

Taiwan PV Committee Meeting Summary and Minutes

25 July, 2013, at 14:00-15:30
ITRI, HsinChu

Table 1 Meeting Attendees

Co-Chairs: Bor-Nien Chuang (ITRI)/ Ray Sung(UL Taiwan)/J.S. Chen (Tera Solar)

SEMI Staff: Cher Wu

<i>Company</i>	<i>First</i>	<i>Last</i>	<i>Company</i>	<i>First</i>	<i>Last</i>
CMS-ITRI	B. N.	Chuang	UL	Ray	Song
PV Guider	Jay	Lin	TUV	Eric	Lin
GranSystem	Richie	Huang	TeraSolar	J. S.	Chen
PV Guider	Shiny	Chen			
CMS-ITRI	Anderson	Hsu			

Table 2 Leadership Changes

None

Table 3 Ballot Results (or move to Section 4, Ballot Review)

None

Table 4 Authorized Ballots (or move to Section 7, New Business)

None

Table 5 Authorized Activities (or move to Section 7, New Business)

None

Table 6 New Action Items (or move to Section 8, Action Item Review)

None

Table 7 Previous Meeting Actions Items (or move to Section 8, Action item Review)

None

Table 8 New Action Items (or move to Section 8, Action Item Review)

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1	Cher Wu (SEMI Staff)	Ask Mr. TC Wang to provide an update in at the next meeting for status of Draft 4833, Specification for Color reference cell and Detection of c-Si PV cell surface visible defects.
2	Cher Wu (SEMI Staff)	To invite Chunson, Jason Lin for an update of the PV Wafer Measurement Method TF in next TC meeting.

1 Welcome, Reminders, and Introductions

Committee Co-Chair B. N. Chuang (ITRI) called the meeting to order at 14:00. After welcoming all attendees, the SEMI meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

2 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting.

Attachment : SEMI Taiwan PV Committee Meeting Minutes_20130523

3 Liaison Reports

- China Photovoltaic Committee Liaison Report
 - Last meeting
 - China Summer Standards Meeting 2013
 - Yangzhou, China
 - Friday, June 28, 2013
 - Next meeting
 - China Autumn Standards Meeting 2013
 - Hohhot, China
 - Monday, August 12, 2013
 - New Task Force
 - PV Power Station Equipment Integrated Performance Task Force (new!)
 - Ballot Results Summary
 - ✓ Doc. 5382, Specification for Quasi-monocrystalline Silicon Wafers used in Photovoltaic Solar Cells, authorized for rebalot in Cycle 5-2013
 - ✓ Doc. 5563, Specification for Framing Tape for PV Modules
 - ✓ Doc. 5426, Specification for Aluminum Paste, Used in Back Surface Field of Crystalline Silicon Solar Cells
 - ✓ Doc. 5427, Specification for Front Surface Silver Paste, Used in P-Type Crystalline Silicon Solar Cells
 - ✓ Doc. 5428, Specification for Impurities in Polyethylene Packaging Materials for Polysilicon Feedstock, authorized for ballot in Cycle 5-2013
 - ✓ Doc. 5429: Test Method for In-line Monitoring of Flat Temperature Zone in Horizontal Diffusion Furnaces
 - ✓ Doc. 5476, Test Method for Determination of Total Carbon Content in Silicon Powder by Infrared Absorption after Combustion in an Induction Furnace
 - ✓ Doc. 5477, Test Method for Determining B, P, Fe, Al, Ca Contents in Silicon Powder for PV Applications by Inductively-Coupled-Plasma Optical Emission Spectrometry
 - ✓ Doc. 5564: Test Method for the Measurement of Chlorine in Silicon by Ion Chromatography, authorized for ballot in Cycle 5-2013
 - ✓ Doc. 5478, New Standard: Test method for Thin-film Silicon PV modules Light Soaking

Attachment: China Photovoltaic Committee Liaison Report20130702

- Europe:
 - Last meetings
 - March 10-12, 2013
 - PV Fab Managers Forum
 - Berlin, Germany
 - June 20, 2013
 - Intersolar Europe, Munich, Germany
 - Next meeting
 - Oct 7, 2013
 - SEMICON Europa, Dresden, Germany
 - Authorized Ballots (June meeting)

#	When	SC/TF/WG	Details
5565	Cycle 5	Silicon Materials	Line Item Revision to PV42, Test Method for In-Line Measurement of Waviness on PV Silicon Wafers by a Light Sectioning Technique Using Multiple Line Segments

5433	Cycle 5	Silicon Materials	New Standard, Test Method for In-line Characterization of PV Silicon Wafers regarding Grain Size
5432	Cycle 5 or 6	Silicon Materials	New Standard, Test Method for In-line Characterization of PV Silicon Wafers by Using Photoluminescence

· SEMI Europe Staff, Yann Guillou at yguillou@semi.org

Attachment: Europe Photovoltaic Committee Liaison Report2013June.

- North America:
 - Last meeting
Intersolar North America Meetings
Marriott Marquis, San Francisco, CA
July 9-10, 2013
 - Next meeting
North America Fall Standards Meetings
SEMI HQ, San Jose, CA
October 30, 2013
- Check www.semi.org/standards for the latest update
 - New SNARF
 - ✓ Doc. 5608: Line-item Revision to SEMI PV13-1111, Test Method for Contactless Excess-Charge-Carrier Recombination Lifetime Measurement in Silicon Wafers, Ingots, and Bricks Using an Eddy-Current Sensor
(To add literature citations for methods to determine Fe concentrations based on PV13 measurement results)
 - Ballot Results Summary
 - ✓ Doc. 5435: Auxiliary Information interlaboratory study for PV25 - Test Method for Simultaneously Measuring Oxygen, Carbon, Boron and Phosphorus in Solar Silicon Wafers and Feedstock by Secondary Ion Mass Spectrometry
 - ✓ Doc. 5501: Auxiliary Information interlaboratory study for PV43 - Test Method for Measurement Of Oxygen Concentration In PV Silicon Materials For Silicon Solar Cells By Inert Gas Fusion Infrared Detection Method
 - ✓ Doc. 5567: Auxiliary Document: Interlaboratory Study for PV49-0613, Test Method for the Measurement of Elemental Impurity Concentrations in Silicon Feedstock for Silicon Solar Cells By Bulk Digestion, Inductively Coupled-Plasma Mass Spectrometry
 - ✓ Doc. 4825, New standard: Test Methods for Hg Probe Measurements of Crystalline Silicon PV Materials and Devices
 - ✓ Doc. 5394, New Standard: Test Method for QSS Microwave PCD Measurements of Carrier Decay and Lifetime
 - ✓ Doc. 5093, Auxiliary Information, Round Robin (Multi-Laboratory Test) for PV9-1110, Microwave Reflectance Test Method
- SEMI NA Staff, Kevin Nguyen at knguyen@semi.org
- Attachment:NA Photovoltaic Committee Liaison Report20130718
- Japan PV Automation Committee Liaison Report
 - Last Meeting
April 12, 2013 at SEMI Japan Office, Tokyo, Japan
 - Next Meeting
July 23, 2013 at SEMI Japan Office, Tokyo, Japan
 - **Japan TF Update**
 - The SNARF of Doc. #5417 “New Standard: Test Method for Measurement of Defects in PV Silicon Wafers in PV Modules by Electroluminescence Imaging”

- The SNARF of Doc. #5532, “New Standard: Test Method for Measurement of Cracks in PV Silicon Wafers in PV Modules by Laser Scanning”
SEMI Japan Staff, Hiro’fumi Kanno at hkanno@semi.org

Attachment: Japan Photovoltaic Materials Committee Liaison Report 2013 July

4. SEMI Staff Report

SEMI Taiwan will organize STEP program on September 3, Dr. Chuang (ITRI), Co-chair, requested SEMI Taiwan staff to well promote program to PV industry, invite more PV industry experts to come. Dr. B. N. Chung, Co-chair requests SEMI to send out invitation to promote this event to all TF members. Encourage members for participation.

5 Old Business

- ✓ **c-Si Cell Appearance TF by Jeff Lee (Chroma) Disband.**

Leader Mr. Lee resigned from the TF leader this year. All discussed to disband this TF due to no leader now.

Motion: Disband c-Si Cell Appearance TF

By / 2nd: Dr. B. N. Chuang (ITIR)/Ray Sung (UL)

Voted: 7-0-0, Motion passed

- ✓ **DSSC & OPV TF (Der-Ray Huang/NDHU)**
- ✓ Will have meeting on July 26, 2013. Will update status in next meeting.

6 New Business

- ◇ How to encourage PV industry experts to join the standards activities
- ◇ Enhance the networking and communication with China PV standards committee. SEMI Staff provides full information in timely manner.
- ◇ Need Terry’s assistance to enhance the networking between SEMI Taiwan PV committee & TPVIA BOD member to encourage PV industry experts to join PV Standards Activities.

7 Action Item Review

- ◇ Ask Mr. TC Wang to provide an update in at the next meeting for status of Draft 4833, Specification for Color reference cell and Detection of c-Si PV cell surface visible defects.
- ◇ To invite Chunson, Jason Lin to update PV Wafer Measurement Method TF in next TC meeting.

8 Next Meeting and Adjournment

October 25, 11:00 – 13:00 at CMS/ITRI, 2013

Respectfully submitted by:

Cher Wu

SEMI Taiwan

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Email: cwu@semi.org

Minutes approved by:

B. N. Chuang (ITRI), Co-chair	<Date approved> August 3, 2013
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Table 9 Index of Available Attachments #1

#	Title	#	Title
1	<u>20130725 PV TC meeting minutes</u>	4	<u>Attachment: NA Photovoltaic Committee Liaison Report 20130718</u>
2	<u>Attachment: China Photovoltaic Committee Liaison Report 20130702</u>	5	<u>Attachment: Japan Photovoltaic Materials Committee Liaison Report 2013 July</u>
3	<u>Attachment: Europe Photovoltaic Committee Liaison Report 2013 June.</u>	6	<u>9月3日 SEMI 產業標準技術教育訓練講習 (邀請函)</u>

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.