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.

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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 terrestial photovoltaic (PV) modules – Design qualification and type approval. (Ed 3 in process of being written.)

IEC 61701 Ed 2: Salt mist corrosion testing of photovoltaic (PV) modules (In CDV stage)

IEC 61730-1 Ed. 1.0, Photovoltaic module safety qualification – Part 1: Requirements for construction. (Ed. 2 in process of being written.)

IEC 61730-2 Ed. 1.0, Photovoltaic module safety qualification – Part 2: Requirements for testing. (Ed. 2 in process of being written.)

IEC 61853-1, Power and energy rating of photovoltaic (PV) modules – Power Rating. (FDIS--comments by 26 November)

IEC 61853-2, Power and energy rating of photovoltaic (PV) modules – Test Methods. (Submitted as CD.)

IEC 61853-3, Power and energy rating of photovoltaic (PV) modules – Energy Rating. (Pre-NWIP stage.)

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

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

A PV cable standard may be written, in collaboration with WG3/6.

Ammonia corrosion testing of photovoltaic (PV) modules (Approved as NWIP.)

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 62093 Ed. 1 Balance-of-system components for photovoltaic systems - Design qualification natural environments (Coming up for maintenance 2011)

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. (CDV issued--closes 1-2011.)

IEC 62548 Installation and Safety Requirements for Photovoltaic (PV) Generators. (Issued as Committee Draft--submit as CDV 12-2010.)

Things in the wings? BIPV system standard (is in pre-NWIP stage)

Large PV plants (no change)

System performance validation/evaluation (no change)

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 (Published 4-2010.)

IEC 62109-2 Safety of power converters for use in photovoltaic power systems – Part 2: Particular requirements for inverters (Issued as CDV. To be put in CO format as FDIS.)

IEC 62509 Ed.1: Battery charge controllers for photovoltaic systems - Performance and functioning (FDIS--comments due 3 December)

IEC 62109-3 Safety of power converters for use in photovoltaic power systems – Part 3: Controllers (In NWIP stage)

IEC 62109-4 Safety of power converters for use in photovoltaic power systems - Part 4: Particular requirements for combiner box (Approved as NWIP)

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

An AC module standard is also in the NWIP stage (expect NWIP to be issued in early 2011)

Working Group 7

WG 7 (Dr. Robert McConnell)

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

IEC 62670 Ed. 1 Concentrator photovoltaic (CPV) module and assembly performance testing and energy rating - Part 1: Performance measurements and power rating - Irradiance and temperature (Approved as NWIP.)

Working Group 7

Pre-NWIP work:

- **Safety Standard for CPV Modules and Assemblies**
- **Energy Rating Technical Specification for CPV Modules**
- **62108 Edition 2 + Retest Guidelines**
- **PV/CPV Tracker Technical Specification**
- **On-Site Acceptance Technical Specification**
- **Cell Technical Specification and IEC Cell and Cell Package Qualification Standard**

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

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Again!!

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.

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Continued

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 $295 per year. Must be a member of ANSI to participate in the Technical Advisory Group.