

## DOCKETED

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<b>Project Title:</b>	2019 Building Energy Efficiency Standards PreRulemaking
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*Comment Received From: Catherine Hackney*

*Submitted On: 10/30/2017*

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## **SCE Comments and Redlines on 2019 Title 24 Standards**

Please accept SCE's comments and redline edits on the 2019 Title 24 Standards (1 of 2 documents)

*Additional submitted attachment is included below.*

## **DOCKETED**

Docket Number: 17-BSTD-01

Project Title: 2019 Building Energy Efficiency Standards PreRulemaking

TN#: 221256

Document Title: Draft 2019 Standards Joint Appendix 11

Description: Draft version of Joint Appendix 11 for the 2019 Standards update.

Filer: Adrian Ownby

Organization: California Energy Commission

Submitter Role: Commission Staff

Submission Date: 9/20/2017 2:57:57 PM

Docketed Date: 9/20/2017

# Joint Appendix JA11

## Appendix JA11 – Qualification Requirements for Battery Storage System

### JA11.1 Purpose and Scope

Joint Appendix JA11 provides the qualification requirements for battery storage system to meet the requirements for energy storage compliance credit(s) available in the performance standards set forth in Title 24, Part 6, Sections 150.1(b), 140.1(a)2 and 140.1(b)3. The primary function of the energy storage system ~~claiming compliance credits~~ is daily cycling for the purpose of load shifting and/or solar self-consumption. ~~It can be used as a standalone system, or in combination with an on-site photovoltaic system.~~

### JA11.2 Qualification Requirements

To qualify as an energy storage system for use for compliance with applicable performance compliance credits, the energy storage system shall be certified to the Energy Commission according to the following requirements: Energy storage systems shall meet the utility interconnection requirements (as defined by Rule 21 for Investor Owned Utilities), such as smart inverter certification.

#### JA11.2.1 Safety Requirements

The battery ~~modules of the~~ storage system shall ~~be tested in accordance~~ comply with the requirements given in UL1973 and ~~appropriate xxx and inverter certification as required by interconnection standards, and all other applicable tariffs, regulations, and codes.~~

#### JA11.2.2 Minimum Performance Requirements

The battery storage system should meet or exceed the following performance specification:

- (a) Usable capacity of at least 6 kWh.
- (b) Continuous charging and discharging rate of at least 4 kW.
- (c) Round-trip efficiency of at least 85 percent.
- (d) Energy capacity retention of 80-70 percent of the usable capacity based of a system energy throughput equivalent to after 4,07-500 cycles (at the usable capacity), and not exceeding 15 years of operation.

#### JA11.2.3 Control Requirements

##### JA11.2.3.1 General

The requirements in this section are applicable to all control strategies.

- (a) The battery storage system shall have the capability of being remotely programmed to change the charge and discharge periods. Also, the battery storage system shall allow the occupant to program the charge and discharge periods. At the minimum, the system shall be capable to program a summer schedule and a winter schedule.
- (b) During discharge, the battery storage system shall be capable of being programed to first-only meet the electrical load of the dwelling. If during the discharge period the electrical load of the dwelling is less than the maximum discharge rate, the battery storage system may shall be capable of being programmed to discharge energy into the grid.
- (c) Should the occupant initiate an override to backup mode, such selection will expire in no more than a 24-hour period and the operation mode shall return to default.

**Commented [RH1]:** At present, SCE does not believe that compliance credit should be provided for stand-alone battery storage systems. Unlike thermal energy storage systems which are installed in building for the single purpose of load shifting, there is insufficient evidence to know what the actual use battery storage systems will be. Refer to our response to CEC question #3 that was posed at the October 13, 2017 CEC-IU meeting. Note that SCE is not precluding or prohibiting the installation of batteries that are in compliance with applicable interconnection tariffs and other regulations and codes.

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**Commented [RH2]:** Is this based upon manufacturer's claims? To our knowledge, there is no test standard nor efficiency standard for batteries at this time.

**Commented [RH3]:** These reflect the edits from the October 4 & 5, 2017 CEC public workshop.

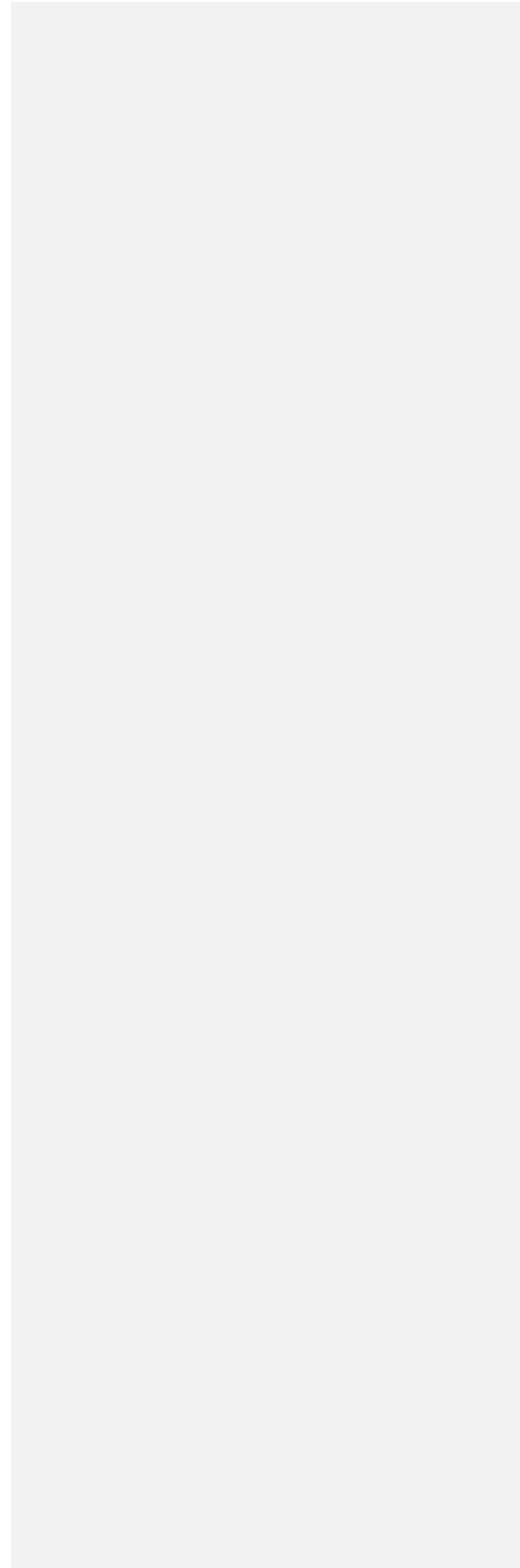
**Commented [RH4]:** This cannot be limited to only the home owner/occupant; there will also need to have capabilities for an aggregator or some other 3<sup>rd</sup> party to be able to remotely program the battery system upon written consent by the owner/occupant.

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**Commented [RH5]:** These reflect the edits from the October 4 & 5, 2017 CEC public workshop.

**Commented [RH6]:** How will this be enforced? Will there be acceptance test requirements?

**Commented [RH7]:** This should align with the similar requirements of JA5



**JA11.2.3.2 Basic Control Capabilities**

To qualify for the Basic Control, the battery storage system shall be shipped in the default operation mode to allow charging only from an on-site photovoltaic system when the photovoltaic system production is greater than the on-site electrical load. The battery storage system shall discharge when the photovoltaic system production is less than the on-site electrical load. System shall discharge to the grid as allowed by applicable interconnection tariffs and/or otherwise applicable program.

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**JA11.2.3.3 Advanced Control Capabilities**

To qualify for the Advanced Control, the battery storage system shall allow charging only during off-peak hours, and begin discharging only during the peak hours. The operation schedule shall be preprogrammed from factory, updated remotely, or programmed during the installation of the system.

**JA11.2.3.4 Demand Response Control**

~~To qualify for the Battery systems shall be capable of Demand Response Control, the battery storage system shall be controlled by the local utility or third-party aggregator as part of a demand response program, in conformance with the specifications described in this section. [The remainder of this section should be aligned with on Appendix JA5 –Technical Specifications For Demand Responsive Thermostat.]~~