

China PV Committee
Meeting Summary and Minutes
 China Summer Standards Meetings 2013
 Monday, June 28th, 2013, 09:30 -17:00
 No.101 Weiyang Road, Hanjiang, Yangzhou, China

Next Committee Meeting
 Monday, August 12th, 2013

Table 1 Meeting Attendees

Co-Chairs: Zhixin Li (JYT)

SEMI Staff: James Amano – SEMI HQ, Allen Lu – SEMI China, Kai Qiao – SEMI China, Kris Shen – SEMI China, Annie An – SEMI China

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
48th Research Institute	Cai	Xianwu	JA Solar	Liu	Guowei
48th Research Institute	Long	Hui	JA Solar	Yan	Yongyong
48th Research Institute	Xiao	Youwen	JA Solar	Guo	Ming
BASF	Qiao	Zhengshou	JA Solar	Liu	Guowei
Bothleader	Zhou	Shudong	JYT	Guo	Dawei
Bothleader	Jin	Zhengdong	LDK	Cao	Sheng
CanadianSolar	Tang	Yingtang	SECCO	Sun	Xiaotong
Chint Solar	Niu	Xinwei	Semilab China	Huang	Li
CNSMQ	He	Dongjiang	Sevenstar	Zhen	Jianyu
CNSMQ	Yang	Suxin	SIBCO	Zhang	Qiao
CPVT	Zhu	Xiaogang	SIBCO	Ning	Guiling
CPVT	Wu	Yuan	SINOSICO	Liu	Fenghua
Du Pont	Du	Peng	SINOSICO	Chen	Gui'e
GCL	Lv	Jinbiao	Solarsoul	Zhang	Ming
GCL	Lu	Wenfeng	Solarsoul	Pan	Zhiming
GCL	Liu	Xiaoxia	Solartest	Wang	Wenjing
GDsolar	Wu	Xiexiang	Solartest	Chen	Yanxuan
GDsolar	Wu	Zhiwen	Suntech	Zhu	Jingbing
GDsolar	Jingrui	Wang	Suntech	Liang	Zhe
Giansolar	Zhao	Shengxia	TBEA	Zan	Wu
Hanergy	Tong	Xiang	TBEA	Lv	Xueqian
Hanergy	Wu	Zhenyu	Tianwei	Zhang	Fengming
Hanergy	Zhang	Ying	Trina	Wang	Zhaoyun
Hanergy	Wang	Qi	TUV Rheinland	Wang	Yi
Hanergy	Xu	Dongsheng	TÜV SÜD	Liu	Yaqun
Hanergy	Qiu	Jun	TÜV SÜD	Wu	Yaozhong
Hanergy	Gong	Xuefeng	TÜV SÜD	Bo	Xiangxi
Hanergy	Wu	Jianfa	Xiangda	Zhao	Kun
Heraeus	Chen	Chilong	Yangzhou Daily	Zhang	Feiyue
Honbest	Chen	Jianbao	Yangzhou Daily	Song	Xuanqing
JA Solar	Liu	Yong	Yangzhou TV	Lin	Xiaobing
JA Solar	Song	Fengbing	Yingli	Song	Dengyuan
JA Solar	Li	Jiwei			

Table 2 Leadership Changes

<i>Group</i>	<i>Previous Leader</i>	<i>New Leader</i>
None		

Table 3 Ballot Results

Passed ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

Failed ballots and line items were returned to the originating task forces for re-work and re-balloting.

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
None		

Table 4 Authorized Ballots

<i>#</i>	<i>When</i>	<i>SC/TF/WG</i>	<i>Details</i>
5428	5-2013	Polysilicon Packaging Materials Task Force	New Standard: Specification for Impurities in Polyethylene Packaging Materials for Polysilicon Feedstock
5564	5-2013	PV Silicon Raw Materials Task Force	New Standard: Test Method for the Measurement of Chlorine in Silicon by Ion Chromatography
5382	5-2013	PV Silicon Wafer Task Force	New Standard: Specification for Quasi-monocrystalline Silicon Wafers used in Photovoltaic Solar Cells

Table 5 Authorized Activities

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
	TFOF	PV Power Station Equipment Integrated Performance Task Force	Charter: Develop specifications for equipment and components to be used in PV power stations.

Note: SNARFs and TFOFs are available for review on the SEMI Web site at:

<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF>

Table 6 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
ChinaPV-0613-01	SEMI China	Propose to ISC to expand the Photovoltaic charter and scope, cover the standards of PV power station area
ChinaPV-0613-02	PV Power Station Equipment Integrated Performance Task Force Leader	Develop the standards of PV power capacity efficiency and system efficiency

Table 7 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
None			

1 Welcome and Introductions

Committee member Zhixin Li chair the meeting and welcome all attendees, all the attendees introduced themselves.

2 New Standards Publication

Zhixin Li announced that SEMI PV44-0513, SEMI PV45-0513 and SEMI-PV47-0513 was published in the end of May 2013.

James Amano and Allen Lu congratulate to the authors of this 3 standards. Thanks the effort from the authors.

3 published standards:

- SEMI PV44-0513 New Standard: Specification for Package Protection Technology for PV Modules

- SEMI PV45-0513 New Standard: Test Method for the Content of Vinyl Acetate (VA) in Ethylene-Vinyl Acetate (EVA) Applied in PV Modules Using Thermal Gravimetric Analysis (TGA)
- SEMI-PV47-0513 New Standard: Specification for Anti-Reflective Coated Glass, Used in Crystalline Silicon Photovoltaic Modules

3 Call to Order

Kris Shen called the meeting to order at 9:45 AM. The meeting reminders on antitrust issues, intellectual property issues and effective meeting guidelines were reviewed.

Agenda was reviewed.

4 Review of Previous Meeting Minutes

Minutes were reviewed. No change was made.

Motion: To accept the minutes of the previous meeting as submitted

By / 2nd: Yong Liu (JASolar)/ Dengyuan Song (Yingli)

Discussion: None

Vote: 16-0. Motion passed

Attachment-1, China PV TC Minutes 20130318.pdf

5 Staff Report

Kris Shen (SEMI) gave the staff report. Highlights

- Overview the SEMI Global 2013 Calendar of Events
- Remind the approaching SEMI standards ballots cycle period, and remind to vote for Cycle 3 and cycle 4
- Remind that SEMI can provide the GoTo Meeting service for TF meeting
- Recently Published 5 PV Standards
 - [SEMI PV44-0513](#) Specification for Package Protection Technology For PV Modules
 - [SEMI PV45-0513](#) Test Method for the Content of Vinyl Acetate (VA) in Ethylene-Vinyl Acetate (EVA) Applied in PV Modules Using Thermal Gravimetric Analysis (TGA)
 - [SEMI PV46-0613](#) Test Method for In-Line Measurement of Lateral Dimensional Characteristics of Square and Pseudo-Square PV Silicon Wafers
 - [SEMI PV47-0513](#) Specification for Anti-Reflective-Coated Glass, Used in Crystalline Silicon Photovoltaic Modules
 - [SEMI PV48-0613](#) Specification for Orientation Fiducial Marks for PV Silicon Wafers

Attachment-2, SEMI Staff Report 20130628.pdf

6 Liaison Reports

6.1 North America PV Materials Committee

James Amano (SEMI HQ) reported. Highlights:

- Next meeting - Intersolar North America Meetings, Marriott Marquis, San Francisco, CA, July 9-10, 2013
- Ballot Results Summary
 - Document 4675C, New Standard: Test Method for the Measurement of Elemental Impurity Concentrations in Silicon Feedstock for Silicon Solar Cells By Bulk Digestion, Inductively Coupled-Plasma Mass Spectrometry
 - Passed and published as SEMI PV49-0613
 - Document 5439, 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
 - Passed and published.
- New SNARFs
 - PV Analytical Test Methods TF
 - Doc. 5567: Auxiliary document to include 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

Attachment-3, NA Liaison Report PV Materials 20130617.ppt

6.2 European PV Equipment Automation Committee

James Amano (SEMI HQ) reported. Highlights:

- Next meeting - October 8-10, 2013, SEMICON Europa, Dresden, Germany
- New SNARFs
 - Doc 5566: Line Item Revision to SEMI PV002-00-0709E Guide for PV Equipment Communication Interfaces (PVECI), modify requirement [PV02-RQ-00007-00] to allow implementation of new namelist requests instead of required documentation.

Attachment-4, EU PV Equipment Liaison Report 20130313.ppt

6.3 Europe PV Materials Committee

James Amano (SEMI HQ) reported. Highlights:

- Authorized ballots for Cycle 5-2013
 - 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
 - New Standard, Test Method for In-line Characterization of PV Silicon Wafers regarding Grain Size
 - New Standard, Test Method for In-line Characterization of PV Silicon Wafers by Using Photoluminescence

Attachment-5, PV Materials TC_ISEU2013.pdf

Attachment-6, Results of Questionnaire Regarding Use of Reference Materials in PV Industry.pdf

6.4 Japan PV Automation Committee

James Amano (SEMI HQ) reported. Highlights:

- Next Committee Meeting - April. 12, 2013, SEMI Japan, Ichigaya Office, Tokyo Japan
- Doc. #5223 is being balloted to Cycle 2

Attachment-7, JP_PVAuto_Liaison.ppt

6.5 Japan PV Materials Committee

James Amano (SEMI HQ) reported. Highlights:

- Next Meeting- July 23, 2013 at SEMI Japan Office, Tokyo, Japan

Attachment-8, JA PVC_PVMC Updates.pptx

6.6 Taiwan PV Committee

James Amano (SEMI HQ) reported. Highlights:

- Next meeting – July 25, 2013, SEMI Office, Hsinchu
- New TF- Organic and Dye Sensitized Solar Cell TF
 - Charter: The objective is to develop technical Standards related to organic photovoltaic (OPV) and dye sensitized solar cell (DSSC), including new test methods, standardization and evaluation of OPV/DSSC products and components.

Attachment-9, Taiwan PV_Liaison_20130619.ppt

7 Ballot Review

None

8 Subcommittee & Task Force Reports

8.1 PV silicon wafer TF

- According to the comments from Ballot cycle 1-2013, updated the document of Doc. 5382, New Standard: Specification for Quasi-monocrystalline Silicon Wafers used in Photovoltaic Solar Cells, request for rebalot in cycle 5-2013

Attachment-10, PV Silicon Wafer TF Report.ppt

8.2 *Crystalline Silicon PV Module TF*

- There are 2 new TF members: Xiaoyong Wang/ JAsolar, Guowei Liu/ JAsolar
- Doc. 5384 Specification for package protection technology for PV modules, published as PV44-0513
- Doc. 5385 Vinyl Acetate (VA) content test method for ethylene-vinyl acetate (EVA) applied in photovoltaic modules – thermal gravimetric analysis (TGA), published as PV45-0513
- Working on Doc. 5563 Specification for Framing Tape for PV Modules.

Attachment-11, Crystalline Silicon PV Module TF Report.pptx

8.3 *Metal Paste for Crystalline Silicon Solar Cells TF*

- Finished draft document 5426.
- Finished draft document 5427.
- Plan to review draft document.

Attachment-12, Metal Paste TF Report.pptx

8.4 *Poly-silicon Packaging Materials Task Force*

- Finished the draft of Doc. 5428 New Standard: Specification for Impurities in Polyethylene Packaging Materials for Poly-silicon Feedstock, request for ballots in cycle 5-2013

Attachment-13, Polysilicon Packaging Materials TF Report.pptx

8.5 *PV Diffusion Furnace Test Methods Task Force*

- Finished the draft of Doc. 5429, New Standards: Test Method for In-line Monitoring of Flat Temperature Zone in Horizontal Diffusion Furnaces, request for ballots in cycle 5-2013

Attachment-14, PV Diffusion Furnace Test Methods TF Report.ppt

8.6 *PV Silicon Raw Materials Task Force*

- Finished the draft of Doc. 5564 Test Method for the Measurement of Chlorine in Silicon by Ion Chromatography, request for ballots in cycle 5-2013
- Working on another 2 documents
 - Doc. 5476, New Standard: Test Method for Determination of Total Carbon Content in Silicon Powder by Infrared Absorption after Combustion in an Induction Furnace.
 - Doc. 5477, New Standard: Test Method for Determining B, P, Fe, Al, Ca Contents in Silicon Powder for PV Applications by Inductively-Coupled-Plasma Optical Emission Spectrometry

Attachment-15, PV Silicon Raw Materials TF Report.ppt

8.7 *Silicon Thin Film PV Module Task Force*

- Working on Doc. 5478, Test method for thin-film silicon PV modules light soaking

Attachment-16, Silicon Thin Film PV Module TF Report.ppt

8.8 *Anti-reflective Coated Glass Task Force*

- Doc. 5475, Specification for Anti-Reflective Coated Glass, Used in Crystalline Silicon Photovoltaic Modules, Published as PV47-0513

Attachment-17, ARC TF Report.pptx

9 Old Business

None

10 New Business

10.1 Request for Ballots in cycle 5-2013

- Doc. 5429, New Standards: Test Method for In-line Monitoring of Flat Temperature Zone in Horizontal Diffusion Furnaces

Motion: To approve Doc. 5429 for Balloting in cycle 5-2013

By/2nd: Hui Long (48th Institute)/ Dengyuan Song(YINGLI)

Discussion: **Q:** Which part does this method measure from? — Dengyuan Song (YINGLI)

A: From the bottom. —Hui Long (48th Institute)

Q: How much is the testing deviation?—Yong Liu (JAsolar)

A: The testing deviation in 5%. —Hui Long (48th Institute)

The testing deviation is too wide, as a standard, it should be more accurate. —Yong Liu(JAsolar)

The test result according to this method should be more close the actual temperature. -- Dengyuan

Song (YINGLI)

Vote: 5-9, Motion Failed

- Doc. 5428, New Standard: Specification for Impurities in Polyethylene Packaging Materials for Polysilicon Feedstock

Motion: To approve Doc. 5428 for Balloting in cycle 5-2013

By/2nd: Wenfeng Lu (GCL)/ Zhaoyun Wang (Trina)

Discussion: **Q:** Which companies does this specification for use?—Xinwei Niu (Chint Solar)

A: For use, which the company produce packaging materials. —Wenfeng Lu(GCL)

Vote: 25-0, Motion Passed

- Doc. 5564, New Standard: Test Method for the Measurement of Chlorine in Silicon by Ion Chromatography

Motion: To approve Doc. 5564 for Balloting in cycle 5-2013

By/2nd: Wenfeng Lu (GCL)/ Zhaoyun Wang (Trina)

Discussion: **Q:** Does this test method include the IP?—Yingtang Tang (Canadiansolar)

A: No. —Wenfeng Lu (GCL)

Q: Can this test method be popular in the PV industry? Is it cost expensive? —Xinwei Niu (Chint

Solar)

A: It can be popular, all the reagents and test instruments are conventional. —Wenfeng Lu(GCL)

Vote: 27-0, Motion Passed

- Doc. 5382, New Standard: Specification for Quasi-monocrystalline Silicon Wafers used in Photovoltaic Solar Cells

Motion: To approve Doc. 5382 for Balloting in cycle 5-2013

By/2nd: Sheng Cao (LDK)/ Zhaoyun Wang (Trina)

Discussion: In actually, the question from Peter Wagner is hard to answer. But if the PV industry really need this separately standards to describe the Quasi-monocrystalline Silicon Wafers, we should have a good communication with Peter Wagner — Dengyuan Song (YINGLI)

Vote: 23-0, Motion Passed

10.2 SNARF- New Standard: Specifications for the Assessment of PV Plant

Motion: To approve the SNARF

By/2nd: Jingrui Wang(GDSOLAR)/ Zhaoyun Wang(Trina)

Discussion: This scope of the SNARF is too wide, it should be consider of the PV power project quality, Power generation capacity.—Yong Liu(JAsolar)

Kris Shen showed the Photovoltaic committee charter and scope.

GDSOLAR realized that the SNARF scope and charter is out of Photovoltaic committee. They withdrew the SNARF. Motion Failed

10.3 TFOF- PV Plant Task Force

Motion: To approve the TFOF

By/2nd: Jingrui Wang(GDSOLAR)/ Dengyuan Song(YINGLI)

Discussion: This scope is too wide, out of the Photovoltaic scope, we should focus on the standards of Power generation capacity, system general efficiency, and someone else.—Zhenyu Wu (Hanergy)
GDSOLAR change the TF names to *PV Power Station Equipment Integrated Performance Task Force* on site.

Vote: 20-0, Motion Passed

11 Action Item Review

11.1 Open Action Items

None

11.2 New Action Items

See Table 6.

12 Next Meeting and Adjournment

The next meeting of the China PV Standards committee will be on August 12th 2013, in Hohhot, China.

Respectfully submitted by:

Kris Shen

SEMI China

Minutes approved by:

Guangchun Zhang (CanadianSolar), Co-chair	2013/7/6
Zhixin Li (JYT), TC member	2013/7/5

Table 8 Index of Available Attachments #1

#	Title	#	Title
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2	SEMI Staff Report 20130628.ppt	11	Crystalline Silicon PV Module TF Report.pptx
3	NA Liaison Report PV Materials 2013617.ppt	12	Metal Paste TF Report.pptx
4	EU PV Equipment Liaison Report 20130313.ppt	13	Polysilicon Packaging Materials TF Report.pptx
5	PV Materials TC_ISEU2013.pdf	14	PV Diffusion Furnace Test Methods TF Report.ppt
6	Results of Questionnaire Regarding Use of Reference Materials in PV Industry.pdf	15	PV Silicon Raw Materials TF Report.ppt
7	JP_PVAuto_Liaison.ppt	16	Silicon Thin Film PV Module TF Report.ppt
8	JA PVC_PVMC Updates.pptx	17	ARC TF Report.pptx
9	Taiwan PV_Liaison_20130619.ppt		

#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.