

Equipment Listing Request Instructions for Inverter- or Energy Storage System (ESS)-Based Power Control System (PCS)

General Guidance for PCS Information:

- At this time, the Energy Commission **only** accepts and reflects PCS¹ functionality integrated into inverter or ESS equipment.
- The “Request Form for Inverter- or ESS-Based PCS¹” can ONLY be used in conjunction with the [Inverter Request Form](#) or the [ESS Request Form](#), and must be submitted by the Inverter or ESS manufacturer, as applicable.
- Submitting this information is not mandatory.
- In addition to the requirements in this document, all the requirements in the [Inverter](#) or [Energy Storage System](#) instructions must also be followed (as applicable to the requested equipment type).
- Reports and documents must be written in English.
- Submit all the required documentation **in a single email**. Incomplete requests will be rejected and will lose their place in the review queue; a complete request must then be resubmitted.
- Requests containing falsified reports or altered forms will be rejected. The equipment may be permanently prohibited from inclusion on the list, and the manufacturer permanently prohibited from having equipment listed.
- **Data and information submitted to the Energy Commission are public record. Do not submit any proprietary or confidential information. Proprietary or confidential information on required documents must be redacted or omitted prior to submission.**
- **NOTE:** The inverter or ESS model number(s) must be listed on the respective list in order to reflect additional PCS-related information on the supplemental list.
 - **However,** if the inverter or ESS is **NOT** listed, a complete [Inverter Request Form](#) or [ESS Request Form](#) is required, and may be submitted prior to or concurrently with the request to include PCS information.
 - Refer to the [Inverter](#) and [Energy Storage System](#) instructions for more detail.
 - The request to include PCS information will be rejected if the inverter or ESS is either not listed or not concurrently requested and approved for listing.

¹ PCS: Power Control System. ESS: Energy Storage System.

Document Requirements for Inverter- or ESS-Based PCS

Required Request Documents

The inverter or ESS manufacturer submits the listing request **in a single e-mail** to SolarEquipment@energy.ca.gov. Include a subject line stating the purpose of the equipment request (new or revised), the equipment type (Inverter or ESS), and the manufacturer's name. Attach to the e-mail all required documentation:

- a) Inverter or ESS Listing Request Form, as applicable.²
- b) [Request Form for Inverter- or ESS-Based PCS](#).
- c) Nationally Recognized Testing Laboratory (NRTL) safety certification(s)² for:
 - **Inverter model numbers:** UL 1741 including Supplement SA, or UL 1741 including Supplement SB, from a NRTL whose OSHA Scope of Recognition includes UL 1741.³
 - **ESS model numbers:** UL 9540 from a NRTL.
- d) **For Inverter model number(s) utilizing UL 1741 Supplement SA:** UL 1741 Supplement SA test report or test summary, from a NRTL whose OSHA Scope of Recognition includes UL 1741.
- e) UL 1741 CRD/UL 3141⁴ test summary from a NRTL whose OSHA Scope of Recognition includes UL 1741.
- f) Manufacturer's equipment information and instructions documents, as required in UL 1741 CRD⁴, Section 208; or UL 3141, Section 11 (Based on the utilized testing protocol).
- g) Additional supporting documentation, as required by Energy Commission staff. Please note that submitted information is public record; do not submit any proprietary or confidential information.

² Refer to the Inverter and Energy Storage System (ESS) instructions for more detail.

³ A current list of NRTLs approved by OSHA, along with their recognized scopes, can be found on the OSHA website.

⁴ The UL 1741 Certification Required Decision (CRD) for Power Control System (PCS) functionalities. Additionally, the UL 3141 standard can be utilized to test PCS functionalities.

NOTE: If the tests are done with accordance to the UL 3141 standard, then the NRTL-issued test report summary must indicate both UL 3141 and UL 1741 PCS CRD references in the applicable standard(s) section of the test report document.

Minimum Criteria for UL 1741 CRD/UL 3141⁴ Test Report Summary

The test report(s) must meet the requirements outlined below.

- a) Signed or stamped and dated by NRTL whose OSHA Scope of Recognition includes UL 1741.
- b) Indicates the UL 1741 CRD for PCS functionality.
 - If the tests are done with accordance to the **UL 3141** standard, then the NRTL-issued test report summary document must indicate **both** UL 3141 and UL 1741 PCS CRD references in the applicable standard(s) section of the test report document.
- c) Specifies the requested model number(s) it is applicable to.
- d) Defines all the wildcards in the requested model number(s).
- e) Specifies all the additional devices required and tested for PCS functionality.
 - Defines all wildcards in the model number of any required additional devices.
- f) Specifies the ESS Operating Modes that were tested, when applicable.
- g) Clearly specifies the maximum open loop response time value for each of the confirmed applicable ESS Operating Mode.

Minimum Criteria for the Manufacturer's Equipment Information and Instructions Document

The submitted document must meet the requirements outlined below.

- a) Issued by the inverter or ESS manufacturer.
- b) Submitted on company letterhead.
- c) Includes all the requested model number(s).
- d) If the tests are done with accordance to the **UL 1741 PCS CRD** standard, then the submitted instruction document must include all the required information specified in the UL 1741 CRD, Section 208.
 - If the tests are done with accordance to the **UL 3141** standard, then the submitted instruction document must include all the required information specified in the UL 3141, Section 11.
- e) Identifies the equipment's "current measurement reference point".

Instructions for Completing the Request Form for Inverter- or ESS-Based PCS

Download the latest version of the [Inverter or ESS-Based PCS Request Form](#). Complete all boxes and fields or explain in the Request Form Notes why a field is not applicable.

- a) Identify if the PCS information belongs to inverter or ESS model number(s).
- b) Enter the information for any additional devices necessary for PCS functionality.
These devices should be listed in the submitted UL 1741 CRD test report summary (or the submitted UL 1741 CRD/UL 3141 test report).
- c) In the "UL 1741 CRD/UL 3141 Test Report Summary" section, only tested ESS Operating Modes can be marked as "YES". All the entered data in this section must be verifiable by the submitted PCS test report summary document.
- d) All the entered data in the "Manufacturer's Equipment Information and Instructions" section must be verifiable by the submitted document.
- e) Provide any additional information to further explain or clarify the request in the "Notes" section. Accurate and detailed notes will help prevent the need for clarification and ensure timely processing of the listing request without further delays.

FAQs

1. What if I want my equipment to be listed under a different manufacturer name or model number from the name on my certification?

The manufacturer name and the equipment model number(s) must match the data in the Grid Support Inverter List or Energy Storage System List, as applicable.

2. Can I list my PCS Equipment if it is not part of an inverter or ESS equipment?

No. For the time being, the CEC will only reflect information for PCS integrated into inverter or ESS equipment on the Solar Equipment Lists.

3. Why is there a separate list for PCS information?

Although the reflected PCS information is included in a separate Excel file, this list only provides supplemental information for inverter or ESS model numbers already included on the respective list. To keep all the PCS data together in one place, CEC staff created a supplemental excel file to reflect the PCS information.

4. Why should I provide an inverter or ESS request form and documents, if I only want to list PCS information?

As mentioned in FAQ #3, PCS information is only included for inverter or ESS equipment. Therefore, all the documents normally required for listing inverter or ESS equipment must be provided, as outlined in the SB 1 Guidelines and applicable instructions.

5. How do I know my request has been received?

The Energy Commission sends a confirmation email upon receipt of an equipment listing request. A unique request ID number ("R number") will be assigned to each request and will be included in the confirmation email.

6. What if I have questions or need updates on my request?

You can contact the Solar Equipment Contact Center at (916) 654-4120 or SolarEquipment@energy.ca.gov for any equipment listing questions. Please reference your "R" number to help Energy Commission staff identify the specific request. Manufacturers also receive email notifications from the Energy Commission when the status of a request changes or decisions (acceptance, clarification needed, or rejection) are made.

7. How does the Energy Commission process my request?

Requests are processed on a first-in, first-out basis, and involve a 2-phased process: Phase 1 consists of an administrative screening, and Phase 2 consists of a technical evaluation. Only those requests that pass administrative screening will be reviewed for technical evaluation. Requests that are complete and accurate on their first submission take typically no more than 45 days to be approved from the date the request was received. If clarification or additional information is required, or the request is rejected because of omissions or deficiencies, the Energy Commission will typically notify the manufacturer within 30 days. Requests that require clarification will take longer to process than complete and accurate requests and may take significantly longer than the 45-day timeline to finalize the review and posting of approved equipment on the Energy Commission's Solar Equipment Lists. The Energy Commission updates the solar equipment lists three times a month, typically on the 1st, 11th, and 21st of the month, or the first business day thereafter.