Connecticut Energy Storage Solutions Program

NEW TECHNOLOGIES REQUEST APPLICATION REV. 2.0

Connecticut Energy Storage Solutions

All submitted information is public record. Do not submit any propriety or confidential information.

INSTRUCTIONS

Thank you for your interest in Connecticut Energy Storage Solutions (the Program). Please confirm the equipment is eligible for the Program by checking the Equipment Status List: https://energystoragect.com/submitted_ess_system_status_list/.

1. If the equipment is not on the Equipment Status List, or requires revision, complete the following:
    a. Obtain UL certifications from the Nationally Recognized Testing Laboratories (NRTL). These certifications and equipment data specification sheets must be provided with the *New Technologies Request Application* (Application).
    b. Complete the Application:
        - Equipment status will be based on your responses. Make certain to answer ALL questions.
        - A glossary of terms is located at the end of the Application.
2. All equipment must be able to integrate with the Distributed Energy Resource Management System (DERMS/DRMS) platform before projects are approved.
3. Submit the Application and supporting documents through the ESS Portal: https://energystoragect.com/new-technologies-request-application/.

BATTERY ENERGY STORAGE SYSTEM (BESS) MANUFACTURER INFORMATION

BESS Manufacturer Name:			
Contact Name:			
Address:			
	Street, City, State, Zip		
Phone:		Email:	

BESS OPERATOR INFORMATION (if different than Original Equipment Manufacturer)

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

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BATTERY ENERGY STORAGE SYSTEM (BESS) INFORMATION

Are you requesting approval for a BESS?		Yes ❒	No ❒
Are you requesting approval for an Inverter or Remote Terminal Unit (RTU) only?		Yes ❒	No ❒
Name of Company Submitting Application:		Applicant Contact Name:	
Applicant Email/ Phone Number:		Date Application Submitted:	

New or Existing?	❒ New	❒ Existing *(For Updating Purposes)*		
Residential and/or Commercial Class Equipment?	❒ Residential	❒ Commercial	❒ Both (Residential and Commercial)	
Is the Proposed Equipment Commercially Available?	❒ Yes	❒ No	Date Equipment will be Commercially Available:	

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

BESS Model Number:		
Description:		
Nameplate Power (kW):		kW
Nameplate Energy Capacity (kWh):		kWh
Maximum Continuous Discharge Rate (kW):		kW
Nominal Voltage (Vac):		Vac
Round Trip Efficiency (%):		%
Stated Term of Warranty		Years

Optional: Inverter Approval*
(Must be submitted in conjunction with the BESS)

Model Number:		
Single or Multi Phase:	❒ Single Phase	❒ Multi-Phase
Output Voltage (V):		V
Maximum Continuous Current (A):		A
Maximum Continuous Power (kVA):		kVA

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

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ELIGIBILITY CRITERIA

It is important to determine if a BESS Manufacturer's 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 and UL1741 SA Safety certification requirements.

- Responses to the questions in the sections below will determine if a system meets the eligibility requirements.
- Complete the questions based on the system you are submitting for consideration. Only submit one system per application.
- Attach product specification data sheets, and NRTL confirmations for UL 9540 Certification and UL 1741 SA Certification (with reference to IEEE 1547-2018 2nd ed.).

For residential batteries seeking to move forward with DERMS/DRMS integration, the DERMS/DRMS platform managers will provide guidance to battery operators with existing "light" integration on the transition process to "full" integration.

COMMUNICATION CRITERIA

Part 1. Select the best statement that describes the status of the BESS' communication.	**Yes** System currently meets the requirement	**No** 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 the response that best 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?	☐	☐
2. For Residential BESS/Inverters, is the company capable of integrating using Open ADR Protocol?	☐	☐
3. For Commercial BESS/Inverters/RTUs, is the company capable of integrating using the DERMS/DRMS Vendor API Self Development Kit (SDK) for Concerto?	☐	☐

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TELEMETRY REQUIREMENTS		
Select the best statement that describes the status of the BESS' telemetry capabilities.	**Yes** System currently meets the requirement	**No** System does NOT meet the requirement
1. The BESS will have the ability to 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.	**Yes** System currently meets the requirement	**No** 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.	☐	☐

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ELIGIBILITY CRITERIA - UL 9540 SAFETY CERTIFICATION		
1. Is the test lab a NRTL recognized by the Occupational Safety and Health Administration (OSHA)?	Yes ❒	No ❒
2. Is the UL 9540 certificate of compliance (or Authorization to Mark) from a NRTL and for the requested equipment model number(s)?	Yes ❒	No ❒
3. What edition of the UL 9540 standard is the equipment certified to?	Edition:	
4. Was the test equipment calibrated when the test was performed?	Yes ❒	No ❒
5. Is a specification sheet submitted for the requested model number?	Yes ❒	No ❒

ELIGIBILITY CRITERIA - UL 1741 SA CERTIFICATION (REF IEEE 1547-2018 2ND ED)**		
1. Is the test lab a NRTL whose Scope of Recognition under OSHA includes UL 1741 SA?	Yes ❒	No ❒
2. Identify the equipment that is certified to UL 1741 SA:		
3. Was the Volt-Var curve tested with *reactive power priority* enabled during testing in accordance with UL 1741 SA, Volt-Var (AS13)?	Yes ❒	No ❒
4. In which submitted document(s) does the *NRTL verify* that the Volt-Var test (SA13) was done with *reactive power priority* enabled?	Document: _____	Page: _____
5. Did the testing for UL 1741 SA include Frequency-Watt (SA14) and Volt-Watt (SA15) test procedures?	Yes ❒	No ❒
6. Did the testing for UL 1741 SA include Disable Permit Service (SA17) and Limit Active Power (SA18) test procedures?	Yes ❒	No ❒
7. Was the test equipment calibrated when the test was performed?	Yes ❒	No ❒
8. Have test report(s) for each model number been submitted to the EDCs?	Yes ❒	No ❒

*** Includes supporting UL 1741 SA Certification documentation with Application.*

WHAT HAPPENS NEXT?

1. After the Application and supporting documents (Product specifications and UL Certifications) are submitted, you will receive an email confirmation and status update as your Application is reviewed.

2. The EDCs 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 Guidelines for Energy Storage Solutions*.

4. If you would like to obtain more information, please email EnergyStorageSolutions@eversource.com or EnergyStorageSolutions@uinet.com.

ADDITIONAL INFORMATION

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

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GLOSSARY

TERM	DEFINITION
API	Application Programming Interface, which is a software intermediary that allows two applications to talk to each other
Equipment Status List	The Equipment Status 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 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 new 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	Supplement A for United Laboratories 1741, Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources
UL 9540	As specified in the National Fire Protection Association (NFPA) 855, United Laboratories 9540 certifies the safety requirements for Battery Energy Storage Systems