

Solar ABCs Product Safety Panel Stakeholder Teleconference

March 24, 4pm - 5pm EDT (Conference Call)

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Solar America Board for Codes and Standards



Topics

- UL Fire Test Project
- Arc Fault Interrupter (AFCI) Requirements
- Status of UL 61730



UL Fire Test Project

- Meeting at UL to work through some of the test program details.
 - Phase 1 will include proof of concept testing, mostly with nonflammable mock modules.
 - This will give information on the shape of the flame in different installation geometries. The team will meet after the Phase 1 testing and then agree on the Phase 2 test plan.
 - Phase 2 will test actual PV modules based upon Phase 1 results.



Phase 1 Fire Test

- Initial 30 trials of “Proof of Concept Test” with steel PV module simulator to evaluate test parameters without burning modules.
 - Module to roof gap.
 - Distance from roof edge to leading edge of PV
 - Mounting rail orientation

This proof test program will help define the Phase 2 test program.



PV Arc Fault Interrupter (AFCI) Requirements

- 2011 NEC Proposal Passed Proposal Ballot.
- UL PV AFCI Ad Hoc Meeting Early April 09
 - Series vs parallel arc detection
 - Location of the PV AFCI within the PV wiring system
 - Test circuit
 - UL1699 Draft Outline of Investigation for PV AFCI
 - Arc Signature measurements
 - Testing possible PV arc hazards
 - » arc fault detection tests,
 - » unwanted tripping tests,
 - » operation inhibition tests



Status of UL 61730

- Critical issues
 - PV Plastics issues need to be addressed first.
 - We are gathering and evaluating PV module operating field temperature data and using an existing UL746C program to reduce or remove the +20C that is applied to all PV plastics.
 - UL Subject 5703 expansion to include encapsulants. PV module component plastics evaluations can help reduce PV module testing
 - Working with NREL to develop Module test programs to evaluate complete modules for long term polymeric properties.
 - These solutions will be proposed to the IEC WG2 as a revision to IEC 61730-1.



Thank you

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