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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 is daily cycling for the purpose of load shifting and/or solar self-consumption. It can be use 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:

JA11.2.1 Safety Requirements

The battery storage system shall be tested in accordance with the requirements given in UL1973 and xxx.

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 percent after 7,500 cycles

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 period. 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 programed to first 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 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.

JA11.2.3.2 Basic Control

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.

JA11.2.3.3 Advanced Control

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 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.