



New Technology Application

Version January 10, 2023

Energy Storage Solutions is overseen by the Public Utilities Regulatory Authority (PURA), is paid for by ratepayers, and is administered by the Connecticut Green Bank, Eversource, and United Illuminating (Program Administrators).

**ALL SUBMITTED INFORMATION IS PUBLIC RECORD.
DO NOT SUBMIT ANY PROPRIETARY OR CONFIDENTIAL INFORMATION.**

INSTRUCTIONS

Thank you for your interest in Connecticut Energy Storage Solutions (the Program). Before completing this Application, first confirm if the equipment is eligible for the Program by checking the Equipment Status List: https://energystoragect.com/submitted_ess_system_status_list/. If the equipment is not on the Equipment Status List, or requires revision, follow these steps:

- 1. Complete this Application:**
 - Equipment status will be based on your responses. Make certain to answer ALL questions. Note: A glossary of terms is located at the end of the Application.
- 2. Obtain and attach to application UL certifications from the Nationally Recognized Testing Laboratories (NRTL)*.** The following UL listings are required:
 - UL 1973
 - UL 9540
 - UL 1741 SA Certification (with reference to IEEE 1547-2018 2nd ed.).
- 3. Attach to application the product data specification sheets.**
- 4. Submit the Application and supporting documents through the ESS Portal:**
<https://energystoragect.com/new-technologies-request-application/>.

ALL EQUIPMENT MUST INTEGRATE WITH THE APPLICABLE DISTRIBUTED ENERGY RESOURCE MANAGEMENT SYSTEM (DERMS/DRMS) PLATFORM TO RECEIVE FINAL APPROVAL.

BATTERY ENERGY STORAGE SYSTEM (BESS) MANUFACTURER INFORMATION

BESS Manufacturer Name:			
Contact Name:			
Address:			
	<i>Street, City, State, Zip</i>		
Phone:		Email:	

*Program Administrators reserve the right to request additional and new certifications as they become available in the markets. All certifications must be current.

BESS OPERATOR INFORMATION (if different than Manufacturer listed above)

Battery Operator Name:			
<i>Provides "last mile communication" to and from battery.</i>			
Contact Name:			
Address:			
		<i>Street, City, State, Zip</i>	
Phone:		Email:	

BATTERY ENERGY STORAGE SYSTEM (BESS) INFORMATION

Are you requesting approval for a BESS?		Yes	No
Are you requesting approval for an Inverter only?		Yes	No
Name of Company Submitting Application:		Applicant Contact Name:	
Applicant Email/ Phone Number:		Date Application Submitted:	

New or Existing?	New		Existing	
Residential and/or Commercial Class Equipment?	Residential		Commercial	Both residential and commercial
Is the Proposed Equipment Commercially Available?	Yes	No	If no, date Equipment will be Commercially Available:	

**Complete the section below for the BESS.
Please attach all specification data sheets for all BESS and Inverters in this Application.**

BESS Model Name(s) / Number(s)			
Description			
Nameplate Power (kW)			kW
Nameplate Energy Capacity (kWh)			kWh
Maximum Continuous Discharge Rate (kW)			kW
Nominal Voltage (V _{AC})			V _{AC}
Round Trip Efficiency (%)			%
Term of Warranty (Years)			Years

Additional Notes (optional)	
-----------------------------	--

Optional: Inverter Approval* (Must be submitted in conjunction with the BESS)		
Inverter Model Name(s) / Number(s)		
Description		
Single or Multi Phase	Single Phase	Multi-Phase
Output Voltage (V)		V
Maximum Continuous Current (A)		A
Maximum Continuous Power (kW)		kW
Additional Notes (optional)		

** Consideration for substitution of other inverters to be approved and used with the BESS*

Note: If you are submitting a BESS with multiple size or inverter configurations, all configurations must be included under the same UL listing(s). If any configuration is part of another UL listing, you must submit separate applications for those configurations.

ELIGIBILITY CRITERIA

This section will determine if the equipment:

1. Is capable of transmitting data to the appropriate DERMS/DRMS platform,
2. Has the capability of managing the Passive Dispatch requirements, **and**
3. Meets UL 9540, UL 1973 and UL1741 SA Safety certification requirements.

Responses to the questions in the sections below will determine if equipment meets the eligibility requirements.

Complete the questions based on the configuration(s) you are submitting for consideration.

NOTE: If the applicant system cannot meet certain criteria, please contact the Program Administrators to discuss possible solutions. Exceptions to certain requirements may be granted on a case-by-case basis.

COMMUNICATION CRITERIA

Part 1. Select Yes or No to each statement that describes the BESS' communication capabilities.

	<u>YES</u> System currently meets the requirement	<u>NO</u> System does NOT meet the requirement
1. Can the system receive a control signal from a remote management system or DERMS/DRMS and pass that control signal to the asset at the customer site?		
2. As part of the control signal, can the system at a minimum, communicate on a per event basis, start time, end time, and magnitude of discharge?		
3. Can the system dispatch and cancel/override an event if it receives notification from a DERMS/DRMS provider?		

Part 2. Select Yes or No to each statement that describes your commitment to the BESS' communication.

1. Is the company willing to commit to developing a communication pathway at their own expense to the DERMS/DRMS platform through an API integration?	Yes	No
2. For Residential BESS/Inverters, is the company capable of integrating using Open ADR Protocol?	Yes	No
3. For Commercial BESS/Inverters/RTUs, is the company capable of integrating using the DERMS/DRMS Vendor API Self Development Kit (SDK) for Concerto?	Yes	No

TELEMETRY REQUIREMENTS		
Select Yes or No to each statement that describes the BESS' telemetry capabilities.	<u>YES</u> System currently meets the requirement	<u>NO</u> System does NOT meet the requirement
1. The BESS can locally store telemetry data for a minimum of 2 weeks.		
2. The TPO/Operator/OEM will maintain cloud storage of telemetry data for a minimum of 6 months.		
3. Can the system measure and store 15-minute interval data (shorter intervals allowed) for all customer devices for the duration of the event?		
4. Can the BESS provide telemetry data to the DERMS/DRMS with interval data not to exceed 15 minutes and a latency not to exceed 15 minutes.		

SCHEDULING REQUIREMENTS - PASSIVE DISPATCH		
Passive Dispatch is a requirement of the Program for customers receiving upfront incentives. The battery operator (those responsible for “last mile” communication) will be responsible for meeting the Passive Dispatch criteria once notified by the EDCs via the DERMS platform prior to May 31st of each contract year.	<u>YES</u> System currently meets the requirement	<u>NO</u> System does NOT meet the requirement
1. The Program requires BESS to discharge the batteries down to 20% rated capacity Monday through Friday (except holidays) during the months of June, July, and August. The hours for discharge will be between the hours of 3PM and 8PM.		
2. The BESS discharge will be regulated to an even discharge over those 5 Passive Dispatch hours (Existing charge – 20% SOC)/5.		
3. Passive Dispatch capability requires battery operators to override Passive Dispatch events when Active Dispatch events are requested for those scheduled days. Also, Passive Dispatch will be overridden when requested by DERMS due to forecasted severe weather.		

WHAT HAPPENS NEXT?

1. After the Application and supporting documents (UL Certifications and Product Specification Sheets) are submitted, you will receive an email confirmation and status update as your Application is reviewed.
2. The Connecticut Green Bank will inform you of the decision, along with comments, to pre-approve or deny your system and participation as a BESS or Inverter Manufacturer or Battery Operator in the Program.
3. Application resubmittal guidelines are stated in the Program Manual.
4. If you would like to obtain more information, please email energystorage@ctgreenbank.com. [mailto:](mailto:energystorage@ctgreenbank.com)

ADDITIONAL INFORMATION

Please provide below (or as an attachment), any additional information you believe is required to support this application for technology approval.

GLOSSARY

TERM	DEFINITION
API	Application Programming Interface, which is a software intermediary that allows two applications to talk to each other
Eligible Equipment List	The Eligible Equipment List includes equipment that has been submitted to be included in the Energy Storage Solutions program. Final approval requires the equipment to be fully of integrated with the respective DERMS/DRMS platform (residential and/or commercial)
BESS Manufacturer	Battery Energy Storage System manufacturer as described in the Program Manual
DERMS/DRMS	The “Distributed Energy Management System” is the platform utilized by the Electric Distribution Companies to notify the Battery Operators of scheduled events requiring Battery Energy Storage System actions. DERMS is the Eversource platform and DRMS is the United Illuminating platform
EDCs	Electric Distribution Companies (Eversource Energy and The United Illuminating)
OpenADR	Open Automated Demand Response, provides a non-proprietary, open standardized demand response interface that allows electricity providers to communicate demand response signals directly to existing customers using a common language and existing communications
Program	Energy Storage Solutions is a program offered through the Program Administrators
Program Administrators	Collectively the Connecticut Green Bank, Eversource Energy, and The United Illuminating Company
Round Trip Efficiency	Round-trip efficiency is the percentage of electricity that can be put into storage and later retrieved
UL 1741 SA	Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, Supplement A for United Laboratories 1741 – Details safety requirements applicable to a variety of equipment for use in standalone or interactive power systems
UL 1973	Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications – A certification standard for batteries used for energy storage with a focus on the battery’s ability to withstand simulated abuse.
UL 9540	Standard for Energy Storage Systems and Equipment - As specified in the National Fire Protection Association (NFPA) 855, United Laboratories 9540 certifies the safety requirements for Battery Energy Storage Systems