



**Littleton Electric Light Department
Standards for Interconnecting Inverter Based Distributed Generation and Energy Storage
Systems**

**Interconnection Standards for Large Commercial Systems
50 – 500 kW AC**

2022

1. Introduction

This document describes the process and requirements for an existing commercial customer to connect an inverter-based facility to LELD's distribution system, including discussion of technical and operating requirements, metering and billing options, and other matters.

2. Basic Understandings

Interconnecting Customer intends to install a facility on the customer's side of the meter that will be connected electrically to the LELD distribution system and operate in parallel with LELD. It is the responsibility of the Interconnecting Customer to design, procure, install, operate, and maintain all necessary equipment on its property for connection to LELD.

The Interconnecting Customer must be the owner of the property and the distributed generation facility to interconnect to LELD's distribution system. The customer's energy generated must be applied to their own meter and is not permitted to be applied, sold, or utilized by another meter or property. Any surplus energy due is credited back to the Interconnecting Customer's account.

The Interconnecting Customer should consult with LELD 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. If applicable, the Interconnecting Customer must agree that an Impact Study will be conducted and be responsible for all accruing cost associated with the study.

The facility must operate in such a manner that does not compromise or conflict with the safety or reliability of the LELD distribution system and the other connected customers. The Interconnecting Customer should design its equipment in such a manner that faults or other disturbances on the LELD distribution system 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 Standard does not cover general distribution service needed to serve the Interconnecting Customer. Please refer to LELD's Terms and Conditions for distribution service.

3. Process Overview

The path for interconnection of the Interconnecting Customer's facility to LELD's distribution system is described below. Unless otherwise noted, all times in this Interconnection Standard reference LELD's business days under normal work conditions.

Standard Process – This is for listed inverter-based facilities with an AC power rating greater than or equal to 50 kW but not to exceed 500 kW.

4. Standard Process

Interconnecting Customers using listed single-phase inverter-based facilities with power ratings greater than 50 kW, but not to exceed 500 kW, at locations receiving single-phase service from a single-phase transformer, or using listed three-phase inverter-based facilities with power ratings greater than 50 kW, but not to exceed 500 kW at locations receiving three-phase service from a three-phase transformer configuration and requesting an interconnection.

The Standard Process is as follows:

- a. Application process:
 - i. Interconnecting Customer submits an Interconnection Application (Exhibit A) filled out properly and completely along with the \$1,000 application fee made payable to “LELD”. The fee is waived for municipal entities.
 - ii. LELD evaluates the application for completeness and will conduct an initial review that may include a meeting or discussion with the Interconnecting Customer, if necessary, to review the application or notifies Interconnecting Customer application is or is not complete, and if not, advises what is missing or if applicable.
- b. LELD verifies proposed installation is acceptable for interconnection.
- c. If approved, LELD signs the application approval line and sends to the Interconnecting Customer.
- d. Upon receipt of signed application, the Interconnecting Customer installs the facility. Then the Interconnecting Customer arranges for inspection of the completed installation by the local wiring inspector, or other authority having jurisdiction, and this person signs the Certificate of Completion (Exhibit C). If the facility was installed by an electrical contractor, this person also fills out the Certificate of Completion.
- e. The Interconnecting Customer returns the Certificate of Completion to LELD.
- f. Following receipt of the Certificate of Completion, LELD will inspect the facility for compliance with standards by arranging for a witness test. The Interconnecting Customer has no right to operate in parallel until a witness test has been performed or has been previously waived on the application form by LELD.

Assuming the wiring inspection and/or witness test is satisfactory, LELD notifies the Interconnecting Customer in writing that interconnection is authorized. If the witness test is not satisfactory, LELD has the right to disconnect the facility, and will provide information to the Interconnecting Customer describing clearly what is required for approval.

If the Interconnecting Customer does not substantially complete construction within 12 months after receiving approval from LELD, LELD will require the Interconnecting Customer to reapply for interconnection.

5. Time

LELD will process all applications and inspections as expediently as time and resources allow, during LELD business hours.

6. Interconnection Requirements

6.1. Net Metering to New Customers

Commercial applicants under this document must have Net Metering and are subject to LELD's Rate 70, until LELD determines that the total capacity of the existing commercial net metering facilities has reached maximum capacity.

6.2. System Size Cap

The maximum allowable large business, large commercial or large industrial (Rate 30 and 40) interconnection is the lesser of 500 kW (AC Rating) or a system sized under 50% of the highest monthly peak demand from the previous 12 months of the customer's bills.

The system size cap for municipal buildings can be equal to 100% of energy consumed over the previous 12 months.

6.3. Impact Study

LELD reserves the right to determine if an impact study is necessary upon the receipt of application. LELD and the Interconnecting Customer will execute the Impact Study Agreement (Exhibit B) if necessary and proceed as outlined in the agreement.

6.4. 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 LELD's Interconnection Standard. 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 Standard.

6.4.1. Transient Voltage Conditions

Because of unusual events on the distribution system, 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 distribution disturbances including, but not limited to, lightning strikes, 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. 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.

6.4.2. 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 1547-2018 provides these levels. In adherence to IEEE Standard 1547-2018 LELD 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.

6.4.3. 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 $\pm 2/10$ cycle ($\pm 0.33\%$), except on infrequent occasions when the deviation may reach $\pm 1/10$ cycle ($\pm 0.17\%$). The usual normal deviation is approximately $\pm 1/20$ cycle ($\pm 0.083\%$). 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.

6.5. Protection Requirements

6.5.1. General Requirements

Any facility desiring to interconnect with LELD 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 Standard 1547-2018, "IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces."
- UL Standard 1741, "Inverters, Converters and Charge Controllers for Use in Independent Power Systems."
- JERE 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 LELD's equipment and personnel and on other customers of LELD. 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.

LELD 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 LELD so long as LELD adheres to good utility practice. If requested by the Interconnecting Customer, LELD 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.

6.5.2. Protection Requirements for Inverter-Based Facilities

- 6.4.2.1.** If the facility is inverter-based, then the inverter should be listed.
- 6.4.2.2.** For all inverters, LELD requires an external disconnect switch (or comparable device by mutual agreement) at the point of interconnection with LELD or at another mutually agreeable point that is always accessible to LELD personnel and that can be opened for isolation if required. The switch shall be gang operated, have a visible break when open, be rated to interrupt the maximum inverter output and be capable of being locked open, tagged, and grounded on the LELD side by LELD personnel. LELD shall have the right to open this disconnect switch in accordance with this Interconnection Standard. This disconnect must be within plain sight of the LELD revenue meter or service entrance point and must be prominently labelled.

6.5.3. Protection System Testing and Maintenance

LELD shall have the right to witness the commissioning testing as defined in IEEE Standard 1547-2003 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.

Prior to final approval by LELD or anytime thereafter, LELD reserves the right to test the inverter relaying and control related to the protection of the LELD distribution system.

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

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.

6.5.4. Protection System Changes

The Interconnecting Customer must provide LELD 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. LELD will determine if such proposed changes require re-acceptance of the interconnection per the requirements of this Section.

7. Responsibility for Costs of Interconnecting a Facility

7.1. Interconnection and 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 point of interconnection.

8. Operating Requirements

8.1. 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 LELD's Interconnection Standard. The Interconnecting Customer will continue to comply with all applicable laws and requirements after interconnection has occurred. In the event LELD has reason to believe that the Interconnecting Customer's installation may be the source of problems on the LELD's distribution system, LELD 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, LELD may require disconnection as outlined in this Interconnection Standard. The cost of this testing will be borne by LELD unless LELD demonstrates that the problem or problems are caused by the facility or if the test was performed at the request of the Interconnecting Customer.

8.2. No Adverse Effects

LELD 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 by LELD or if operation of the facility could cause damage to the LELD distribution system. The deterioration of service could be, but is not limited to, harmonic injection in excess of IEEE Standard 1547-2003, 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.

LELD will operate 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 LELD's distribution system, and such normal disturbances shall not constitute unreasonable interference. Examples of such disturbances could be, but are not limited to, single-phasing events, voltage sags from remote faults on the LELD distribution system, and outages on the LELD distribution system.

8.3. Access

LELD shall have access to the disconnect switch of the facility at all times.

9. Disconnection

9.1. Temporary Disconnection

9.1.1. Emergency Conditions: LELD shall have the right to immediately and temporarily disconnect the facility without prior notification in cases where, in the reasonable judgment of LELD, 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, LELD distribution system.

9.12. Routine Maintenance, Construction, and Repair: LELD shall have the right to disconnect the facility when necessary for routine maintenance, construction and repairs on the LELD distribution system.

9.13. Non-Emergency Adverse Operating Effects: LELD may disconnect the facility at any time if the facility is having an adverse operating effect on the LELD distribution system or to other customers. It is the Interconnecting Customer's responsibility to correct the adverse operating effect, and LELD will work with the customer to the extent possible.

9.14. Re-connection: Any curtailment, reduction or disconnection shall continue only for so long as reasonably necessary. The Interconnecting Customer and LELD shall cooperate with each other to restore the facility and the LELD distribution system, 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.

9.2. Permanent Disconnection

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

9.3. Disconnection Liability

LELD is not responsible for the loss of distributed generation or net metering credits (if applicable) shall any disconnection occur.

10. Metering, Monitoring, and Communication

This Section sets forth the rules, procedures and requirements for metering, monitoring and communication between the facility and LELD where the facility exports power or is net metered. Interconnecting Customer will be responsible for reasonable and necessary costs incurred by LELD for the purchase, installation, operation, maintenance, testing, repair and replacement of metering and data acquisition equipment. Interconnecting Customer's metering (and data acquisition, as required) equipment shall conform to rules and applicable operating requirements.

10.1. Metering, Related Equipment and Billing Options

LELD 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. The Interconnecting Customer, or their contractor, is responsible for providing a production meter, or a revenue grade inverter with an outside display viable for walk up interrogation.

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

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. A bi-directional meter with multiple registers will be installed. One set of registers will record energy flows from LELD 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 LELD during periods when the facility is a net producer of energy (the other register will record no flow during these periods).

11. Dispute Resolution

Any dispute with this Interconnection Standard shall be put in writing and presented to the Interconnecting Customer or LELD General Manager. Both sides shall attempt to negotiate and resolve the dispute within 30 calendar days.

If the dispute cannot be resolved, it will be up to either party to bring legal action in an appropriate Massachusetts court.

Exhibit A

Interconnection Application Instructions

(please do not submit this page)

General Information: If you, the Interconnecting Customer, wish to submit an application to interconnect your generating facility, please fill out the attached application form completely (not including this page of instructions), including your signature in the space provided. There is a \$1,000 application fee, which must accompany this interconnection application. This must be in the form of a check, made out to "LELD". The fee is waived for municipal entities. Interconnections that may be eligible include UL 1741-Listed inverter-based facilities that have either power ratings between 50 kW and 500 kW (AC) single-phase or between 50 kW and 500 kW (AC) three-phase. Please attach any documentation provided by the inverter manufacturer concerning the UL 1741 listing provided by the manufacturer.

Mail all material to: 39 Ayer Road, Littleton MA, 01460

The Interconnection Process is as follows:

1. Application process:
 - a. Interconnecting Customer submits an application filled out properly with application fee.
 - b. LELD evaluates the application for completeness and notifies the Interconnecting Customer that the application is or is not complete and, if not, advises how to proceed (Impact Study).
2. LELD verifies facility equipment can be interconnected safely and reliably.
3. If approved, the LELD signs the application approval line and sends to the Interconnecting Customer.
4. Upon receipt of the signed application, the Interconnecting Customer installs the facility. Then the Interconnecting Customer arranges for inspection of the completed installation by the local electrical wiring inspector, or other authority having jurisdiction, and this person signs the Certificate of Completion (Exhibit C). If facility was installed by an electrical contractor, this person also fills out the Certificate of Completion.
5. The Interconnecting Customer returns the Certificate of Completion to LELD.
6. Following receipt of the Certificate of Completion, LELD will inspect the facility for compliance with standards by arranging for a witness test. The Interconnecting Customer has no right to operate in parallel (interconnect) until a witness test has been performed or has been previously waived in writing by LELD.
7. Assuming the wiring inspection and/or witness test is satisfactory, LELD notifies Interconnecting Customer in writing that interconnection is authorized. If the witness test is not satisfactory, LELD has the right to disconnect the facility and will provide information to the Interconnecting Customer describing clearly what is required for approval.

Contact Information: You must provide the contact information for the legal applicant (i.e. the Interconnecting Customer). If other parties are responsible for interfacing with LELD, you should provide their contact information as well.

UL 1741 Listed? The standard UL 1741, "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 UL 1741. This term "Listed" is then marked on the equipment and supporting documentation.

Exhibit A
Interconnection Application and Service Agreement

Contact Information: Date Prepared: _____
Legal Name and address of Interconnecting Customer (or, Company name, if appropriate)
Customer or Company Name (print): _____ Contact Person, if Company: _____
Service Address: _____
City: _____ State: _____ Zip Code: _____
Telephone: _____ E-Mail Address: _____

Alternative Contact Information (e.g., system installation contractor or coordinating company, if appropriate):
Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone: _____ E-Mail Address: _____

Electrical Contractor Contact Information (if appropriate):
Name: _____ Telephone: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____

Facility Information:
Address of Facility: _____
Town: _____ State: _____ Zip Code: _____
Account Number: _____ Meter Number: _____
Generation Source: Solar PV Other: _____ IEEE 1547.1 (UL 1741) Listed? Yes No
Inverter Manufacturer: _____ Model: _____ Quantity: _____
Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts) Single-Phase Three-Phase
System Design Capacity: _____ (kW) _____ (kVA) For Solar PV, provide the DC-STC rating: _____ (kW)
Energy Storage: Yes No (If "Yes", please provide the following information) Total Design Capacity: _____
Manufacturer: _____ Model: _____ Quantity: _____ Nameplate Rating: _____
Battery Coupled: AC or DC IEEE 1547.1 (UL 1741) Listed? Yes No
Estimated Install Date: _____ Estimated In-Service Date: _____

Customer Signature

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: _____

Please attach any documentation provided by the inverter manufacturer describing the inverter's UL listing.

Approval to Install Facility (For LELD use only)

Installation of the Facility is approved contingent upon the terms and conditions of this agreement and satisfactory Witness Test.

LELD
Signature: _____ Title: _____ Date: _____

Terms and Conditions for Standard Process 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 LELD.
- 2. Interconnection and Operation:** The Interconnecting Customer may operate facility and interconnect with LELD'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 to the LELD at address noted.
 - 2.3. Permission to Operate:** LELD has completed or waived the right to inspection and issues permission to operate.
- 3. Safe Operations and Maintenance:** The Interconnecting Customer shall be fully responsible to operate, maintain, and repair the facility.
- 4. Access:** LELD shall have access to the disconnect switch of the facility at all times.
- 5. Disconnection:** LELD reserves the right to temporarily disconnect the facility pursuant to section 9 of the Interconnection Standards. If this occurs, LELD is not responsible for loss solar production or compensation.
- 6. 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:
 - 6.1. 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.
 - 6.2. LELD Installs Meter:** LELD shall furnish and install a meter capable of net metering after receipt of the Certificate of Completion if inspection is waived, or after the inspection is completed, if such meter is not already in place.
- 7. Indemnification:** Except as the Commonwealth is precluded from pledging credit by Section 1 of Article 62 of the Amendments to the Constitution of the Commonwealth of Massachusetts, and except as the Commonwealth's cities and towns are precluded by Section 7 of Article 2 of the Amendments to the Massachusetts Constitution from pledging their credit without prior legislative authority, Interconnecting Customer and LELD 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.
- 8. Limitation of Liability:** Each party's liability to the other party for any loss, cost, claim, injury, liability, or 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.
- 9. Termination:** This Agreement may be terminated under the following conditions:
 - 9.1. By Mutual Agreement:** The Parties agree in writing to terminate the Agreement.
 - 9.2. By Interconnecting Customer:** The Interconnecting Customer may terminate this Agreement by providing written notice to LELD
 - 9.3. By LELD:** LELD 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.
- 10. 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 LELD.

Exhibit B

Impact Study Agreement

This Agreement, dated _____, is entered into by and between _____
 (“Interconnecting Customer”) and the LELD, for the purpose of setting forth the terms, conditions
 and costs for conducting an Impact Study relative to the Standard Process of the Interconnection
 Standard. This Impact Study pertains to the application of _____
 (Interconnecting Customer’s address)

1. The Interconnecting Customer agrees to provide, in a timely and complete manner, all additional information and technical data necessary for the LELD 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 LELD or be mutually agreed upon with the Interconnecting Customer.
3. Where there is a need for an Impact Study, and no single Party is in a position to prepare an Impact Study, LELD will coordinate but not be responsible for the timing of any additional studies required to determine the impact of the interconnection request. The Interconnecting Customer will be directly responsible to any potentially affected system operators for all costs of any additional studies required to evaluate the impact of the interconnection. LELD will not proceed with this Impact Study without the Interconnecting Customer’s consent to have the other studies conducted.
4. If LELD determines that the modifications to the LELD distribution system are not substantial, the Impact Study will determine the scope and cost of the modifications as defined in the agreement. If it is determined that the modifications to the LELD distribution system are substantial, the Impact Study will produce an estimate for the modification costs and a Detailed Study Agreement and cost for Interconnecting Customer’s approval.
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 LELD distribution system 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. LELD will, in writing, provide cost estimates from its designated firms to the Interconnecting Customer. Upon the agreement of the Interconnecting Customer, the Impact Study cost is due in full prior to the execution of the Impact Study.
7. Final accounting upon request by the Interconnecting Customer, LELD 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 LELD 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, LELD shall invoice Interconnecting Customer and Interconnecting Customer shall make payment to LELD within forty-five (45) days. To the extent that Interconnecting Customer's previous aggregate payments exceed Interconnecting Customer's cost responsibility under this agreement, LELD 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, LELD shall refund to the Interconnecting Customer the portion of the above fee or any subsequent payment to the LELD by the Interconnecting Customer that LELD 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 LELD distribution system.
10. Except as the Commonwealth is precluded from pledging credit by Section 1 of Article 62 of the Amendments to the Constitution of the Commonwealth of Massachusetts, and except as the Commonwealth's cities and towns are precluded by Section 7 of Article 2 of the Amendments to the Massachusetts Constitution from pledging their credit without prior legislative authority, Interconnecting Customer and LELD 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 LELD and its affiliates for, and releases LELD 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. All amendments to this Agreement shall be in written form executed by both Parties.
13. This Agreement will remain in effect for a period of up to two years from its effective date.
14. This Agreement may be terminated under the following conditions.
 - The Parties agree in writing to terminate the Agreement.
 - The Interconnecting Customer may terminate this agreement at any time by providing written notice to LELD.
 - LELD 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 Interconnection Standard.

Interconnecting Customer

Littleton Electric Light Department

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Signature: _____

Signature: _____

Exhibit C
Certificate of Completion for Standard Process Interconnections

Installation Information:

Check if owner-installed

Customer or Company Name (print): _____ Contact Person, if Company: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Address of Facility (if different from above): _____

Town: _____ State: _____ Zip Code: _____

Electrical Contractor's Name (if appropriate): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

License number: _____

Date of approval to install Facility granted by the LELD: _____

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:

Name: Connor Reardon
Title: Energy & Sustainability Manager
Company: Littleton Electric Light Department
Mail: 39 Ayer Road
Town, State ZIP: Littleton, MA 01460
Email: creardon@lelwd.com