

PowerClerk Trade Ally Battery Guidance

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The purpose of this document is to provide guidance to solar trade allies on how best to manage solar + storage or storage-only applications in PowerClerk

Definitions:

PV System Details: The PV system feature captures both PV and battery information. All projects will include PV information unless it's an add-on battery installation, submitted via a Battery Storage Application.

System Details *

Inverter

Qty	Qty	Please select...
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PV Array [Delete Array](#)

Qty	Qty	Please select...
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Add Array

Add Battery

Add Inverter

System Rating:	Not yet calculated
Inverter Rating:	Not yet calculated
Estimated Annual Production:	Not yet calculated
Total Nameplate Energy Capacity (Storage):	Not yet calculated

Battery Energy Storage System: The BESS feature captures distinct inverter and battery storage configurations along with integrated energy storage systems. For storage-only projects, i.e., projects adding additional AC- or DC-coupled battery capacity to an existing qualifying solar project, the information will always be submitted using just the BESS feature.

Battery Energy Storage System ?

Add Integrated Energy Storage

Add Inverter and Battery

Total Nameplate Energy Capacity (Storage):	Not yet calculated
Total Max. Continuous Discharge Rate:	Not yet calculated
Total Nameplate Power:	Not yet calculated

AC-Coupled: The power from the PV array is converted into AC by an inverter and then back to DC for the battery. Most battery retrofits and microinverter projects are AC-coupled and should be submitted in PowerClerk using the PV system and BESS features in PowerClerk.

System Details *

Inverter

Qty: 25 | Enphase Energy | 0.3 kW (Model IQ8A-72-M-US (240V) [S11]) | Clone

Inverter Type: Solar
Efficiency Rating: 0.970

PV Array | Delete Array

Qty: 25 | Silfab | 430W (Model SIL-430QD) | Clone

PTC Rating: 0.4058

Tilt: 24 (0° to 90°) | Azimuth: 155 (0° to 359°) | Tracking: Fixed

Shading: % Solar Access (100 or blank = No Shading)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	34.0	31.0	59.0	91.0	98.0	99.0	99.0	96.0	79.0	41.0	34.0	34.0

Add Array | Add Battery | Add Inverter

System Rating: 10.75 kW DC / 9.841 kW CEC-AC | Calculate

Inverter Rating: 8.7 kW AC

Estimated Annual Production: 10569 kWh

Total Nameplate Energy Capacity (Storage): 0 kWh

Battery Energy Storage System

Integrated Energy Storage | Delete Integrated Energy Storage

Qty: 2 | Enphase Energy | IQBATTERY-5P-1P-NA | Clone

Maximum Continuous Discharge Rate: 3.84 kW AC

Nameplate Power: 3.84 kW AC

Nameplate Energy Capacity (Storage): 5.00 kWh

Battery Technology: Lithium Ion Phosphate

Add Integrated Energy Storage | Add Inverter and Battery

Total Nameplate Energy Capacity (Storage): 10.00 kWh | Calculate

Total Max. Continuous Discharge Rate: 7.68 kW AC

Total Nameplate Power: 7.68 kW AC

DC-Coupled: DC-coupled systems have batteries charged by the same inverter to which the PV array is connected. DC-coupled systems are submitted in the PV system feature with either an energy storage system that includes an integrated BESS “[ESS]” (Example #1, below), or a non-integrated battery(Example #2, below).

Example #1: DC-coupled with an integrated energy storage system

System Details *

Inverter

Qty: 1 Tesla 11.5 kW (Model 1707000-XX-Y (11.5kW)) [ESS] iClone

Inverter Type: Energy Storage System
Nameplate Energy Capacity (Storage): 13.50 kWh
Efficiency Rating: 0.970

PV Array Delete Array

Qty: 12 Silfab 430W (Model SIL-430HU) iClone

PTC Rating: 0.4045

Tilt: 2 Azimuth: 180 Tracking: Fixed

(0° to 90°) (0° to 359°)

Shading % Solar Access (100 or blank = No Shading)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Add Array
Add Battery
Add Inverter

System Rating: 5.16 kW DC / 4.708 kW CEC-AC
Inverter Rating: 11.5 kW AC
Estimated Annual Production: 5709 kWh
Total Nameplate Energy Capacity (Storage): 13.5 kWh

Calculate

If there are multiple energy storage systems, the configuration in PowerClerk will be dependent on how the system is designed. Please verify that the Inverter Rating (##. # kW AC) is correct and matches the design.

Example #2: DC-coupled with a hybrid inverter with nonintegrated BESS

System Details *

Inverter

Qty: 1 Savant System 12.4 kW (Model PS-INV-12.5KW-60A-XX (240V)) [SI1] iClone

Inverter Type: Hybrid
Efficiency Rating: 0.950

PV Array Delete Array

Qty: 12 Silfab 430W (Model SIL-430HU) iClone

PTC Rating: 0.4045

Tilt: 2 Azimuth: 180 Tracking: Fixed

(0° to 90°) (0° to 359°)

Shading % Solar Access (100 or blank = No Shading)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Add Array

Battery Delete Battery

Qty: 1 Savant Systems PS20-12.5KW-100A-XX iClone

Nameplate Energy Capacity (Storage): 20.00 kWh
Battery Technology: Lithium Iron Phosphate

Add Battery
Add Inverter

System Rating: 5.16 kW DC / 4.611 kW CEC-AC
Inverter Rating: 12.4 kW AC
Estimated Annual Production: 5516 kWh
Total Nameplate Energy Capacity (Storage): 20 kWh

Calculate

Best Practices:

- Ensure that all new equipment is captured in PowerClerk, including microinverters, if applicable, in a DC coupled system
- If a solar + storage system includes microinverters and an add-on battery that's integrated, the system is AC-coupled and the energy storage system needs to be added in the BESS feature.

- The PV system element will only allow you to add battery storage to a DC-coupled system. Everything else will need to be added through the BESS features in PowerClerk.
- Ensure that the total battery nameplate capacity and the battery nameplate power are clearly labeled on the One-Line and match Total Nameplate Capacity (Storage) and other fields in PowerClerk.

Pro Tips:

- No need to scroll to find equipment in the drop-down feature in the PV System Specification or BESS. Instead, type the beginning of a manufacturer or model, and PowerClerk will populate.
- Utilize the “clone” feature to duplicate PV Arrays.

System Details *

Inverter

Qty: 1 | Tesla | 11.5 kW (Model 1707000-XX-Y (11.5kW)) [ESS] | Clone

Inverter Type: Energy Storage System
Nameplate Energy Capacity (Storage): 13.50 kWh
Efficiency Rating: 0.970

PV Array Delete Array

Qty: 12 | Silfab | 430W (Model SIL-430HU) | Clone

PTC Rating: 0.4045

Tilt: 2 (0° to 90°) | Azimuth: 180 (0° to 359°) | Tracking: Fixed

Shading % Solar Access (100 or blank = No Shading)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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PV Array Delete Array

Qty: Qty | Silfab | 430W (Model SIL-430HU) | Clone

PTC Rating: 0.4045
This field is required.

Tilt: | Azimuth: | Tracking: Fixed

- The highlighted section at the end of the inverter indicates that it’s a “smart inverter” with SI.

System Details *

Inverter

Qty: 1 | Tesla | 11.5 kW (Model 1707000-XX-Y (240V, 11.5kW)) [SI1] | Clone

Inverter Type: Hybrid
Efficiency Rating: 0.975

- If there is no shading to record during a month on a PV Array, you can leave the cells for the month blank, and the PV system feature will default to 100% solar access (see example 2, above).

Additional Notes:

- All PV equipment data is sourced from the California Energy Commission’s (CEC) approved equipment lists. The CEC updates their equipment list three times a month, on the 1st, 11th, and 21st day of the month (or the following business day). The equipment lists in PowerClerk are updated the following business day.
- BESS equipment options in PowerClerk do NOT mean the battery energy storage system has been approved. Energy Trust [maintains a pre-qualified list of battery](#)

[energy storage systems](#). If you have questions about this list, or would like a battery to be added to the list, please email the following to your Energy Trust Account Manager:

- The battery spec sheet
- Warranty information
- Installation manual
- UL certification from NRTL

It can take up to one month for the team to review a battery, so please plan accordingly.

- If you have questions on how a solar + storage system should be entered into PowerClerk, email your Account Manager.