TC Chapter Announcements

Next TC Chapter Meeting
March 21, 2018, 14:00 – 16:00
SEMI TW Office, Hsinchu County, Taiwan

Table 1 Meeting Attendees

Co-Chairs: Shuh-Woei Yu (SAHTECH)
SEMI Staff: Dean Chang

<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>TSMC</td>
<td>Hsu</td>
<td>Fang-Ming</td>
<td>UMC</td>
<td>Cheng</td>
<td>Yi-Ling</td>
</tr>
<tr>
<td>NCREE</td>
<td>Chai</td>
<td>Juin-Fu</td>
<td>Applied Materials</td>
<td>Yee</td>
<td>Long-Yee</td>
</tr>
<tr>
<td>MXIC</td>
<td>Shen</td>
<td>Colin</td>
<td>Edwards</td>
<td>Liu</td>
<td>Ariel</td>
</tr>
<tr>
<td>AUO</td>
<td>Peng</td>
<td>Peter</td>
<td>Edwards</td>
<td>Liang</td>
<td>Justin</td>
</tr>
</tbody>
</table>

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>Seismic TF</td>
<td>K.C. Tsai (NCREE) (Step down) and J.S. Hwang (NCREE) (Step down)</td>
<td>Juin-Fu Chai (NCREE)</td>
</tr>
<tr>
<td>Equipment Safety TF</td>
<td>Eddie Wu (Nexpw) (Step down)</td>
<td>None</td>
</tr>
<tr>
<td>Environmental Sustainability TF</td>
<td>Eliza Liu (Epistar) (Step down)</td>
<td>None</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>Environmental Sustainability TF</td>
<td>Disbanded</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
Listing of all revised or new SNARF(s) approved by the Originating 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>

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

Table 7 Authorized Ballots

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>TF</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</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>1</td>
<td>Juin-Fu Chai (NCREE)</td>
<td>Suggest Juin-Fu Chai (NCREE) to contact the leader of Japan Seismic Protection Task Force to discuss how to protect mobile robots and equipment such as quartz tubes when earthquake takes place before attending SEMICON Japan 2017</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>1</td>
<td>BELFOR (Asia)</td>
<td>Complete STEP Training course: Date: 5th May, Topic: Semiconductor Tool and Parts Decontamination – Team-based and Practice-based Learning (Advanced)</td>
</tr>
<tr>
<td>2</td>
<td>Dean Chang</td>
<td>Complete 2017 Sustainable Manufacturing Forum</td>
</tr>
</tbody>
</table>

1 Welcome, Reminders, and Introductions
Committee Co-Chair Shuh-Woei Yu (SAHTECH) called the meeting to order at 14:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.
Attachment: SEMI Standards Required Elements

2 Review of Previous Meeting Minutes
The TC Chapter reviewed the minutes of the previous meeting.
Motion: Approve previous meeting minute
By / 2nd: Long-Yee Yee (Applied Materials) / Juin-Fu Chai (NCREE)
Discussion: After review, all TC members agreed to approve it
Vote: 8-0-0 Motion passed
Attachment: EHS TC Meeting Minutes_20170331

3 Liaison Reports
3.1 EHS Japan TC Chapter
Dean Chang (SEMI TW) reported for the EHS Japan TC Chapter. Of note:
Action Item:
- Leadership Changes
  - Naokatsu Nishiguchi (SCREEN BSS) stepped down from Seismic Protection TF. Supika Mashiro (Tokyo Electron) is tentatively assigned as a TF leader
  - S18 TF is newly approved with leadership of Supika Mashiro (Tokyo Electron)
Attachment: EHS Japan_NATW_20171025

3.2 EHS NA TC Chapter
Dean Chang (SEMI TW) reported for the EHS NA TC Chapter. Of note:
Action Item:
- Leadership Changes
Energetic Materials Task Force: Steve Trammell and Andy McIntyre stepped down from the leader positions; the new leaders are Eric Sklar (Safety Guru) and Kalysha Rivera (Tokyo Electron)

Manufacturing Equipment Safety Subcommittee: Lauren Crane stepped down.

S3 Revision Task Force: the new leader is Mark Fessler (ASM)

New Task Force: S28 Revision Task Force and the leader is Chris Evanston (Salus Engineering)

Attachment: NA EHS TC Chapter Liaison report Sept 2017 v1

3.3 SEMI Staff Report
Dean Chang (SEMI TW) gave the SEMI Staff Report. Of note:

Action Item:
- SEMI Japan EHS/HTF Forum will be held on Dec.13 2017 and welcome TW EHS members to attend this Forum
- In order to ensure factory operators’ safety, TSIA EH&S committee will work with Taiwan Toxic and Chemical Substances Bureau to develop regulations to demand chemical suppliers to disclose toxic substances in detail
- Semiconductor Vendor On-site Service Personnel Health Management Guidance (Chinese version) was proposed by TSIA and SEMI Taiwan

Attachment:
- None
- Announcement Draft for Taiwan Chemical Substance Management_Chinese Version
- Semiconductor Vendor On-site Service Personnel Health Management Guidance_Chinese Version

4 Ballot Review
NOTE 1: 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.

None

5 Task Force Reports
5.1 Seismic Task Force
Dean Chang (SEMI TW) reported for the Seismic Task Force. This report contained information on:

- The leaders K.C. Tsai (NCREE) and J.S. Hwang (NCREE) have been inactive for years so it is suggested to assign Juin-Fu Chai (NCREE) to be the new leader of the Seismic Task Force

Motion: Approve Juin-Fu Chai (NCREE) to be the new leader of Seismic Task Force
By / 2nd: Colin Shen (MXIC) / Long-Yee Yee (Applied Materials)
Discussion: After review, all TC members agreed to approve it
Vote: 8-0-0 Motion passed

5.2 Equipment Safety Task Force
Dean Chang (SEMI TW) reported for the Equipment Safety Task Force. This report contained information on:

- **Robot Safety**
  - Taiwan OSHA wanted to propose collaborative robots safety requirements in July 2017
  - Regulation was pre-published on Oct. 1st, 2017 and formal version will be published on Dec. 1st, 2017
  - Detailed safety guidelines for the collaborative robot based on ISO 10218 will be pre-published and published by the end of this year

- **Green energy safety**
  - Taiwan OSHA wanted to propose green energy safety guidelines, CNS and regulations in Oct. 2017
    - Safety guidelines for solar energy and offshore wind energy will be proposed in Nov. 2017. Draft is reviewing by experts
    - CNS for solar energy and offshore wind energy will be proposed in 2019
    - Taiwan OSHA regulations for solar energy and offshore wind energy will be proposed in 2021

- Eddie Wu (Nexpw) and Eliza Liu (Epistar) stepped down from Equipment Safety Task Force leader positions

**Attachment:** Equipment Safety Task Force Report

### 5.3 Environmental Sustainability Task Force

Dean Chang (SEMI TW) reported for the Environmental Sustainability Task Force. This report contained information on:

- The Environmental Sustainability Task Force has been inactive for years so it is suggested to be disbanded

**Motion:** Approve to disband Environmental Sustainability Task Force

**By / 2nd:** Juin-Fu Chai (NCREE) / Long-Yee Yee (Applied Materials)

**Discussion:** After review, all TC members agreed to approve it

**Vote:** 8-0-0 Motion passed

### 6 Old Business

6.1 Counseling Water footprint and Carbon footprint by FITS - cancelled

6.2 Training course (May 5): Semiconductor Tool and Parts Decontamination – Team-based and Practice-based Learning (Advanced) - completed

6.3 Plan 2017 Sustainable Manufacturing Forum - completed

### 7 New Business

- Co-chair Fang-Ming Hsu (TSMC) suggested to study the feasibility of the following topics in the future:
  - Establish earthquake-related standards in consideration of manufacturing process:
    - suggest Juin-Fu Chai (NCREE) to contact the leader of Japan Seismic Protection Task Force to discuss how to protect mobile robots and equipment such as quartz tubes when earthquake takes place before attending SEMICON Japan 2017
  - Establish mobile robot related safety standards combining S17 and SEMI S28 in consideration of
    - clean/non-clean room circumstances
room with or w/o people circumstances
lithium batteries used in robots
  Modify energy conservation standards for ventilation equipment used in clean rooms in view of the power waste established by SEMI S2 and SEMI S23
  In order to establish standards for recycling different chemical substances from wet process tank, separate collection drains are suggested to be installed

8 Next Meeting and Adjournment
The next meeting is scheduled for March 21, 2018 at SEMI TW Office. See http://www.semi.org/standards-events for the current list of events.
Adjournment was at 16:00.

Respectfully submitted by:
Dean Chang
Senior Executive Consultant
SEMI Taiwan
Phone: 886-3-560-1777 #801
Email: dchang@semi.org

Minutes tentatively approved by:
Shuh-Woei Yu ((SAHTECH)), Co-chair November 10, 2017
(Name> (<Company>), Co-chair <Date approved>  

Table 13 Index of Available Attachments#1

<table>
<thead>
<tr>
<th>Title</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1_SEMI Standards Required Elements</td>
<td>3.3.2_Announcement Draft for Taiwan Chemical Substance Management_Chinese Version</td>
</tr>
<tr>
<td>2_EHS TC Meeting Miuntes_20170331</td>
<td>3.3.3_Semiconductor Vendor On-site Service Personnel Health Management Guidance_Chinese Version</td>
</tr>
<tr>
<td>3.1_EHS Japan_NATW_20171025</td>
<td>5.2_Equipment Safety Task Force Report</td>
</tr>
<tr>
<td>3.2_NA EHS TC Chapter Liaison report Sept 2017 v1</td>
<td></td>
</tr>
</tbody>
</table>

#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.