



International Electrotechnical Commission
(IEC) is based in Geneva, Switzerland

Technical Committee 82

SOLAR PHOTOVOLTAIC ENERGY SYSTEMS

**The secretariat for TC 82 rests in the US. The
secretary is Howard Barikmo, of Sunset Technology, Inc.,
who is making this presentation.**

hbarikmo@aol.com



Standard writing is done through Working Groups:

- ‡ WG 1: Glossary
- ‡ WG 2: Modules, non-concentrating
- ‡ WG 3: Systems
- ‡ WG 6: Balance-of-system components
- ‡ WG 7: Concentrator modules
- ‡ JCWG: JCG TC 82/TC 88/TC 21/SC 21A



To find out what we do, go to www.iec.ch. Go toward bottom of page and click on **TC Dashboard**. In the **TC Dashboard** window, type in **82**, then click on **Submit**. That window will give you a menu with 8 options for you to navigate to your heart's content learning the TC 82 mission and its work. Some locations are only open to members of the US Technical Advisory Group of TC 82 (US TAG TC 82).



Working Group 1

The major “workhorse” standards published by TC 82 are (by Working Group):

WG 1 (Hidenori Shimizu)

IEC 61836 Solar photovoltaic energy systems –
Terms and symbols (Ed 3 should be published by
2011.)



Working Group 2

WG 2 (Dr. John Wohlgemuth)

IEC 61215 Ed. 2.0 Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval. (Ed 3 in process of being written.)

IEC 61646 Ed. 2.0, Thin-film terrestrial photovoltaic (PV) modules – Design qualification and type approval. (Ed 3 in process of being written.)



IEC 61730-1 Ed. 1.0, Photovoltaic module safety qualification – Part 1: Requirements for construction. (Am 1 & Ed 2 are being worked on.)

IEC 61730-2 Ed. 1.0, Photovoltaic module safety qualification – Part 2: Requirements for testing. (Am 1 & Ed 2 are being worked on.)

IEC 61853-1, Power and energy rating of photovoltaic (PV) modules – Power Rating. (In process of being written. Is in Committee Draft for Vote stage.)

IEC 61853-2, Power and energy rating of photovoltaic (PV) modules – Test Methods. (In process of being written. Submitted as Committee Draft.)



IEC 61853-3, Power and energy rating of photovoltaic (PV) modules – Energy Rating. (In process of being written—Committee Draft by spring 2010.)

A materials section is in process of being added to IEC 61730-1—or it may be published as a separate document.

A PV connector standard (using EN50251 as a base) is in the New Work Item Proposal stage.

TC 82 may also come out with international wafer and cell standards.



Working Group 3

WG 3 (Ted Spooner and Martin Cotterell)

IEC 61829 Ed.1 Crystalline silicon photovoltaic (PV) array - On-site measurement of I-V characteristics (Ed. 2 being written.)

IEC 62446 Ed.1: Grid connected PV systems - Minimum system documentation, commissioning tests and inspection requirements. **Published**



IEC 62253 Ed. 1.0, Equipment and safety specifications for direct coupled photovoltaic (PV) – pumping systems. (In process of being written—issued as Committee Draft.)

IEC 62548 Installation and Safety Requirements for Photovoltaic (PV) Generators. (In process of being written—issued as Committee Draft.)

Things in the wings? BIPV standard is almost in the NWIP stage

Large PV plants

System performance validation/evaluation



Working Group 6

WG 6 (Greg Ball and Vicente Salas)

IEC 62109-1 Safety of power converters for use in photovoltaic power systems – Part 1: General requirements (In Final Draft International Standard stage.)

IEC 62109-2 Safety of power converters for use in photovoltaic power systems – Part 2: Particular requirements for inverters (In Committee Draft for Vote stage.)



IEC 62109-3 Safety of power converters for use in photovoltaic power systems – Part 3: Controllers (In New Work Item Proposal stage.)

IEC 62116 Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters (Published)

A combiner box standard is in the New Work Item Proposal stage

An AC module standard is also in the New Work Item Proposal



Working Group 7

WG 7 (Dr. Robert McConnell)

IEC 62108 Ed. 1 Concentrator photovoltaic (CPV) modules and assemblies – Design qualification and type approval (Published.)

Working on tracker and safety standards—both are in pre-New Work Item Proposal stage.



JCWG: JCG TC 82/TC 88/TC 21/SC 21A

The JCWG is responsible for writing technical specifications aimed at Decentralized Rural Electrification (DRE) in developing countries. TSs include PV systems but also hybrid and microgrid systems.

These Technical Specifications are in the 62257 series



Bald faced commercial!

All work in TC 82 is through the US Technical Advisory Group. Experts from the TAG **may** be appointed to various working groups--all dependent on the convenor and not making the WG seem US-centric or European-centric or Asian-centric—and whether you can afford the time and travel to the WG meeting locations.



Bald faced commercial!

If you'd like to participate, do so as a member of the US TC82 TAG. At least help us to review the draft standards that interest you. Get with Alex Mikonowicz—or me—for more detailed information.

ANSI dues for US TAG members is \$285 per year. Must be a member of ANSI to participate in the Technical Advisory Group.

