SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT
Distributed Generation
Interconnection Requirements
Customer Accessory Operation
Policy Effective January 1, 2026
By the South Hadley Municipal Light Board

Policy Description:
This policy specifies the handling of photovoltaic (PV) generation installations based on the size of the facility and rate class of customer, for the purpose of reducing some of the customer's own on-site electric power requirements. Additionally, this policy specifies the installation of energy sharing devices, at this time classified as residential batteries and bidirectional EV and charger installations, for the purpose of storing energy for later use and potentially selling that energy back to SHELD. These installations are classified as "customer accessory operation" since the system is an accessory use to the primary function of the facility. This policy does not cover facilities that have minimal power requirements, and the primary purpose of the PV installation facility is for power generation. These facilities are commercial operations and are covered in the *PV Interconnection Requirements – Commercial Generation Operation Policy.*

Distributed Generation (DG) Metering:
Metering will be in accordance with the *Distributed Generation Installation Metering Policy* in effect at the time of application.

Distributed Generation System Capacity Limits:
SHELD limits the cumulative generation/discharge capacity of all Residential Rate customer facilities to three percent (3%) of its 2025 annual peak demand. The cumulative capacity of all Commercial Rate customer facilities will be limited to three percent (3%) of the 2025 annual peak demand. The 2025 annual peak was 28,500 kW.

- Residential Cap: 855 kW
- Commercial Cap: 855 kW

Distributed Generation Requirements:

- The facility must be located on property owned or occupied by the customer and must meet all other town requirements, such as building permits, bylaw requirements, etc.
- The installation must be self-contained on only one building lot and will only be metered at one location for one account.
- Customers must own all equipment installed on the property (no third-party lease).
- SHELD does not allow community or virtual metering.

Distributed Generation System Size Limits:
The size of each individual system cannot exceed the following:

- **Residential Class Customer PV Installations:**
  Residential rate customers (e.g. R1 and RH) with PV installed systems shall not exceed 10 kW DC.

- **Residential Energy Sharing Device Installations:**
  Installations of energy sharing devices (i.e. residential batteries, bidirectional EV and charger installations), regardless of size, will be limited to a discharge value of 10kW DC.
- **Combined Residential Energy Sharing Device and PV Installations:**
  Residential Batteries (connected to PV) and/or bidirectional EV and Charger Installations (connected to PV) will be limited to a discharge value of 10kW DC.

Commercial Class Customer PV Installations:

Commercial rate customers (e.g. GC1, GSD, and LGS) with PV installations will be limited to 50% of the customer's annual peak demand. If the customer does not have a demand meter at the premise, the installation will be limited to 40% of the annual energy usage based on a capacity factor of 15%. Installations will be limited to a maximum size of 625 kW DC.

Equipment and System Design:

In order for SHELD to approve your project, you must meet the following regulatory and safety requirements:

- **System Safety:** All roof mounted PV systems must meet rapid shutdown requirements as required by the current version of the NEC at the time of application, or any local requirements impose by the AHJ (Authority Having Jurisdiction). All residential energy sharing device installations shall be done in accordance with the NEC at the time of application, or any local requirements imposed by the AHJ.
- **System Design:** The system should be designed to limit the impact to the SHELD system, including but not limited to; voltage levels, voltage fluctuations, reverse power flow, and harmonics. A PV system should be designed with an azimuth between 150° (SSE) and 270° (W) to mitigate the impact to the SHELD system.
- **Inverters:** The system must use inverters that meet all current safety standards (e.g. UL1741 SA or UL1741 SB) and current grid connection standards (e.g. IEEE 1547, Rule 21, and Rule 14H), sometimes referred to as "advanced or smart" inverters. This includes any regional requirements that may be imposed by ISO-NE, such as voltage and frequency ride- through standards. The inverter settings will be approved by SHELD, and must be verified during the witness test. Furthermore, SHELD will be granted access to the programming system of the inverter, and have the authority to make changes to the program at its discretion.
- **Approved Disconnect Switches:** Your lockable disconnect switch must be a blade-type switch ("knife switch"). The pullout switches commonly used in air-conditioning units and spas are not acceptable and will not be approved. Additionally, the customer is solely responsible for the maintenance of all fuses in fused blade-type disconnect switches.
- **System Upgrades:** It may be necessary for SHELD to conduct system studies or make changes to its distribution system to accommodate the system. This can include upgrading/relocating transformers, poles, conductors, etc. The need for any upgrades will be determined by SHELD, and will depend on a number of factors, including the location of your facility within the electric distribution system, and size of the installation. These costs shall be paid by the Customer.

SHELD reserves the right to deny interconnecting a system if in its opinion; the system does not meet the intent of this policy, could adversely impact the SHELD system, or is not in the best interest of SHELD's customers.

Indemnification:

SHELD shall not be liable, directly or indirectly, for permitting or continuing to allow the attachment a system, or for the acts or omissions of the customer-system or generator that cause property damage, or loss, or injury, including death, to any party. SHELD will not be held liable for any financial harm that this policy or modifications to this policy cause the customer- generator.

Safety & Operation:

Customers must not interconnect their facility with the Department's distribution facilities until they receive written authorization from SHELD and approval from the Wiring Inspector. Unauthorized interconnections may result in injury to persons and damage to equipment or property for which the customer may be liable. *SHELD reserves the right to disconnect systems when they are determined to interfere with the operation of Department or other customer equipment, in the sole judgment of the Department. Any corrections or modifications to the equipment will be at the sole expense of the customer-generator.*

Table 1 – Fee Schedules

	Residential Rate Customer System	Commercial Rate Customer System
Application Fee (covers initial review)	$100	$10/kW Minimum $100 Maximum $6250
Supplemental Review or Additional Review (if applicable)	N/A	Up to 12 Engineering hours at $100/hr $1,200 maximum
Standard Interconnection Initial Review	N/A	Included in Application Fee (if applicable)
Impact and Detailed Study (if required)	N/A	Actual Cost
System Upgrades	Actual Cost	Actual Cost
Meter Upgrade (if required)	Actual Cost	Actual Cost

Application Process and Forms

Interconnection policy for non-commercial operation distributed generation systems.

Customers must not interconnect their generating facility with the Utility's distribution facilities until they receive written authorization from South Hadley Electric Light Department. Unauthorized interconnections may result in injury to persons and damage to equipment or property for which the customer may be liable.

Application Process and Forms

You must provide information about your specific installation, such as manufacturer, model number and rating. You will be required to pay for any metering or system upgrades as determined by SHELD.

Single-Line Diagram

The Single-Line Diagram must show all devices for the system, equipment ratings, wire sizes and a visible, accessible and lockable disconnect switch ("safety switch"). Please note that the disconnect switch must be installed in a readily accessible location normally within **10 feet** of the utility meter, where SHELD personnel can operate the switch at any time.

Inverter Settings/Configuration

The proposed inverter settings should include; how the inverter reacts to high/low voltage conditions; voltage and frequency ride-thru settings; volt-var or volt-watt settings.

Site Plan

The site plan should show the proposed physical location of all system components, as well as the PV panel azimuth and tilt angles.

Inspections

Upon notification of the system readiness for the inspection, scheduling an inspection can take up to 10 working days. The inspection will include SHELD, the Wiring Inspector, and the Installer/Electrician. In addition to the usual review of proper wiring, the inspection will also include;

- Loss of AC power and verification of rapid shutdown of PV system
- Verification of 1-line drawing and installed system
- Verification of grid interconnection method used by the inverter

If the inspection is satisfactory, SHELD will make any metering changes required, and the system will be allowed to go into production. Once you have submitted the documents listed below, SHELD will begin review of your project for completeness of application. We will also perform an initial review to determine if there are any system impacts that need to be addressed. Upon completion of the review, SHELD will inform the applicant that the system has been approved for construction, approved with conditions, or denied.

To ensure that the application package is complete, refer to the following table:

Item	General Comments
Application	Make sure that ALL applicable sections for your generator are completed (Sections 1-4).
Application Fee	Electronic applications will not be deemed complete until the check is received (unless exempt).
Site Plan	Show location with respect to the building of all pertinent electrical equipment, such as; main switchboard, utility disconnect switch, utility meter, panels, inverter, etc.
Single-Line Drawing	Must include all pertinent electrical equipment as shown on site plan, as well as equipment ratings/sizes.
Inverter Settings/Configuration	Grid connection settings for the inverter.
Three-Line Drawing	If required, usually only for larger non-residential systems.
Proposed Relay Settings	If required, usually only for larger non-residential systems.

Customer Accessory PV Systems Application

Section 1. Customer Information

Name:
Mailing Address: City: State: Zip Code:
Street Address (if different from above):
Daytime Phone: Email:
Utility Customer Account Number (from Utility Bill):

Section 2. Generating Facility Information

Type (Circle One): Solar Bidirectional Charger/EV Battery
System Size (kW DC): Inverter Manufacturer:
Inverter Model: Inverter Power Rating (kW AC):
Existing service: Voltage Phases:
Estimated Annual Production (kWh AC) (Solar Only):

Section 3. Planned Installation Information

Company/Representative:
Daytime Phone #: Email:
Licensed Electrician: License #:
Mailing Address: City: State: Zip Code:
Daytime Phone #: Email:
Planned Installation Date:

Section 4. Certifications

The system meets all the requirements SHELD, NEC, IEEE and Town of South Hadley standards and bylaws.
Signed (Solar Representative): Date:

Name (Printed): Company:

Section 5. SHELD Approval to Construct

The system is approved for construction: Yes No
Comment:

Additional Fees:

Section 6. Witness Test and Approval to Operate

1. SHELD Approval: Date:
2. Wiring Inspector Approval: Date: