Changes to the Inverter and Energy Storage System Lists: UL 1741 3rd Edition inclusive of Supplement SB

California Energy Commission
Training presented by the Renewable Energy Division's Solar Equipment Lists Team
March 2022
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3. Changes to Grid Support Inverter & Energy Storage Systems List
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The Solar Equipment Lists

- Developed under California Senate Bill 1 (SB1) establishing criteria and standards for solar incentive programs under the California Solar Initiative.

- Includes solar equipment that meets established national safety and performance standards.

- Provides information and data that support solar incentive programs, utility grid connection services, consumers, and state and local programs.
What’s New?

• New tests for advanced functionalities – **UL 1741 3rd edition inclusive of Supplement SB**

• Changes to Grid Support Inverter List and related forms and instructions
  • Changes to Grid Support Inverter List
  • Request Forms & Instructions

• Changes to Energy Storage System List related forms and instructions
  • Changes to Energy Storage System List
  • Request Forms & Instructions
Changes to Grid Support Inverter & Energy Storage Systems List
Criteria for the Submitted Safety Certificate Document

The UL 1741 (including Supplement SB) certification document must meet the following criteria:

- Signed or stamped and dated by NRTL whose OSHA Scope of Recognition includes UL 1741.
- Indicates the UL 1741 (3rd Edition) standard including Supplement SB, as well as Source Requirement Documents (SRDs) for the test (e.g., compliance with California Rule 21).
- Specifies the requested model number(s) certified.
- Defines all the wildcards in model number(s).
- Specifies inverter type is “Grid Support Utility Interactive”.

CEC Solar Equipment Lists Webpage
Changes to the Grid Support Inverter Listing Request Form

Safety Certification to UL 1741 (including Supplement SB)

Is the test lab a Nationally Recognized Testing Laboratory (NRTL) whose Scope of Recognition under the Occupational Safety and Health Administration (OSHA) includes UL 1741? 

YES ☐ NO ☐

Is the UL 1741 certificate of compliance (or Authorization to Mark) from a NRTL and for the requested inverter model number(s)?

YES ☐ NO ☐

Does the UL 1741 certificate of compliance for the requested inverter model number(s) include Supplement SB (UL 1741.3rd Edition must be utilized)?

YES ☐ NO ☐

Was compliance with the current California Rule 21 Source Requirement Document (SRD) confirmed by the tests?

YES ☐ NO ☐

Identify compliance with any other SRDs:

Does the UL 1741 certificate of compliance for the requested inverter model number(s) mention compliance with IEEE 1547.2018 and IEEE 1547.1:2020 standards?

YES ☐ NO ☐

Was the test equipment calibrated when the test was performed?

YES ☐ NO ☐
## Changes to the Energy Storage System Listing Request Form

### UL 1741 Safety Certification including Supplement SB (Optional)

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the test lab a Nationally Recognized Testing Laboratory (NRTL) whose Scope of Recognition under the Occupational Safety and Health Administration (OSHA) includes UL 1741?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Identify the equipment that is certified to UL 1741</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If certification is for an inverter, the model number* of the inverter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the UL 1741 certificate of compliance for the requested inverter model number(s) include Supplement SB? (UL 1741-3rd Edition must be utilized)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Was compliance with the current California Rule 21 Source Requirement Document (SRD) confirmed by the tests?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>o Identify compliance with any other SRDs:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the UL 1741 certificate of compliance for the requested inverter model number(s) mention compliance with IEEE 1547:2018 and IEEE 1547.1:2020 standards?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Was the test equipment calibrated when the test was performed?</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
Utilizing Comparable SB Tests to Reflect SA Information

<table>
<thead>
<tr>
<th>Function/Test</th>
<th>UL 1741 Supplement SA Section</th>
<th>UL 1741 3rd Edition Supplement SB Section*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA8-Anti-Islanding</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA9-Low and High Voltage Ride-Through</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA10-Low and High Frequency Ride-Through</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA11.2-Normal Ramp Rates</td>
<td>Tested</td>
<td>N/A</td>
</tr>
<tr>
<td>SA11.4-Soft-Start Ramp Rates</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA12-Specified Power Factor</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA13-Volt/Var Mode</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA14-Frequency-Watt</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA15-Volt-Watt</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA17-Disable Permit Service</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
<tr>
<td>SA18-Limit Active Power</td>
<td>Confirmed</td>
<td>Tested</td>
</tr>
</tbody>
</table>

*In compliance with the comparable IEEE 1547.1(2020) section.
Latest versions of the lists, listing request forms, and instructions are accessible from the Grid Support Inverters and Energy Storage Systems sections identified on the CEC’s Solar Equipment Lists webpage.
For additional information, please contact the Solar Equipment Contact Center at

(916) 654-4120
or
SolarEquipment@energy.ca.gov

Thank You!