Residential Renewable Energy Solutions
Metering Guidelines
January 1, 2027~~6~~

Note: All Eversource Information & Requirements for Electric Supply (I&R Book) and UI Guidebook for Requirements for Electric Service standards must be met.

This guidance document provides additional system interconnection information (including but not limited to guidance for solar paired with energy storage systems) as a supplement to the Eversource I&R Book, UI Guidebook of Requirements for Electric Service, and Metering Diagrams for the Residential Renewable Energy Solutions program (which accepts applications on and after January 1, 2022 until December 31, 2027). Residential Renewable Energy Solutions Meter Diagrams can be located by clicking the following links:

- Eversource
- UI

Energy Storage Systems ("ESS") enrolled in Energy Storage Solutions must apply for interconnection, whether being connected to existing solar PV, new solar PV, or as a standalone system (i.e., not paired with solar PV or other DG resources). ESS that connect to the distribution system are subject to review and approval by the electric utility's interconnection review process.

Meter Socket Configuration Requirements:

- **Eversource**: Solar PV systems are to be wired bottom (load) side inverter and top (line) side utility for buy-all and netting tariffs
- **United Illuminating (UI)**:
    - **Netting Tariff:** Solar PV systems are to be wired top (line) side inverter and bottom (load) side utility for the production meter
    - **Buy-All Tariff:** Solar PV systems are to be wired bottom(line) side and utility top (line) side.

General System Connection Considerations:

- Only Company approved meter socket adapters are allowed. A list of approved adapters will be posted to the EDCs' websites once available.
- Grid Isolation must be in place to prevent back feed onto the EDC's distribution system if a system is intended to island during an outage.
- All forms of existing generation must be noted during the interconnection process.
- For Eversource and UI, the billing meter and any buy-all production meter cannot be energized during islanding or solar backup.
- PV+ESS that are intended to island will only be measured with a single production meter. It is the installers responsibility to ensure the sizing of the solar does not exceed any limitation of the ESS installed.
- Buy-all systems that incorporate energy storage to back-up loads normally fed from other billable meters (i.e. tenant loads in multi-family homes) must ensure back-feed to the grid is only possible through the associated Buy-All meter

- Netting Systems with energy storage must provide disconnect(s) operable by the utility to completely de-energize the production meter socket.

Considerations for including Energy Storage Systems:

- Customers with solar PV that applied for interconnection before January 1, 2022 and therefore may be enrolled in net metering via Eversource's Rider N[1] or United Illuminating's Rider NEC[2] that are interested in installing additional solar PV (an "Add-On System") must have a dedicated production meter and disconnect for the new system. The customer's rate will be updated to the latest RRES rate and forgo the Eversource's Rider N or United Illuminating's Rider NEC rate. ESS may be added behind a customer's *revenue* meter for eligible customers applying to Residential Renewable Energy Solutions on or after January 1, 2022. This includes either the Netting or Buy-all system configurations.
    - For Netting systems, the ESS should be located behind the revenue meter, charged by the solar PV, serve a portion of the customer load and be capable of discharging to the grid.[3]
    - Buy-all systems that are designed to provide back-up to critical load panels must do so following the filed Eversource and UI filed diagrams. Any loads (i.e. critical load panel or entire home) must be fed from the existing revenue meter during non-emergency conditions. Under no condition can load be fed from the grid through the buy-all production meter.

Energy Storage Solutions Program Considerations:

Please note the following Energy Storage Solutions program requirements that affect metering for residential solar projects with ESS:

- For solar plus storage projects, the capacity of the solar would qualify for the RRES incentive, and the battery only would qualify for the ESS incentives. For Example:
    - 7 kW solar plus 5 kW battery:
        - 7 kW of solar qualifies for RRES incentives
        - 5KW of storage qualifies for ESS incentives
        - Interconnection conducts technical screen for the full 12 kW system

[1] Eversource Rider N: https://www.eversource.com/content/docs/default-source/rates-tariffs/ct-electric/rider-n-class-1.pdf?sfvrsn=f291ec62_4

[2] United Illuminating Rider NEC1: https://www.uinet.com/wps/wcm/connect/bf3014c2-2ff5-4170-8a50-A2018_doc_3724.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-bf3014c2-2ff5-4170-8a50-9ab97598a33b-miQdZHN

[3] In this configuration, the storage system would be eligible to apply for Energy Storage Solutions and would be subject to the dispatch requirements of that program if partaking in program incentives if approved.

- ESS may be added behind a customer's revenue meter to solar PV systems that apply/applied for interconnection before January 1, 2022 and/or are eligible for net metering via Eversource's Rider N[4] or United Illuminating's Rider NEC[5].[6]
- The storage system must be able to island in outage situations to provide the customer with power during an outage. Residential ESS must be able to export to the grid to meet program dispatch requirements.
- Installations using a hybrid inverter with the RRES program must ensure that the production meter installed is only measuring generation/production from the DER exclusive of any energy consumed from the utility. A hybrid inverter is a single device that functions as an inverter for PV and/or battery as well as having a built-in Microgrid Interconnection Device (MID) relay for whole home or critical load backup. The inverter must be installed in a way this is consistent with approved RRES meter diagrams.

[4] Eversource Rider N: https://www.eversource.com/content/docs/default-source/rates-tariffs/ct-electric/rider-n-class-1.pdf?sfvrsn=f291ec62_4

[5] United Illuminating Rider NEC1: https://www.uinet.com/wps/wcm/connect/bf3014c2-2ff5-4170-8a50-A2018_doc_3724.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-bf3014c2-2ff5-4170-8a50-9ab97598a33b-miQdZHN

[6] In this situation note the following: If the storage system receives utility interconnection approval, connects to the electric grid, and is energized before January 1, 2022, it would be eligible for the Performance Incentive (compensation for active dispatch), but not for the Upfront Incentive of the Energy Storage Solutions program. If the storage system receives utility approval to interconnect, connects to the electric grid, and is energized after January 1, 2022, the customer would be eligible to apply for both the Performance and Upfront Incentives of the Energy Storage Solutions program.