service provided by Company at the location identified in Section 2.1 above. Customer shall be solely responsible for the terms of any agreement between it and Interconnecting Customer.

3.2 Customer shall be solely responsible for any charges incurred under Company's electric service tariffs, and any other regulations and laws governing the provision of electric services. Customer acknowledges that it has been made aware of the charges and conditions related to the operation of the Facility and that the performance or lack of performance of the Facility may affect the rates and charges billed by Company for the electric power delivered to Customer. Copies of such tariffs are available by request to Company or on the Company's web site.

3.3 Any amount to be paid, or refunded to, Company for the services received by Customer as a result of the Interconnecting Customer failing to operate the Facility in accordance with the terms of the representations and warranties made under the *Interconnecting Customer Agreement* shall be paid to Company by the Customer in accordance with Company's electric tariffs.

3.4 Customer shall provide access as necessary to the Customer's premises for Company personnel, contractors or agents to perform Company's duties under the Interconnection Tariff. The Company shall have access to the disconnect switch of the Facility at all times.

4. TERMS AND TERMINATION

4.1 This Agreement shall become effective as of the date referenced in the preamble. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

(a) The Parties agree in writing to terminate the Agreement.

(b) At 12:01 A.M. on the day following the date the Customer's electric service account through which the Generating Facility is interconnected to Company's EPS is closed or terminated.

(c) At 12:01 A.M. on the 31st day following the date the *Interconnection Service Agreement* is terminated.

(d) At 12:01 A.M. on the 61st day after Company provides written Notice pursuant to Section 6 below to the Customer that Customer is not in compliance with the terms of this Agreement.

5. LIMITATION OF LIABILITY

5.1 Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including court costs and reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage or liability actually incurred. In no event shall either Party be liable to the other Party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever.

5.2 Company shall not be liable to Customer in any manner, whether in tort or contract or under any other theory, for loss or damages of any kind sustained by Customer resulting from existence of, operation of, or lack of operation of the Facility, or termination of the Interconnection Service Agreement, provided such termination is consistent with the terms of the Interconnection Service Agreement, except to the extent such loss or damage is caused by the negligence or willful misconduct of the Company.

6. NOTICES

6.1 Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given on the date actually delivered in person or five (5) business days after being sent by certified mail, e-mail or fax with confirmation of receipt and original follow-up by mail, or any nationally-recognized delivery service with proof of delivery, postage prepaid, to the person specified below:

If to Company: _____
Attention:
Address:
Phone:
FAX:

If to Customer: _____
Attention:
Address:
City:
Phone:
Fax:

6.2 A Party may change its address for Notices at any time by providing the other Party Notice of the change in accordance with Section 6.1.

6.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

7. RELEASE OF DATA

Company shall maintain confidentiality of all Customer confidential and proprietary information except as otherwise required by applicable laws and regulations, the Interconnection Tariff, or as approved in writing by the Customer.

8. ASSIGNMENT

Except as provided herein, Interconnecting Customer shall not voluntarily assign its rights or obligations, in whole or in part, under this Agreement without Company's written consent. Any assignment Interconnecting Customer purports to make without Company's written consent shall not be valid. Company shall not unreasonably withhold or delay its consent to Interconnecting Customer's assignment of this Agreement. Notwithstanding the above, Company's consent will not be required for any assignment made by Interconnecting Customer to an Affiliate or as collateral security in connection with a financing transaction. In all events, the Interconnecting Customer will not be relieved of its obligations under this Agreement unless, and until the assignee assumes in writing all obligations of this Agreement and notifies the Company of such assumption.

9. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

10. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF Company's TARIFFS, DEFINED TERMS

10.1 This Agreement shall be interpreted, governed, and construed under the laws of the Commonwealth of Massachusetts without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.

10.2 The interconnection and services provided under this Agreement shall at all times be subject to terms and conditions set forth in the tariffs applicable to the electric service provided by Company.

Copies of such tariffs are available at the Company's web site or by request to Company and are incorporated into this Agreement by this reference.

10.3 Notwithstanding any other provisions of this Agreement, Company shall have the right to unilaterally file with the Department, pursuant to the Department's rules and regulations, an application for change in tariffs, rates, charges, classification, service or any agreement relating thereto.

10.4 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in the Tariff.

11. AMENDMENTS AND MODIFICATION

This Agreement can only be amended or modified by a written agreement signed by both Parties.

12. ENTIRE AGREEMENT

This Agreement, including any attachments or appendices, is entered into pursuant to the Interconnection Service Agreement and the Tariff. Together this Agreement, the Interconnection Service Agreement, and the Tariff represent the entire understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated tariff schedules and rules.

13. INDEMNIFICATION

Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, Affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of or are in any manner connected with the performance of this Agreement by that Party except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the Party seeking indemnification.

14. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed under seal by their duly authorized representatives.

Customer		Company	
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____

Exhibit C: Simplified Process Interconnection Application

Instructions

General Information

If you wish to submit an application to interconnect your generating Facility using the Simplified Process (10KW or less, inverter-based, UL1741-listed) please fill out the attached application form down to the space for your signature. Once complete, please sign and attach any documentation provided by the generator manufacturer describing the UL1741 listing for the generator. The process is as follows:

1. Application process:
    a. Interconnecting Customer submits a Simplified Application filled out properly and completely.
    b. The electric utility Company acknowledges to the Interconnecting Customer receipt of the application within three business days of receipt.
    c. Company evaluates the application for completeness and notifies the Interconnecting Customer within 10 days of receipt that the application is or is not complete and, if not, advises what is missing.
2. Company verifies Facility equipment can be interconnected safely and reliably. Company signs application approval line and sends to Customer. In certain rare circumstances, the Company may require the Interconnecting Customer to pay for minor System Modifications, if so, an estimate will be sent back with the approved application requiring the Interconnecting Customer's consent to pay for the modifications.
3. After installation, customer returns Certificate of Completion. Prior to parallel operation Company may inspect Facility for compliance with standards which may include a witness test, and schedules appropriate metering replacement, if necessary.

Company notifies Interconnecting Customer in writing that interconnection of the Facility is authorized. If the witness test is not satisfactory, the Company has the right to disconnect the Facility. The Interconnecting Customer has no right to operate in parallel until a witness test has been performed or previously waived on the Application Form. The Company is obligated to complete this witness test within 10 days of the receipt of the Certificate of Completion. If the Company does not inspect in 10 days or by mutual agreement of the Parties, the Witness Test is deemed waived.

Contact Information: You must provide the contact information for the legal applicant (i.e. the Interconnecting Customer). If another party is responsible for interfacing with the Company (utility), you should provide his/her/its contact information as well.

Ownership Information: Please enter the legal names of the owner or owners of the Facility. Include the percentage ownership (if any) by any Company or public utility holding company, or by any entity owned by either.

Confidentiality Statement: In an ongoing effort to improve the interconnection process for Interconnecting Customers, the information you provide and the results of the application process will be aggregated with the information of other applicants and periodically reviewed by a DG Collaborative of industry participants that has been organized by the Massachusetts Department of Telecommunications and Energy (DTE). The aggregation process mixes the data together so that specific details for one Interconnecting Customer are not revealed. In addition to this process, you may choose to allow the information specific to your application to be shared with the Collaborative by answering "Yes" to the Confidentiality Statement question on the first page. Please note that even in this case your identification information (contact data) and specific Facility location will not be shared.

Facility Information

UL1741 Listed? This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers choose to submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.

DEP Air Quality Permit Needed? A Facility may be considered a point source of emissions of concern by the Massachusetts Department of Environmental Protection (DEP). Therefore, when submitting this application, please indicate whether the proposed Facility will require an Air Quality Permit. You must answer these questions, however, your specific answers will not affect whether your application is deemed complete. Please contact the DEP to determine whether the generating technology planned for your Facility qualifies for a DEP waiver or requires a permit.

Simplified Interconnection Application and Service Agreement for Facilities with Inverter Capacity of 10KW and under

Contact Information

Legal Name and address of Interconnecting Customer applicant (or, if an Individual, Individual's Name)

Company Name: _____ Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Alternative Contact Information (if different from Applicant)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Ownership (include % ownership by any electric utility): _____

Confidentiality Statement: "I agree to allow information regarding the processing of my application (without my name and address) to be reviewed by the Massachusetts DG Collaborative that is exploring ways to further expedite future interconnections." Yes_____ No_____

Facility Information

Location (if different from above): _____

Electric Service Company: _____

Account Number (if available): _____

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (KW) _____ (kVA) _____ (AC Volts) Single____ or Three____ Phase

System Design Capacity: _____ (KW) _____ (kVA)

Prime Mover: Photovoltaic ☐ Reciprocating Engine ☐ Fuel Cell ☐ Turbine ☐ Other _____

Energy Source: Solar ☐ Wind ☐ Hydro ☐ Diesel ☐ Natural Gas ☐ Fuel Oil ☐ Other_____

UL1741 Listed? Yes_____ No _____ Need an air quality permit from DEP? Yes_____ No ____ Not Sure _____

If "yes", have you applied for it? Yes____No ____

Estimated Install Date: _____ Est. In-Service Date: _____

Customer Signature (attach manufacturer's cutsheet showing UL1741 listing & sign here)

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true and I agree to the Terms and Conditions on the following page:

Interconnecting Customer Signature: _____ Title: _____ Date: _____

Approval to Install Facility (For Company use only)

Installation of the Facility is approved contingent upon the terms and conditions of this Agreement, and agreement to any system modifications, if required (Are system modifications required? Yes___ No___):

Company Signature: _____ Title: _____ Date: _____

Application ID number: _____ Company waives inspection/witness test? Yes___No___

Terms and Conditions for Simplified Interconnections

1. **Construction of the Facility**. The Interconnecting Customer may proceed to construct the Facility once the Approval to Install the Facility has been signed by the Company.

2. **Interconnection and operation. The Interconnecting Customer may operate Facility and interconnect with the Company's system once the following has occurred:**
   2.1. **Municipal Inspection:** Upon completing construction, the Interconnecting Customer will cause the Facility to be inspected or otherwise certified by the local electrical wiring inspector with jurisdiction.
   2.2. **Certificate of Completion:** The Interconnecting Customer returns the Certificate of Completion appearing as Attachment 2 to the Agreement to the Company at address noted.
   2.3. **Company has completed or waived the right to inspection.**

3. **Company Right of Inspection.** Within ten (10) business days after receipt of the Certificate of Completion, the Company may, upon reasonable notice and at a mutually convenient time, conduct an inspection of the Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with the Tariff. The Company has the right to disconnect the Facility in the event of improper installation or failure to return Certificate of Completion. If the Company does not inspect in 10 days or by mutual agreement of the Parties, the Witness Test is deemed waived.

4. **Safe Operations and Maintenance.** The Interconnecting Customer shall be fully responsible to operate, maintain, and repair the Facility.

5. **Access.** The Company shall have access to the disconnect switch (if required) of the Facility at all times.

6. **Disconnection.** The Company may temporarily disconnect the Facility to facilitate planned or emergency Company work.

7. **Metering and Billing**. All Facilities approved under this Agreement qualify for net metering, as approved by the Department from time to time, and the following is necessary to implement the net metering provisions:
   7.1. **Interconnecting Customer Provides Meter Socket**. The Interconnecting Customer shall furnish and install, if not already in place, the necessary meter socket and wiring in accordance with accepted electrical standards.
   7.2. **Company Installs Meter**. The Company shall furnish and install a meter capable of net metering within ten (10) business days after receipt of the Certificate of Completion if inspection is waived, or within 10 business days after the inspection is completed, if such meter is not already in place.

8. **Indemnification**. Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, Affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of, or are in any manner connected with, the performance of this Agreement by that party, except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the party seeking indemnification.

9. **Limitation of Liability**. Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever.

10. **Termination**. This Agreement may be terminated under the following conditions:

    10.1. **By Mutual Agreement**. The Parties agree in writing to terminate the Agreement.
    10.2. **By Interconnecting Customer**. The Interconnecting Customer may terminate this Agreement by providing written notice to Company.
    10.3. **By the Company**. The Company may terminate this Agreement (1) if the Facility fails to operate for any consecutive 12 month period, or (2) in the event that the Facility impairs the operation of the electric distribution system or service to other customers or materially impairs the local circuit and the Interconnecting Customer does not cure the impairment.
11. **Assignment/Transfer of Ownership of the Facility**: This Agreement shall survive the transfer of ownership of the Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies the Company.
12. **Interconnection Tariff:** These Terms and Conditions are pursuant to the Company's Tariff for the Interconnection of Interconnecting Customer-Owned Generating Facilities, as approved by the Department of Telecommunications and Energy and as the same may be amended from time to time ("Interconnection Tariff"). All defined terms set forth in these Terms and Conditions are as defined in the Interconnection Tariff (see Company's website for complete tariff).

ATTACHMENT 2

SIMPLIFIED PROCESS INTERCONNECTION

Certificate of Completion

Installation Information ☐ Check if owner-installed

Interconnecting Customer: _____ Contact Person: _____

Mailing Address: _____

Location of Facility (if different from above): _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Electrician:

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

License number: _____

Date Approval of Install Facility granted by the Company: _____

Application ID number: _____

Inspection:

The system has been installed and inspected in compliance with the local Building/Electrical Code of

_____
(City/County)

Signed (Local Electrical Wiring Inspector, or attach signed electrical inspection): _____

Name (printed): _____

Date: _____

As a condition of interconnection you are required to send/fax a copy of this form along with a copy of the signed electrical permit to (insert Company's name below):

Name: _____
Company: _____
Mail 1: _____
Mail 2: _____
City, State ZIP: _____
Fax No.: _____

Exhibit D: Expedited/Standard Process Interconnection Application

Instructions

General Information

If you wish to submit an application to interconnect your generating facility using the Expedited or Standard Process, please fill out all pages of the attached application form. Once complete, please sign and attach the supporting documentation requested.

Contact Information: You must provide as a minimum the contact information of the legal applicant. If another party is responsible for interfacing with the Company (utility), you may optionally provide their contact information as well.

Ownership Information: Please enter the legal names of the owner or owners of the generating facility. Include the percentage ownership (if any) by any electric service company (utility) or public utility holding company, or by any entity owned by either.

Confidentiality Statement: In an ongoing effort to improve the interconnection process for Interconnecting Customer-owned generating facilities, the information you provide and the results of the application process will be aggregated with the information of other applicants and periodically reviewed by a DG Collaborative of industry participants that has been organized by the Massachusetts Department of Telecommunications and Energy (DTE). The aggregation process mixes the data together so that specific details for one Interconnecting Customer are not revealed. In addition to this process, you may choose to allow the information specific to your application to be shared with the Collaborative by answering "Yes" to the Confidentiality Statement question on the first page. Please note that even in this case your identification information (contact data) and specific generating facility location will not be shared.

Generating Facility Information

UL1741 Listed? This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers choose to submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.

DEP Air Quality Permit Needed? A generating facility may be considered a point source of emissions of concern by the Massachusetts Department of Environmental Protection (DEP). Therefore, when submitting this application please indicate whether your generating facility will require an Air Quality Permit. You must answer these questions, however, your specific answers will not affect whether your application is deemed complete. Please contact the DEP to determine whether the generating technology planned for your facility qualifies for a DEP waiver or requires a permit.

Generating Facility Expedited/Standard Process Interconnection Application

Contact Information:

Legal Name and address of Interconnecting Customer applicant (or, if an Individual, Individual's Name)

Company Name: _____ Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Alternative Contact Information (if different from Applicant)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Ownership (include % ownership by any electric utility): _____

Confidentiality Statement: "I agree to allow information regarding the processing of my application (without my name and address) to be reviewed by the Massachusetts DG Collaborative that is exploring ways to further expedite future interconnections." Yes_____ No____

Generating Facility Information

Location (if different from above): _____

_____

Electric Service Company: _____ Account Number (if available): _____

Type of Generating Unit: Synchronous_____ Induction_____ Inverter_____

Manufacturer: _____ Model: _____

Nameplate Rating: _____ (KW) _____ (kVAR) _____ (Volts) Single____ or Three____ Phase

Prime Mover: Fuel Cell____ Recip Engine____ Gas Turb____ Steam Turb____ Microturbine____ PV__ Other___

Energy Source: Solar____ Wind___ Hydro___ Diesel___ Natural Gas____ Fuel Oil___ Other_____ (Specify)

UL1741 Listed? Yes_____ No _____ Need an air quality permit from DEP? Yes_____ No ____ Not Sure _____

If "yes", have you applied for it? Yes____No____

Planning to Export Power? Yes_____ No____ A Cogeneration Facility? Yes_____ No_____

Anticipated Export Power Purchaser: _

Export Form? Simultaneous Purchase/Sale_____ Net Purchase/Sale_____ Net Metering___ Other_____ (Specify)

Est. Install Date: _____ Est. In-Service Date: _____ Agreement Needed By: _____

Application Process

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true:
Interconnecting Customer Signature: _____ Title: _____ Date: _____

The information provided in this application is complete:
Company Signature: _____ Title: _____ Date: _____

Generating Facility Technical Detail

List components of the generating facility that are currently certified and/or listed to national standards

	Equipment Type	Manufacturer	Model	National Standard
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

Total Number of Generating Units in Facility? _____

Generator Unit Power Factor Rating: _____

Max Adjustable Leading Power Factor? _____ Max Adjustable Lagging Power Factor? _____

Generator Characteristic Data (for all inverter-based machines)

Max Design Fault Contribution Current? _____ Instantaneous _____or RMS? _____

Harmonics Characteristics: __

Start-up power requirements:_____

Generator Characteristic Data (for all rotating machines)

Rotating Frequency: _____ (rpm) Neutral Grounding Resistor (If Applicable): _____

Additional Information for Synchronous Generating Units

Synchronous Reactance, Xd: _____ (PU) Transient Reactance, X'd: _____ (PU)

Subtransient Reactance, X"d: _____ (PU) Neg Sequence Reactance, X_2: _____ (PU)

Zero Sequence Reactance, Xo: _____ (PU) KVA Base: _____

Field Voltage: _____ (Volts) Field Current: _____ (Amps)

Additional information for Induction Generating Units

Rotor Resistance, Rr: _____ Stator Resistance, Rs: _____

Rotor Reactance, Xr: _____ Stator Reactance, Xs: _____

Magnetizing Reactance, Xm: _____ Short Circuit Reactance, Xd": _____

Exciting Current: _____ Temperature Rise: _____

Frame Size: _____

Total Rotating Inertia, H: _____ Per Unit on KVA Base: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Additional information for Induction Generating Units that are started by motoring

Motoring Power: _____ (KW) Design Letter: _____

Interconnection Equipment Technical Detail

Will a transformer be used between the generator and the point of interconnection? Yes_____ No_____

Will the transformer be provided by Interconnecting Customer? Yes_____ No_____

Transformer Data (if applicable, for Interconnecting Customer-Owned Transformer):

Nameplate Rating: _____ (kVA) Single ____ or Three _____ Phase

Transformer Impedance: _____ (%) on a _____ KVA Base

If Three Phase:
Transformer Primary: _____ (Volts) ___Delta ____ Wye _____ Wye Grounded ____ Other

Transformer Secondary: _____ (Volts) ___Delta ____ Wye _____ Wye Grounded ____ Other

Transformer Fuse Data (if applicable, for Interconnecting Customer-Owned Fuse):

(Attach copy of fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves)

Manufacturer: _____ Type:_____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer:_____ Type:_____ Load Rating:_____ (Amps) Interrupting Rating:_____ (Amps) Trip Speed:_____ (Cycles)

Interconnection Protective Relays (if applicable):

(If microprocessor-controlled)
List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.			
2.			
3.			
4.			
5.			
6.			

(If discrete components)
(Enclose copy of any proposed Time-Overcurrent Coordination Curves)

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Current Transformer Data (if applicable):

(Enclose copy of Manufacturer's Excitation & Ratio Correction Curves)

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Potential Transformer Data (if applicable):

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

General Technical Detail

Enclose 3 copies of site electrical One-Line Diagram showing the configuration of all generating facility equipment, current and potential circuits, and protection and control schemes with a Massachusetts- registered professional engineer (PE) stamp.

Enclose 3 copies of any applicable site documentation that indicates the precise physical location of the proposed generating facility (e.g., USGS topographic map or other diagram or documentation).

Proposed Location of Protective Interface Equipment on Property:
(Include Address if Different from Application Address)

_____

_____

Enclose copy of any applicable site documentation that describes and details the operation of the protection and control schemes.

Enclose copies of applicable schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).

Please enclose any other information pertinent to this installation.

Exhibit E - Supplemental Review Agreement

This Agreement, dated _____, is entered into by and between _____("Interconnecting Customer") and the Company, for the purpose of setting forth the terms, conditions and costs for conducting a Supplemental Review relative to the expedited process as outlined in Section 3 of the Interconnection Tariff. This Supplemental Review pertains to Application Number _____ (the Interconnecting Customer's application ID number).

If the Supplemental Review determines the requirements for processing the application through the expedited process including any System Modifications, then the modification requirements, reasoning, and costs for these modifications will be identified and included in an executable Interconnection Service Agreement sent to the Interconnecting Customer for execution. If the Supplemental Review does not determine the requirements, it will include a proposed Impact Study Agreement as part of the Standard process which will include an estimate of the cost of the study.

The Interconnecting Customer agrees to provide, in a timely and complete manner, all additional information and technical data necessary for the Company to conduct the Supplemental Review not already provided in the Interconnecting Customer's application.

All work pertaining to the Supplemental Review that is the subject of this Agreement will be approved and coordinated only through designated and authorized representatives of the Company and the Interconnecting Customer. Each party shall inform the other in writing of its designated and authorized representative, if different than what is in the application.

The Company shall perform the Supplemental Review for a fee not to exceed $1,250. The Company anticipates that the Supplemental Review will cost $_____. No work will be performed until payment is received.

Please indicate your acceptance of this Agreement by signing below.

_____
Interconnecting Customer

Exhibit F - Impact Study Agreement

This Agreement, dated _____, is entered into by and between _____ ("Interconnecting Customer') and the Company, for the purpose of setting forth the terms, conditions and costs for conducting an Impact Study relative to the Standard process as defined in Section 1 and outlined in Section 3 of the Interconnection Tariff. This Impact Study will be for Application (the Interconnecting Customer's application ID number).

1. The Interconnecting Customer agrees to provide, in a timely and complete manner, all additional information and technical data necessary for the Company to conduct the Impact Study not already provided in the Interconnecting Customer's application.

2. All work pertaining to the Impact Study that is the subject of this Agreement will be approved and coordinated only through designated and authorized representatives of the Company and the Interconnecting Customer. Each party shall inform the other in writing of its designated and authorized representative, if different than what is in the application.

3. Where there are other potentially Affected Systems, and no single Party is in a position to prepare an Impact Study covering all potentially Affected Systems, the Company will coordinate but not be responsible for the timing of any additional studies required to determine the impact of the interconnection request on other potentially Affected Systems. The Interconnecting Customer will be directly responsible to the potentially Affected System operators for all costs of any additional studies required to evaluate the impact of the interconnection on the potentially Affected Systems. The Company will not proceed with this Impact Study without the Interconnecting Customer's consent to have the other studies conducted.

4. If the Company determines, in accordance with Good Utility Practice, that the System Modifications to the Company EPS are not substantial, the Impact Study will determine the scope and cost of the modifications. If the Company determines, in accordance with Good Utility Practice, that the System Modifications to the Company EPS are substantial, the Impact Study will produce an estimate for the modification costs (within ±25%) and a Detailed Study Agreement and its estimated cost.

5. Impact Study, together with any additional studies contemplated in Paragraph 3, shall form the basis for the Interconnecting Customer's proposed use of the Company EPS and shall be furthermore utilized in obtaining necessary third-party approvals of any required facilities and requested distribution services. The Interconnecting Customer understands and acknowledges that any use of study results by the Interconnecting Customer or its agents, whether in preliminary or final form, prior to NEPOOL 18.4 approval, should such approval be required, is completely at the Interconnecting Customer's risk.

6. The Impact Study fee of $XX (except as noted below) is due in full prior to the execution of the Impact Study. If the anticipated cost exceeds $25,000, the Interconnecting Customer is eligible for a payment plan. At the request of the Interconnecting Customer, the Company will break the costs into phases in which the costs will be collected prior to Company expenditures for each phase of the study. The payment plan will be attached as an exhibit to the Impact Study Agreement.

7. The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% only. All costs that exceed the 10% increase cap will be borne solely by the Company. Any such changes to the Company=s costs for the work shall be subject to the Interconnecting Customer=s consent. The Interconnecting Customer shall, within thirty (30) days of the Company's notice of increase, authorize such increase and make payment in the amount up to the 10% increase cap, or the Company will suspend the work and the corresponding agreement will terminate.

   Final Accounting. Upon request by the Interconnecting Customer, the Company within ninety (90) business days after completion of the construction and installation of the System Modifications described in an attached exhibit to the Interconnection Service Agreement, shall provide Interconnecting Customer with a final accounting report of any difference between (a) Interconnecting Customer's cost responsibility under

the Interconnection Service Agreement for the actual cost of such System Modifications, and (b) Interconnecting Customer's previous aggregate payments to the Company for such System Modifications. To the extent that Interconnecting Customer's cost responsibility in the Interconnection Service Agreement exceeds Interconnecting Customer's previous aggregate payments, the Company shall invoice Interconnecting Customer and Interconnecting Customer shall make payment to the Company within 45 days. To the extent that Interconnecting Customer's previous aggregate payments exceed Interconnecting Customer's cost responsibility under this agreement, the Company shall refund to Interconnecting Customer an amount equal to the difference within forty five (45) days of the provision of such final accounting report.

8. In the event this Agreement is terminated for any reason, the Company shall refund to the Interconnecting Customer the portion of the above fee or any subsequent payment to the Company by the Interconnecting Customer that the Company did not expend or commit in performing its obligations under this Agreement. Payments for work performed shall not be subject to refunding except in accordance with Paragraph 10 below.

9. Nothing in this Agreement shall be interpreted to give the Interconnecting Customer immediate rights to wheel over or interconnect with the Company's EPS.

10. Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of, or are in any manner connected with, the performance of this Agreement by that party, except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the party seeking indemnification.

    Notwithstanding the foregoing, the Interconnecting Customer hereby waives recourse against the Company and its Affiliates for, and releases the Company and its Affiliates from, any and all liabilities arising from or attributable to incomplete, inaccurate, or otherwise faulty information supplied by the Interconnecting Customer.

11. If either party materially breaches any of its covenants hereunder, the other party may terminate this Agreement by serving notice of same on the other party to this Agreement.

12. This agreement shall be construed and governed in accordance with the laws of the Commonwealth of Massachusetts.

13. All amendments to this Agreement shall be in written form executed by both Parties.

14. The terms and conditions of this Agreement shall be binding on the successors and assigns of either Party.

15. This Agreement will remain in effect for a period of up to two years from its effective date.

16. This Agreement may be terminated under the following conditions.

    a) The Parties agree in writing to terminate the Agreement.
    b) The Interconnecting Customer may terminate this agreement at any time by providing written notice to Company.

c) The Company may terminate this Agreement if the Interconnecting Customer either: (1) has not paid the fee or, (2) has not responded to requests for further information in accordance with provisions in the Tariff.

Interconnecting Customer:

Name: _____

Title: _____
Date: _____

The Company:

Name: _____

Title: _____
Date: _____

Exhibit G - Detailed Study Agreement

This Agreement, dated _____, is entered into by and between _____ ("Interconnecting Customer') and the Company, for the purpose of setting forth the terms, conditions and costs for conducting an Detailed Study relative to the Standard process as defined in Section 1 and outlined in Section 3 of the Interconnection Tariff. This Detailed Study will be for Application (the Interconnecting Customer's application ID number).

1. The Interconnecting Customer agrees to provide, in a timely and complete manner, all additional information and technical data necessary for the Company to conduct the Detailed Study not already provided in the Interconnecting Customer's application.

2. All work pertaining to the Detailed Study that is the subject of this Agreement will be approved and coordinated only through designated and authorized representatives of the Company and the Interconnecting Customer. Each party shall inform the other in writing of its designated and authorized representative, if different than what is in the application.

3. Where there are other Affected Systems identified by the Impact Studies, and no single Party is in a position to prepare a Detailed Study covering all Affected Systems, the Company will coordinate but not be responsible for the timing of any additional studies required to determine the System Modifications of the interconnection request on other Affected Systems. The Interconnecting Customer will be directly responsible to the Affected System operators for all costs of any additional studies required to evaluate the impact of the interconnection on the Affected Systems. The Company will not proceed with this Detailed Study without the Interconnecting Customer's consent to have the other studies conducted.

4. The Company will provide an estimate of the costs of the System Modifications required as a result of the Detailed Study.

5. The Detailed Study, together with any additional studies contemplated in Paragraph 3, shall form the basis for the Interconnecting Customer's proposed use of the Company EPS and shall be furthermore utilized in obtaining necessary third-party approvals of any required facilities and requested distribution services. The Interconnecting Customer understands and acknowledges that any use of study results by the Interconnecting Customer or its agents, whether in preliminary or final form, prior to NEPOOL 18.4 approval, should such approval be required, is completely at the Interconnecting Customer's risk.

6. The Detailed Study fee of $XX (except as noted below) is due in full prior to the execution of the Detailed Study. If the anticipated cost exceeds $25,000, the Interconnecting Customer is eligible for a payment plan. At the request of the Interconnecting Customer, the Company will break the costs into phases in which the costs will be collected prior to Company expenditures for each phase of the study. The payment plan will be attached as an exhibit to the Detailed Study Agreement.

7. The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% only. All costs that exceed the 10% increase cap will be borne solely by the Company. Any such changes to the Company=s costs for the work shall be subject to the Interconnecting Customer=s consent. The Interconnecting Customer shall, within thirty (30) days of the Company's notice of increase, authorize such increase and make payment in the amount up to the 10% increase cap, or the Company will suspend the work and the corresponding agreement will terminate.

   Final Accounting. Upon request by the Interconnecting Customer, the Company within ninety (90) business days after completion of the construction and installation of the System Modifications described in an attached exhibit to the Interconnection Service Agreement, shall provide Interconnecting Customer with a final accounting report of any difference between (a) Interconnecting Customer's cost responsibility under the Interconnection Service Agreement for the actual cost of such System Modifications, and (b) Interconnecting Customer's previous aggregate payments to the Company for such

System Modifications. To the extent that Interconnecting Customer's cost responsibility in the Interconnection Service Agreement exceeds Interconnecting Customer's previous aggregate payments, the Company shall invoice Interconnecting Customer and Interconnecting Customer shall make payment to the Company within 45 days. To the extent that Interconnecting Customer's previous aggregate payments exceed Interconnecting Customer's cost responsibility under this agreement, the Company shall refund to Interconnecting Customer an amount equal to the difference within forty five (45) days of the provision of such final accounting report.

8. In the event this Agreement is terminated for any reason, the Company shall refund to the Interconnecting Customer the portion of the above fee or any subsequent payment to the Company by the Interconnecting Customer that the Company did not expend or commit in performing its obligations under this Agreement. Payments for work performed shall not be subject to refunding except in accordance with Paragraph 9 below.

9. Nothing in this Agreement shall be interpreted to give the Interconnecting Customer immediate rights to wheel over or interconnect with the Company's EPS.

10. Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of, or are in any manner connected with, the performance of this Agreement by that party, except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the party seeking indemnification.

    Notwithstanding the foregoing, the Interconnecting Customer hereby waives recourse against the Company and its Affiliates for, and releases the Company and its Affiliates from, any and all liabilities arising from or attributable to information supplied by the Interconnecting Customer.

11. This agreement shall be construed and governed in accordance with the laws of the Commonwealth of Massachusetts.

12. All amendments to this Agreement shall be in written form executed by both Parties.

13. The terms and conditions of this Agreement shall be binding on the successors and assigns of either Party.

14. This Agreement will remain in effect for a period of up to two years from its effective date.

15. This Agreement may be terminated under the following conditions.

    a) The Parties agree in writing to terminate the Agreement.
    b) The Interconnecting Customer may terminate this agreement at any time by providing written notice to Company.
    c) The Company may terminate this Agreement if the Interconnecting Customer either: (1) has not paid the fee or, (2) has not responded to requests for further information in accordance with provisions in the Tariff.

Interconnecting Customer:	The Company:
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	