Energy Storage Field Inspection and Discharge Testing Protocol

Pre-Inspection Discharge Data
Prior to the inspection, the Program Administrator (PA) will require documentation demonstrating system performance:

1. Over the course of one week; and
2. Over the duration specified on the application for a full, uninterrupted system discharge

One-Week of Operational Data
The following information must be provided to the PA:

a. A unique system identifier (e.g., battery/system serial number or MAC address)
b. Interval data (no greater than 15 minutes) with the following information for each interval recorded over the test period:
   • Date and time stamps
   • kW and/or kWh1 charged and discharged or offset
   • State of charge
c. The inspector will verify standby, charging and discharging modes, and, if coupled with wind generation, will verify if the energy storage system is able to handle hundreds of charge-discharge cycles daily.

Continuous Discharge Test
The PA will require either option 1 or option 2 below to satisfy the continuous discharge testing requirement. For either option, the data must include a unique system identifier, interval data (no less than 1 minute and no greater than 15 minutes) with date and timestamps, kW and or kWh2 and state of charge for each interval recorded over the test period.3

1) Field Test: Continuous4 discharge test of the system located at the SGIP project site, measuring actual energy storage system output over the discharge duration specified on the application. The continuous discharge field test is to be completed by the project developer, System Owner or Host Customer prior to the field verification visit.

2) Factory Test: For battery systems, manufacturer and/or system integrator continuous discharge test report of the same make and model as the unit(s) inspected in the field must be provided. Factory report must also include description of testing approach or methodology and location of test.

1 For AC-based systems, kWh must be measured on the AC connection.
2 If kW or kWh data is not available then voltage and current should be provided.
3 Data will be used to establish the average capacity of the energy storage system.
4 Continuous discharge means discharging at its rated capacity from the fully charged state without charging over the discharge duration specified on the application documentation and equipment specifications.
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The results of the continuous Field or Factory discharge test over the specified discharge duration must be within +/- 5% of the SGIP incentivized capacity in the incentive claim documentation. Projects yielding test results outside of the +/- 5% threshold are subject to capacity and incentive adjustments and may be subject to additional eligibility requirements.

Pre-Inspection Verification

Applicants must ensure the following numbered items prior to the on-site field inspection visit.

1. Verification that all necessary equipment information (e.g., make, model, kW and/or kWh capacity, etc.) is easily visible either from the outside or on the interior of the system at the time of inspection. If access to the interior of the system is necessary, a qualified technician must be present to facilitate verification.

2. Verification that the energy storage system is configured to operate in parallel with the grid, load shave, and serve on-site load by supplying one or more of the following:
   a. Reviewing the Interconnection Agreement or Permission to Operate letter (if applicable)
   b. Charge and discharge data for the unit installed and comparison to interval data from the utility
   c. Securing a copy of the electrical single line diagram for the project and using it to verify against the field connection during the inspection
   d. Requesting that there be a field technician at the site inspection with a user interface such as a laptop to demonstrate parallel operation during the inspection

Field Inspection

The inspections will be conducted by parties responsible to the PAs, either PA employees or inspectors contracted to the PAs. The inspector will visually inspect the system to verify the device(s) can service onsite load, can operate in parallel with the grid, and meets SGIP technical eligibility requirements. The inspector will also confirm the energy storage system equipment is permanently installed and is of the same make, model, capacity, and configuration as that specified in the application documentation. While on-site during the inspection, the inspector may be required to witness a discharge demonstration of the system, performed on-site or remotely by the project Developer, System Owner or Host Customer.

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5 If there is additional generation onsite behind the same meter as the energy storage system, the inspector may confirm relevant equipment information of the generator(s) (e.g., type, fuel, capacity, make, etc.).
6 Applicants will be informed prior to the inspection should the inspector be required to witness a discharge demonstration. Physically disconnecting the system from the grid in order to demonstrate a discharge does not satisfy this requirement.