TC Chapter Announcements

Next TC Chapter Meeting

Table 1 Meeting Attendees

**Co-Chairs:** Hugh Gotts (Air Liquide)

**SEMI Staff:** Kevin Nguyen (SEMI HQ), Isadora Jin (SEMI China)

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evergreen Enhancement</td>
<td>Kerr</td>
<td>Bill</td>
<td>Air Liquide</td>
<td>Li</td>
<td>Fuhe</td>
</tr>
<tr>
<td>Evergreen Enhancement</td>
<td>Kerr</td>
<td>Barbara</td>
<td>Nordson Sonoscan</td>
<td>Martell</td>
<td>Steve</td>
</tr>
</tbody>
</table>

*Italic* indicates remote participant

Table 2 Leadership Changes

<table>
<thead>
<tr>
<th>WG/TF/SC/TC Name</th>
<th>Previous Leader</th>
<th>New Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 Committee Structure Changes

<table>
<thead>
<tr>
<th>Previous WG/TF/SC Name</th>
<th>New WG/TF/SC Name or Status Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 Ballot Results

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

#2 Failed ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.
### Table 5 Activities Approved by the GCS between meetings of the TC Chapter

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6 Authorized Activities

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>Int’l PV Analytical Test Methods, Metrology, and Inspection TF</td>
<td>Reapproval of SEMI PV13 - Test Method for Contactless Excess-Charge-Carrier Recombination Lifetime Measurement in Silicon Wafers, Ingots, and Bricks Using an Eddy-Current Sensor</td>
</tr>
</tbody>
</table>

NOTE 1: SNARFs and TFOFs are available for review on the SEMI Web site at: [http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF](http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF)

### Table 7 Authorized Ballots

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
</table>

### Table 8 SNARF(s) Granted a One-Year Extension

<table>
<thead>
<tr>
<th>#</th>
<th>TF</th>
<th>Title</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 9 SNARF(s) Abolished

<table>
<thead>
<tr>
<th>#</th>
<th>TF</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 10 Standard(s) to receive Inactive Status

<table>
<thead>
<tr>
<th>Standard Designation</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

### Table 11 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 12 Previous Meeting Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1 Welcome, Reminders, and Introductions
Hugh Gotts called the meeting to order at 10:00 AM. The 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
2.1 The TC Chapter reviewed the minutes of the previous meeting.
Motion: Accept the minutes as written
By / 2nd: Steve Martell/Bill Kerr
Discussion: None
Vote: 3-0

3 Liaison Reports
3.1 PV Materials Europe TC Chapter
3.1.1 Kevin Nguyen reported for the Europe TC Chapter. Of note:
- Last meeting
  - May 21, 2019
  - Berlin, Germany
- Next meeting
  - November 11, 2019
  - SEMICON Europe, Munich, Germany
- PV Silicon Materials TF
  - Several standards are coming up for 5 year review: PV42, PV51, PV52
- PV Materials Degradation TF
  - New Standard: Test Method for Silicon PV Materials for light-induced degradation (LID)
    - Authorized for ballot at next TC meeting, SEMICON Europa, November 2019
Attachment: 01, EU PV Materials Liaison Report March 2019 v1

3.2 PV and PV Materials Joint Japan TC Chapters
3.2.1 Kevin Nguyen reported for the Japan TC Chapter. Of note:
- Last meeting
  - April 19, 2019, 13:00-16:00 at the Japan Spring Meetings 2019
  - SEMI Japan Office, Tokyo, Japan
- Next meeting
  - November 5, 2019, 13:30-16:00 at the Japan Fall Meetings 2019
  - SEMI Japan Office, Tokyo, Japan
- 5 year review
  - PV60, Test Method for Measurement of Cracks in Photovoltaic (PV) Silicon Wafers in PV Modules by Laser Scanning
  - PV79, Test Method for Exposure Durability of Photovoltaic (PV) Cells to Acetic Acid Vapor
Attachment: 02, 190617_LiaisonReport_JA_PVPVM_v1.0
3.3 PV Taiwan TC Chapter

3.3.1 Kevin Nguyen reported for the Taiwan TC Chapter. Of note:

- Last meeting
  - Wednesday, April 18, 2019 at the Taiwan Spring 2019 Meetings
- Next meeting
  - Oct, 2019
- Organic and Dye Sensitized Solar Cell and Perovskite solar cell TF
- PV Reliability Test TF
  - SNARF “New Standard: Accelerated test method of environment potential induced degradation (PID) for encapsulation materials of PV modules”
- 5 year review
  - PV56, Test Method for Performance Criteria of Photovoltaic (PV) Cell and Module Package
  - PV57, Test Method for Current-Voltage (I-V) Performance Measurement of Organic Photovoltaic (OPV) and Dye-Sensitized Solar Cell (DSSC)

Attachment: 03, 20190418_TW PV Liaison Report V1

3.4 PV China TC Chapter

3.4.1 Isadora Jin reported for the China TC Chapter. Of note:

- Last meeting
  - PV&PV Materials China Spring Standards Joint Meeting 2019
    - Shanghai, China
    - April 26, 2019
- Next meeting
  - PV&PV Materials China Fall Standards Joint Meeting 2019
    - Beijing, China
    - Oct 25, 2019
- Ballot results

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6295</td>
<td>New Standard: Test Method for Extension of Flexible Thin Film PV Modules</td>
<td>Passed with Technical Changes. Ratification ballot to be issued.</td>
</tr>
<tr>
<td>6193A</td>
<td>New Standard: Specification for Trichlorosilane Used in Polysilicon Production</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5983B</td>
<td>New Standard: Test Method for In-line Sheet Resistance Inspection</td>
<td>Failed and return to TF for re-work</td>
</tr>
<tr>
<td>6070B</td>
<td>New Standard: Test Method for Cell Defects in Crystalline Silicon PV Modules by Electroluminescence (EL) Imaging</td>
<td>Failed and return to TF for re-work</td>
</tr>
</tbody>
</table>

- Authorized Activities

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TW/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6401</td>
<td>SNARF</td>
<td>Thin Film PV Module Task Force</td>
<td>New Standard: Test Method for Indentation Force of Flexible Thin Film PV Modules</td>
</tr>
<tr>
<td>#</td>
<td>When</td>
<td>TF</td>
<td>Details</td>
</tr>
<tr>
<td>-------</td>
<td>------------</td>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Photovoltaic</strong></td>
<td></td>
</tr>
<tr>
<td>5983C</td>
<td>Cycle 6-2019</td>
<td>PV Diffusion Furnace Test Methods Task Force</td>
<td>New Standard: Test Method for In-line Sheet Resistance Inspection</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Photovoltaic Materials</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Attachment:** 04, China PV&PVM Committee Chapter Liaison Report April 2019 -v2

3.5 SEMI Staff Report

3.5.1 Kevin Nguyen (SEMI) gave the SEMI Staff Report. Of note:

- **Next meetings**
  - November 4-7, 2019
  - SEMI HQ in Milpitas, California
- **2019 Critical Dates for SEMI Standards Ballots**
- **SEMI Standards Publications**
  - Total SEMI Standards in portfolio: 1003
    - Includes 268 Inactive Standards
- **New Forms, Regulations & Procedure Manual**
  - Regulations (Feb 28, 2019)
    - Latest version clarifies procedures applicable for Copyrighted Items and trademarks
    - What is a Trademark?
      - Trademarks are brands that owners consider to be valuable intellectual property.
• It can be a company name, an acronym, a graphical symbol, or a product name, even a software product. Products that are trademarked services are usually called service marks.
• Anyone can claim to trademark something, not already in use by others, to identify and distinguish it from others

  ▪ What are the Rules for Trademarks Clarified?
  • As part of SEMI policy to avoid any appearance of restraint of trade, the Regulations allow incorporation of trademarks in Standards Documents only under specific conditions.
  • Hence, incorporation of a trademark in a Standards Document without complying with those conditions is a violation of the Regulations.
  • It was brought to the attention of the ISC Regulations Subcommittee that a number of SEMI Standards Documents include trademarks or even require use of trademarked products without indicating that they were trademarks, who owned them, or the existence of a record of TC Chapter approval of that use.

  ▪ Responsibilities of the TC Chapter
  • See Regulations §§ 1.5.11 & 16.4 for official requirements
  • Examples
    ○ Example 1 for a product trademarked name
      ▪ Not acknowledged: Kleenex
      ▪ Not allowed: Kimberly-Clark Kleenex®
      ▪ Allowed: Kleenex®
      ▪ Preferred: Kleenex® brand tissue (straight quote from box)
      ▪ 1 Kleenex trademark is owned by Kimberly-Clark Corporation.
    ○ Example 2 for trademarked SDO name in subheadings of applicable sections
      ▪ ASTM® Standards
    ○ Procedure Manual (Feb 28, 2019)
    ○ SNARF (Feb 2019)

Attachment: 05, Staff Report July 2019_v2 PW

4 Ballot Review
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.

NOTE 2: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

4.1 None

5 Subcommittee and Task Force Reports
5.1 Int’l PV Analytical Test Methods, Metrology, and Inspection TF
5.1.1 Hugh Gotts reported no new activity. The only outstanding item is the 5 year review of SEMI PV13-0714 Test Method for Contactless Excess-Charge-Carrier Recombination Lifetime Measurement in Silicon Wafers, Ingots, and Bricks Using an Eddy-Current Sensor.

**Motion:** To issue PV13 for reapproval ballot  
**By / 2nd:** Steve Martell/Bill Kerr  
**Discussion:** None  
**Vote:** 3-0

### 6 Old Business

6.1 None

### 7 New Business

7.1 None

### 8 Next Meeting and Adjournment


Having no further business, a motion was made to adjourn. Adjournment was at 11:00 AM.

Respectfully submitted by:

Kevin Nguyen,  
SEMI Standards Operations Manager  
Phone: 408-943-7997  
Email: knguyen@semi.org

Minutes approved by:

Hugh Gotts (Air Liquide)  
<Date approved>

#### Table 13 Index of Available Attachments#1

<table>
<thead>
<tr>
<th>Title</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU PV Materials Liaison Report March 2019 v1</td>
<td>China PV&amp;PVM Committee Chapter Liaison Report April 2019 -v2</td>
</tr>
<tr>
<td>190617_LiaisonReport_JA_PVPVM_v1.0</td>
<td>Staff Report July 2019_v2 PW</td>
</tr>
<tr>
<td>20190418_TW PV_Liaison Report V1</td>
<td></td>
</tr>
</tbody>
</table>

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#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.