New System Fire Class Rating Test in UL Standards

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Investigate whether and how the presence of standoff-mounted PV arrays may affect the fire class rating of common roof covering materials.
Finding

The fire classification rating of the PV module is NOT a good predictor of the fire class rating of the PV module and roof as a system.
Summary and Results to date

Flammability Testing of Standard Roofing Products In the Presence of Standoff-mounted Photovoltaic Modules

Report is available at: http://www.solarabcs.org/flammability/
Current Work

• UL 1703 Standards Technical Panel is considering a *system* fire classification rating to replace the current module fire classification rating.

• UL is conducting PV and roof material and component tests to begin the development of the new PV system fire classification rating.
UL 1703 Fire Rating Task Group

• Fire Rating Task Group established at STP meeting in December 2010.

• Proposal was drafted for group to review in March 2011.

• Proposal is shifting the UL 1703 standard from module test to system test to address 2012 IBC requirement. IBC does not apply to residential one- and two-family dwellings.
UL 1703 Fire Rating Proposal Highlights

• Create type classification of modules so that one test can represent all similar modules.

• Define typical roofs for tests: one for sloped roof tests and one for flat roof tests.

• Use critical radiant flux of PV module laminate and roofing materials to prove the characterizing tests are valid.

• Exempt systems with perimeter protection from burning brand test.
Status of Proposal

• Two Task Group meetings have been held this year.
• Proposal has been modified based on comments from Task Group and UL testing.
• Proposal will be presented to STP next week.
• If approved, UL 1703 will be updated in early 2012 so that manufacturers can begin testing to the new requirement.