



Attestation 2C, 2B

Attestation of Electric Storage Operation limited to and in compliance with configurations as outlined in Energy Storage Guidance Document Two

Purpose of Attestation

Historically Distributed Energy Resources (DER) were assembled from discrete components or functional assemblies where the logic and operational approaches could be seen and analyzed. Today, much of the functionality is handled by an on-board computer following firmware and software instructions in order to achieve the desired results. To determine these actions requires extensive detailed review of the operating manuals and often inquiries with the manufacturer. Attestations are used to affirm the desired functionality is present in lieu of extensive and time consuming documentation interconnection reviews. An update to the firmware which modifies or adds operation modes or changes the required functionality is considered a facility modification and subject to a partial or full interconnection review as stated in the Interconnection Agreement, Section VIII.G. This applies to all sources, whether generators or energy storage. Guidance Document 2, Configurations 2B and 2C require an interconnection review. The attestation document will be included in and be a part of the Interconnection Agreement and subject to the Interconnection Agreement's remedies for non-compliance.

Definitions

"Parallel Operation of Energy Storage" — is considered a source operated in parallel with the grid when it is connected to the distribution grid and can supply energy to the customer simultaneously with the Company's supply of energy.

"Energy Storage Guidance Documents" — Guidance documents for the interconnection of electric storage based on agreed to terms from CO PUC Proceeding No. 15AL-0048.

Non-exporting configurations covered:

Energy Storage Guidance Document 2, Configurations 2B and 2C

2B Parallel Energy Storage With Renewable Generation, Net-Metering, with Export

2C Parallel Energy Storage With Renewable Generation, Net-Metering, with Storage Non-Export

Key requirements and functionality:

1. Energy storage operates in parallel with the grid.
2. Generation is renewable.
3. Revenue Metering is Net-Metering.
4. Production Metering is installed.
5. 2B may export to grid if the storage is 100% charged from on-site renewable generation.¹
6. 2C storage may not export to the grid.

The method of achieving #5 and #6, as applicable, must be fully illustrated in the online diagram or described below. Any aspect that is imbedded in equipment and governed by firmware will need attestation.

Declaration

I, (print name and title of installer/developer) _____

declare that the electric storage system identified below complies with the non-export (2C) or 100% renewable charged (2B) requirements as applicable. (Applicable sections of the Energy Storage Guidance Documents are those addressing Guidance Document 2, configuration 2B or configuration 2C.)

I further declare and/or agree that:

1. System software and programming that is required to meet the Energy Storage Guidance provisions are inaccessible and/or password protected, with access restricted to manufacturer/developer/installer. This may include locks or other physical security or other means of securing the settings; or as mutually agreed upon on a case-by-case basis and identified in this attestation.²

Installer/developer initials _____

2. Xcel Energy has the right to conduct an inspection to verify compliance at a later date if problems arise or other indications of possible non-compliance with the applicable Energy Storage Guidance Document provisions are present.

Installer/developer initials _____

¹ Charging must be 100% renewable energy. Any storage mixture of non-renewable energy disqualifies 2B from exporting. If the battery charging is not 100% renewable, the configuration may be used with non-export from the battery to the grid.

² If the Operating Mode cannot be secured to ensure continued operation in a 2B or 2C mode compliant manner, as applicable, the facility will require a full interconnection review that includes all operating modes that are selectable and establish operating restrictions and mitigations to cover all selectable modes.

Energy storage equipment details

This attestation covers the following electric storage system in whole or part as identified below:

Customer information

Name _____

Address _____ City _____ State _____ ZIP _____

Phone _____ Fax _____

Email* (Optional) _____

*By providing your email address, you are granting Xcel Energy permission to send further emails regarding our programs and services.

Energy storage facility information

Facility name _____

Address _____ City _____ State _____ ZIP _____

Location _____ Premise _____

Customer ID _____

Energy storage equipment details**1. Battery type, part number**

Manufacturer	
Model numbers	
UL listings	
Energy capacity (kWh)	
Maximum current at AC terminals	
Frequency at AC terminals (Nominal)	
Real power, max continuous charge (kW)	
Real power, recovery charge rate after utility outage (kW)	
Real power, max continuous discharge (kW)	
Real power, peak output (kW)	
Peak output duration capability (Sec)	
Apparent power, max continuous for charging (kVA)	
Apparent power, peak during discharge (kVA)	
Peak output duration capability (Sec)	
Power factor output range (+/- range)	+/-
Power factor capability at full-rated real power (+/- range)	+/-
Charging: using rectifier or inverter	
Charge rate kW (Maximum continuous)	
Charge rate kW (Recovery charge rate)	
Firmware version	
Operating modes available	
Operating modes enabled	

2. Additional energy storage hardware: description, model and part number and general specifications.

Model numbers	
Model names	
UL listings	
Firmware version	

Signatures**Installer or developer**

I, (print name and title of installer/developer) _____

certify that I have personal knowledge of the facts stated in this Attestation and have the authority to make this Attestation on behalf of the customer.

I further certify that all of the statements and representations made in this attestation are true and correct.

Installer/developer signature _____ Date _____

Residential customers

I, (print name of customer) _____

authorize the above identified Installer/Developer to represent the declarations in this attestations on my behalf and will operate and maintain the system within the requirements set forth in this attestation for the life of the system.

Customer signature _____ Date _____