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## **Committee E44 on SOLAR, GEOTHERMAL AND OTHER ALTERNATIVE ENERGY SOURCES**

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### E44 New Activities Planning Meeting Agenda Tuesday, June 16<sup>th</sup> 2009 ~ Virtual Meeting

1. Meeting began at 2:05pm.
2. Review of E44 Strategic Planning Efforts ~ Christine DeJong
  - a. Review of Solar Standards Package- Results from a survey package of 40 standards needs that were derived from ASTM's February 19, 2009 meeting, E44 has decided to move forward on five stage one projects. Some stage two project items include the following:
    - i. PV Module Power Ratings
    - ii. PV System Energy Rating
    - iii. Electrical Code and Fire Official Permitting and Guidelines Development
    - iv. Rate of Impact of Net Metering / Evolution of Net Metering Rates
  - b. Summary of SEMI/DOE Workshop (May 13, 2009) on *Crystalline Silicon Terrestrial Photovoltaic Cells - Supply Chain Procurement Specification Guideline*- This past May 13<sup>th</sup> there was a SEMI/DOE Workshop where PV module technical presentations as well as standards committee presentations were given. In addition, a good deal of discussions ensued on the Crystalline Silicon Terrestrial Photovoltaic Cells - Supply Chain Procurement Specification Guideline report currently maintained by Solar ABCs. There will be a follow up meeting this July 14<sup>th</sup> from 9am-noon in San Francisco during the Intersolar meeting. However, the cell specification working group will be meeting at the InterContinental Hotel. They have some other items on their agenda over a three day period. ([www.intersolar.us](http://www.intersolar.us))
  - c. DOE workshop at Intersolar: Sunday, July 12<sup>th</sup> from 1:00 – 6:00pm  
DOE is interested in potentially developing a roadmap with strong industry involvement for the PV supply chain. During the first part of the meeting, we will basically review similar roadmaps developed in the past by the semiconductor industry and show how they could help the solar industry. In the second part of the meeting, we will break out into groups to discuss different approaches led by industry participants.  
Contact Marie Mapes ([Marie.mapes@ee.doe.gov](mailto:Marie.mapes@ee.doe.gov)), Kevin Lynn ([Kevin.Lynn@ee.doe.gov](mailto:Kevin.Lynn@ee.doe.gov)), or Coryne Tasca ([ctasca@sentech.org](mailto:ctasca@sentech.org)), for more information.

3. Solar ABCs Activities ~ Larry Sherwood

Solar ABCs is program under the Department of Energy. The Solar ABCs identifies codes and standards related issues, present them to stakeholders, receives stakeholders' input and suggestions, encourages development of codes and standards, prepares and presents topical reports on these issues to DOE and other stakeholders. They are not a standards writing body but work in collaboration with standards organizations. ([www.solarabcs.com](http://www.solarabcs.com))

4. Project Planning for the Standards Needs

The following standards needs items were discussed to narrow each projects goals. Discussions about what type of standards should be published, what the scope should include, what organizations should be involved and establish task group members. Project sheets are attached.

- a. Photovoltaic Module Frame Grounding Issues (Solar ABCs)
- b. Wind Load Testing, Analysis, and Design Code Development (Solar ABCs)
- c. Accelerated Lifetime Testing (Solar ABCs)

The last two items were not discussed at this meeting. Some more research will be done to get more specifics on “Standardized measurements and evaluation practices.” Service Life Estimation Protocols Outdoor durability test protocols for both components and finished modules/systems will be discussed at another virtual meeting. Dependent on the research for the Standardized Measurement project, both of these items will be discussed at a future meeting (Date and Time TBA).

5. Next Steps

- a. Virtual meetings will be scheduled with the task groups formed at this meeting. They are scheduled to take place in the second half of July.
- b. Register Work Items on ASTM website
- c. Create Collaboration Area for Task Groups

6. Adjourned at 3:30pm



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**New Activities Management Plan**  
**Photovoltaic Module Frame Grounding Issues**

**7. Type of Standard:**

- Test Method - a definitive procedure that produces a test result.
- Specification - an explicit set of requirements to be satisfied by a material, product, system or service.
- Guide - an organized collection of information or series of options that does not recommend a specific course of action.
- Practice - a set of instructions for performing one or more specific operations that does not produce a test result.
- Classification - a systematic arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.

**8. Working scope:**

- a. Guide or Practice  
PV Module producing electricity which is subject to NEC  
Apply to single or array  
Roof, ground or pole mounted (Standards should cover all mounting forms)
- b. Test Method  
Item to follow the Guide or Practice

**9. Organizations/Contacts for Outreach:**

NEC – John Wiles (southwest research institute at New Mexico State University)

**10. Task Group Members:**

George Kelly, BP Solar (TG Chairman)  
Doug King, SolarWorld California  
Larry Sherwood, Solar ABCs (DOE)  
Liang Ji, UL  
Winthrop Baylies, BayTech

**11. Next Steps:**

- a. Hold a Virtual meeting to develop 1<sup>st</sup> draft of scope and a plan for developing a complete draft (July 20-24<sup>th</sup>)
- b. Register a Work Item
- c. Create a Collaboration Area

**Notes:**

- Possible 2 standards- Guide (1<sup>st</sup> document) and a Method (2<sup>nd</sup> document)
- Two Part Method: Possible include one document with NEC and another without the NEC (reference sections and now specific language)
- NEC item is posted on Solar ABCs website
- Start as a Guide or Practice and then eventually have a Test Method (Eval Long Term Reliability of Grounding Issues)



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### **New Activities Management Plan** **Accelerated Lifetime Testing**

#### **12. Type of Standard: TBA**

- Test Method - a definitive procedure that produces a test result.
- Specification - an explicit set of requirements to be satisfied by a material, product, system or service.
- Guide - an organized collection of information or series of options that does not recommend a specific course of action.
- Practice - a set of instructions for performing one or more specific operations that does not produce a test result.
- Classification - a systematic arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.

#### **13. Working scope:**

Module output/safety/leakage (high pot testing)  
Life Cycle of integrated circuit  
Accelerated test (hrs/days) of quality ~ Methodology found by using JEP143; Solar ABCs report pg 11

#### **14. Organizations/Contacts to get involved:**

SANDIA

#### **15. Task Group Members:**

Peter Hacke, NREL  
David Burns, 3M  
David Sweetman, Consultant  
George Kelly, BP Solar  
Joannie Chin, NIST  
Kurt Scott, Atlas Materials Testing Technology  
Larry Sherwood, Solar ABCs (DOE)  
Liang Ji, UL  
Stephen Swanson, Dow Corning Corp

#### **16. Next Steps:**

- a. Hold a Virtual meeting to develop 1st draft of scope and a plan for developing a complete draft (July 20-24th)
- b. Register a Work Item
- c. Create a Collaboration Area

#### **NOTES:**

- JEP143 [www.jedec.org](http://www.jedec.org) Reliability/ compilation of JEDEC standards (categorized)



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### **New Activities Management Plan** **Wind Load Testing, Analysis, and Design Code Development**

#### **17. Type of Standard:**

- Test Method - a definitive procedure that produces a test result.
- Specification - an explicit set of requirements to be satisfied by a material, product, system or service.
- Guide - an organized collection of information or series of options that does not recommend a specific course of action.
- Practice - a set of instructions for performing one or more specific operations that does not produce a test result.
- Classification - a systematic arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.

#### **18. Working scope:**

PV and/or Solar Heating Systems (Module and System)  
Determine if a mounting system will meet design load requirement, determine proper design load

#### **19. Organizations/Contacts to get involved:**

ASCE, FSEC, Members from D08, Building codes (Steve Mawn), Unirac/Professional Solar Ca/DPW (outreach)

#### **20. Task Group Members:**

Doug King, SolarWorld California  
George Kelly, BP Solar  
Larry Sherwood, Solar ABCs (DOE)  
Liang Ji, UL  
Peter Bonavita, Sika Sarnafil  
Peter Hacke, NREL

#### **21. Next Steps:**

- a. Hold a Virtual meeting to develop 1<sup>st</sup> draft of scope and a plan for developing a complete draft (July 20-24<sup>th</sup>)
- b. Register a Work Item
- c. Create a Collaboration Area

#### **NOTES:**

- ASCE 7- Minimum Design Loads for Buildings and Other Structures
- Determine if E44 roster includes mounting materials manufacturers?
- WK21397- Practice for the Installation of Roof Mounted PV arrays (Under development in E44)
- Module-Mounting structure and/or Mounting structure-Roof (ASTM committee D08 on Roofing)