



Changes to UL 1703 Fire Rating Classification

Technical Bulletin

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Background

In October 2013, UL updated its 1703 Standard for Flat-Plate Photovoltaic (PV) Modules and Panels. As stated by UL within the standard, “The revisions dated October 25, 2013 were issued to incorporate revisions to the fire rating tests for PV modules and panels.” In turn, building codes, such as the 2013 California Building Standards Code (CBC), were updated to comply with the new UL 1703 standard.

The updated UL 1703 standard itself has an effective date of October 25, 2016. During this transition period, both the old and new method for UL fire ratings are recognized by UL. However, the updated building codes do not make this distinction, which has led to confusion. This technical bulletin hopes to clarify the situation.

Discussion

Prior to the 2013 update, UL 1703 stipulated that PV modules would receive a product fire rating of Class A, Class B, or Class C. Under the 2013 update, the PV module no longer carries a fire rating; instead, the PV module is “typed” based mostly on its bill of materials. The racking/mounting system will now carry a fire rating based on the results of testing conducted on the combination of the racking/mounting system and PV module type. In other words, the PV module type will be one of several inputs that determines the system’s rating. Therefore, under the new regime, it will no longer make sense to require a minimum PV module fire rating, which some building jurisdictions have mistakenly done in their attempts to incorporate the new fire rating change.

Confusion has arisen as UL has built in a transition period (from October 2013 to 2016) whereby it recognizes both the old and new regime, whereas at least a few updated building standards codes do not account for this transition period. For example, the 2013 CBC requires compliance with the new UL 1703 standard starting from an effective date of January 1, 2014. This is problematic because it will take time for the racking/mounting system manufacturers and module manufacturers to perform the necessary testing to conform to UL’s new regime.

To address this exact incongruity, California’s Office of the State Fire Marshal (OSFM) issued an Information Bulletin on February 14, 2014, stating that “to provide suitable time for the testing and listing of photovoltaic panels/modules [systems] to meet the current UL 1703 standard, the Office of the State Fire Marshal recommends that local authority having jurisdiction accept photovoltaic panels and modules having a Class C rating under the previous version of UL 1703 (2002 edition with revisions through April 2008) or UL 790 (2004 edition with revisions through October 2008).” The OSFM further announced that it is “presently developing emergency building standards to temporarily stay the effective date of CBC Section 1505.9 and CRC Section R902.4.”

Yingli Solar is in the process of converting to the new regime and is working with UL to have its modules “typed” as soon as possible. In the meantime, Yingli modules will stay aligned to the prior UL 1703 standard and maintain its Class C fire rating. We would reiterate the California OSFM’s request for authorities having jurisdictions to continue accepting this rating as before until our testing is completed.

The complete text of California State Fire Marshal’s Information Bulletin can be found at the link below:
<http://osfm.fire.ca.gov/informationbulletin/pdf/2014/IB14002PVFireClassification.pdf>

For more general information on the fire testing procedure for PV modules and the changes made to the testing standards, the following publication by Solar ABCs is a good source:
<http://www.solarabcs.org/about/publications/reports/flammability-testing/pdfs/SolarABCs-36-2013-1.pdf>

For any further questions, please contact your Yingli Solar sales associate.