Metrics Global Technical Committee

North America (NA) Chapter

Meeting Summary and Minutes

North America Spring 2019 Standards Meetings
April 3, 2019 15:00–18:00
SEMI HQ, Milpitas, California

TC Chapter Announcements

Next TC Chapter Meeting
July 10, 2018, 15:00 – 18:00
Moscone Center, San Francisco, California

Table 1 Meeting Attendees

*Italicics* indicate virtual participants

Co-chairs: David Bouldin (Fab Consulting), Vladimir Kraz (Best ESD Technical Services), Mark Frankfurth (Cymer)

**SEMI Standards Staff:** Inna Skvortsova

<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>Fab Consulting</td>
<td>Bouldin</td>
<td>David</td>
<td>STG</td>
<td>Dilorio</td>
<td>Sal</td>
</tr>
<tr>
<td>BestESD Technical Services</td>
<td>Kraz</td>
<td>Vladimir</td>
<td>Intel</td>
<td>Tracy</td>
<td>Beckett</td>
</tr>
<tr>
<td>Tokyo Electron</td>
<td>Mashiro</td>
<td>Supika</td>
<td>Lam Research</td>
<td>Luis</td>
<td>Brandie</td>
</tr>
<tr>
<td>Applied Materials</td>
<td>Fitzpatrick</td>
<td>Russell</td>
<td>SEMI</td>
<td>Skvortsova</td>
<td>Inna</td>
</tr>
<tr>
<td>PEER Group</td>
<td>Fuchigami</td>
<td>Albert</td>
<td>SEMI</td>
<td>Amano</td>
<td>James</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>Critical Chamber Components (CCC) Test Methods TF</td>
<td>N/A</td>
<td>Michael Cox (Intel)</td>
</tr>
<tr>
<td>Manufacturing Ownership Diversity (MOD) TF [NEW]</td>
<td>N/A</td>
<td>Beckett Tracy (Intel)</td>
</tr>
<tr>
<td>Manufacturing Ownership Diversity (MOD) TF [NEW]</td>
<td>N/A</td>
<td>Carlos Dones (AMAT)</td>
</tr>
<tr>
<td>RF Measurement TF</td>
<td>Ya-hong Neirynck (Intel)</td>
<td>n/a (open)</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>N/A</td>
<td>Manufacturing Ownership Diversity (MOD) [NEW]</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>

Note 1: **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.
Note 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 Prior to the Originating TC Chapter meeting

<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>TBD</td>
<td>SNARF</td>
<td>ESD/ESC TF</td>
<td>Reapproval to SEMI E43-0813: <em>Guide for Electrostatic Measurements on Objects and Surfaces</em></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>TF</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD</td>
<td>Cycle 5-2019</td>
<td>ESD/ESC TF</td>
<td>Reapproval to SEMI E43-0813: <em>Guide for Electrostatic Measurements on Objects and Surfaces</em></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>2019Apr#1</td>
<td>(Russell F. and Chuck M.)</td>
<td>To coordinate on E43 content input with ESD Association.</td>
</tr>
<tr>
<td>2019Apr#2</td>
<td>(Brandie L.)</td>
<td>To provide Supika internal contact within TEL responsible for diversity programs</td>
</tr>
<tr>
<td>2019Apr#3</td>
<td>(Supika M.)</td>
<td>To bring to Regulations Subcommittee that changes to SEMI Standards Regulations might be required to accommodate new MOD TF. Target completion by SEMICON West.</td>
</tr>
<tr>
<td>2019Apr#4</td>
<td>(James A., Inna S.)</td>
<td>Allocate time on SEMICON West Metrics agenda for MOD TF. James will coordinate on behalf of standards staff if Inna must attend another TF/TC in parallel.</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>2018Nov#2</td>
<td>(Vladimir)</td>
<td>Create a script for E176 focused webinar. Submit to SEMI HQ (Inna will help to connect with SEMI Marketing).</td>
</tr>
<tr>
<td>2018Nov#6</td>
<td>(David B.)</td>
<td>To contact Cymer/ASML in Q1-2019 to support documents due for 5-year review. OPEN</td>
</tr>
<tr>
<td>2018SW#1</td>
<td>(Arnold S.)</td>
<td>To prepare and present ESDA Liaison Report at next Standards Meetings. OPEN</td>
</tr>
<tr>
<td>2018SW#2</td>
<td>(Vladimir K, Arnold S., Supika M.)</td>
<td>Arnold and Vladimir to create summary/problem statement (in PPT format) to demonstrate ESDA success and how similar means can help SEMI with popularization of ESD/ESC-related Standards. Summary to be presented at NA Fall Standards Meetings in Nov. 2018. Supika can present this report to relevant audience at ISC Japan meeting in December 2018. OPEN</td>
</tr>
<tr>
<td>2018SW#3</td>
<td>(Russell F.)</td>
<td>Contact Mitch Sakamoto for specifics on static electricity that have not yet been discussed by NA Chapter as related to reduction of defects at component level. OPEN</td>
</tr>
</tbody>
</table>
1 Welcome, Reminders, and Introductions
Cochair David Bouldin called the meeting to order at 15:05.
After welcoming all attendees, a round of introductions followed. The SEMI meeting reminders on membership requirements, antitrust, patentable technology, and meeting guidelines were then presented and explained by Inna Skvortsova (SEMI Staff).

Attachment 01: SEMI Standards Required Elements.ppt

2 Review of Previous Meeting Minutes
The TC Chapter reviewed and approved the minutes of the previous Fall 2018 Standards meeting.

Motion: To approve minutes as written.
By / 2nd: David Bouldin (Fab Consulting) / Russell Fitzpatrick (AMAT)
Discussion: None
Vote: 5-0 in favor. Motion passed.

- Inna Skvortsova reviewed the status of the previous meeting action items.

Attachment 02: NA Metrics TC Meeting Minutes (November 2018).pdf

3 SEMI Standards Staff Report
Inna Skvortsova (SEMI) gave the SEMI Staff Report. Of note:

SEMI Global 2019 Calendar of Events
- SEMICON Southeast Asia (May 7-9, Kuala Lumpur, Malaysia)
- SEMICON West (July 9-11, San Francisco, California)
- SEMICON Europa (November 12-15, Munich, Germany)
- SEMICON Japan (December 11-13, Tokyo, Japan)

Upcoming North America Meetings
- SEMICON West 2019 Meetings (July 8-11, 2019, San Francisco, California)
  - Standards Meetings will NOT be at the Marriott, but will be at MOSCONE South Hall this year.
  - Meeting room details will be available on the web.
- NA Standards Fall 2019 Meetings (November 4-7, 2019, SEMI HQ, Milpitas, California)
- NA Standards Spring 2020 Meetings (March 30 – April 2, 2020, SEMI HQ, Milpitas, California)

Letter Ballot Critical Dates for NA Standards meetings
- Cycle 3-19: due March 12 / Voting Period: March 26 – April 25
- Cycle 4-19: due April 16 / Voting Period: April 30 – May 30
- Cycle 5-19: due May 10 / Voting Period: May 24 – June 24
- Cycle 6-19: due July 19 / Voting Period: July 31 – August 30
Cycle 7-19: due August 22 / Voting Period: September 4 - October 4
Cycle 8-19: due October 11 / Voting Period: October 25 – November 25
Cycle 9-19: due Nov 14 / Voting Period: November 26 – December 26


**SEMI Standards Publications**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>New</th>
<th>Revised</th>
<th>Reapproved</th>
<th>Withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2018</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>December 2018</td>
<td>0</td>
<td>7</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>January 2019</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>February 2019</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Total SEMI Standards in portfolio: ~1000. Includes 268 Inactive Standards

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Designation</th>
<th>Title</th>
<th>Committee</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2018</td>
<td>SEMI C97</td>
<td>Specification for Determination of Particle Levels of Gases Delivered as Pipeline Gas or by Pressurized Gas Cylinder</td>
<td>Gases</td>
<td>NA</td>
</tr>
<tr>
<td>January 2019</td>
<td>SEMI M88</td>
<td>Practice for Sample Preparation Methods for Measuring Minority Carrier Diffusion Length in Silicon Wafers by Surface Photovoltage Methods</td>
<td>Silicon Wafer</td>
<td>JA</td>
</tr>
<tr>
<td>January 2019</td>
<td>SEMI T23</td>
<td>Specification for Single Device Traceability for the Supply Chain</td>
<td>Traceability</td>
<td>NA</td>
</tr>
<tr>
<td>February 2019</td>
<td>SEMI PV89</td>
<td>Test Method for Current-Voltage Measurement in Indoor Lighting for Dye-Sensitized Solar Cell and Organic Photovoltaic</td>
<td>Photovoltaic</td>
<td>TW</td>
</tr>
</tbody>
</table>

**Connected@SEMI Community**

- Web link - [https://connect.semi.org](https://connect.semi.org)
• Login using Standards account (username and password)
  o Program Member
    ▪ Join any task forces
    ▪ Post discussion thread
  o TF Leader/Community Admin
    ▪ Add member
    ▪ Upload meeting minutes
    ▪ Communicate TF members
    ▪ Contact your staff if a TF Site is desired
  o Details: www.semi.org/standards → Committee Info → Collaboration Community

• New Forms, Regulations & Procedure Manual
  o Regulations (Feb 28, 2019)
    ▪ Latest version clarifies procedures applicable for Copyrighted Items and trademarks
  o Procedure Manual (Feb 28, 2019)
  o SNARF (Feb 2019)
  o www.semi.org/standards
    ▪ Bottom left, under Resources!
• Style Manual Update (New version 6 issued March 25, 2019)
  • Additions and revisions to harmonize with updated Regulations and Procedure Manual
  • Updates
    ▪ Company or Organization Trademarks (Table 1, #1-24)
    ▪ Active vs. Passive Voice (Table 4, #4-4)
    ▪ Word Usage (Table 4, #4-5)
    ▪ New Safety Guideline Conformance Notice (Table 8, #8-1)
• www.1semi.org/standards/standardspublications: Under Document Authoring Tools

• SNARF(s) and TFOF approved by GCS in between TC Chapter Meetings
  o None
• SNARF three-year status TC Chapter may grant a one-year extension:
  o None
• Nonconforming Titles
  o None
NOTE: Refer to Procedure Manual (PM) Appendix Table A4-1 and A4-2

• Documents due for 5-Year Review
<table>
<thead>
<tr>
<th>Name</th>
<th>Due for Review</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMI E78-0912</td>
<td>9/28/2017</td>
<td>Guide to Assess and Control Electrostatic Discharge (ESD) and Electrostatic Attraction (ESA) for Equipment</td>
</tr>
<tr>
<td>SEMI E43-0813</td>
<td>8/21/2018</td>
<td>Guide for Electrostatic Measurements on Objects and Surfaces</td>
</tr>
<tr>
<td>SEMI E165-0813</td>
<td>8/30/2018</td>
<td>Guide for a Comprehensive Equipment Training System When Dedicated Training Equipment Is Not Available</td>
</tr>
<tr>
<td>SEMI E149-0314</td>
<td>3/14/2019</td>
<td>Guide for Equipment Supplier-Provided Documentation for the Acquisition and Use of Manufacturing Equipment</td>
</tr>
<tr>
<td>SEMI E10-0814E</td>
<td>3/14/2019</td>
<td>Specification for Definition and Measurement of Equipment Reliability, Availability, and Maintainability (RAM) and Utilization</td>
</tr>
</tbody>
</table>

Attachment 03: SEMI Staff Report Metrics TC (Spring 2018).ppt

4 Liaison Reports

4.1 Metrics Europe TC Chapter
NONE. No changes since November 2018.

4.2 Metrics Japan TC Chapter
Report presented by Inna Skvortsova (SEMI staff). Of note:
Japan TC Chapter resumed activities after the long break.
- Leadership (change)
  - None
- Meeting Information
  - Last Meeting
    - December 13, 2018 at the Japan Winter 2018 Meetings in conjunction with SEMICON Japan 2018, Tokyo Big Sight, Tokyo
  - Next Meeting
    - TBD in June at the Japan Summer 2019 Meetings, at SEMI Japan office, Tokyo
- TC Chapter Activities
  - Ballot – NONE
  - New activities – NONE
• Task Force Highlights
  o Japan RF Measurement Liaison Task Force
    ▪ Reviewed SEMI E113 “Specification for Semiconductor Equipment RF Power Delivery System”, focusing on:
      • Any inconsistency with E135 as a result of E135 major revision, which was published 2018,
      • Examining practicality of the current scope of the specification, especially inclusion of E-chuck etc. as a part of RF power delivery system,
      • Inconsistent use of critical terminology, and,
      • Practicality of RF power measurement requirements (Test Method defined in E136, which is planned to be revised by the NA RF Measurements Method TF).
    ▪ Based on mutual agreement, the TF is expected to take the initiative on the E113 revision in parallel with E136 revision effort by the primary TF.

• SEMI Staff Japan: Chie Yanagisawa cyanagisawa@semi.org

Attachment 04: Metrics Japan TC Liaison (Spring 2019).ppt

4.3 Technical Editors Board (TEB) Report
David Bouldin (Fab Consulting) reported that the Regulations SC and TEB completed revision of the SEMI Standards Style Manual. Current version was published prior to the Spring Standards Meetings.
Attachment: None

4.4 ESDA Liaison Report
None for this meeting. ESD/ESC TF will prepare and present ESDA Liaison Report at NA SEMICON West Standards.

5 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 during Spring 2019 Metrics TC Meeting.

6 Subcommittee and Task Force Reports

6.1 CCC Test Methods Task Force Report
Supika Mashiro reported for the CCC Test Methods Task Force current efforts:
  • Leadership change
    – Michal Cox (Intel) appointed as a second coleader of CCC Test Methods TF
  • New SNARFs
    – None
  • Ballots Adjudicated
    – None
  • Upcoming Ballots
6472, New Standard: Test Method for Measuring Surface Metal Contamination Through ICP-MS of Critical Chamber Components Used in Semiconductor Wafer Processing
- Ballot authorized for Cycle 5-2019 submission
- Other
- Plan to resume drafting of the Subordinate Standard (6483) when drafting of the Primary Standard is completed (i.e., the first Letter Ballot is ready)

Motion: Approve new coleader, Michael Cox (Intel) for the CCC Task Force.
By / 2nd: David Bouldin (Fab Consulting) / Supika Mashiro (TEL)
Discussion: None
Vote: 5/0. Motion passed.

Motion: To authorize ballot #6472 for Cycle 5-2019 submission for new standard.
By / 2nd: Supika Mashiro (TEL) / Russell Fitzpatrick (AMAT)
Discussion: None
Vote: 5/0. Motion passed.

Attachment 05: CCC Test Methods Task Force Report (April 2019)

6.2 EMC Task Force Report
Vladimir Kraz reported for the EMC Task Force. Of note:
- Leadership change: None
- SNARFs proposal / Ballots Adjudicated: None
- Industry Update
  - EMC: IEEE EMC Symposium, July 2019, New Orleans, LA
  - ESD:
    - EOS/ESD Symposium and Standards, Riverside, CA 9/15-20, 2019
    - EOS/ESD Standards Meeting – Riverside, CA, 9/8-15, 2019
- Upcoming Activities – To popularize E33 and E176
  - Submitted a paper for IEEE EMC Symposium in NOLA on introduction of SEMI Standards to IEEE Standards
  - Encourage SEMI members, such as equipment manufacturers, to popularize E176 among their customers:
    - It will improve operability and uptime of their equipment. It will improve process and yield at the FABs. Everyone wins.
  - Working on an article for inCompliance magazine on guidance for compliance with SEMI E176. This magazine is the key resource for EMC professionals.
  - SEMI will do some promotion, including a webinar in the future.

Attachment 06: SEMI EMC Task Force Summary (April 2019)

6.3 ESD/ESC Task Force
• Leadership change
  – None
• SNARFs proposal / Ballots Adjudicated
  – None
• Current and upcoming activities:
  – Continue review of E78 and E129
  – Major update now needed for compliance to Style Manual and alignment with industry association documents.
• Upcoming Activities
  – SEMI E43-0813, Guide for Electrostatic Measurements on Objects and Surfaces
    • Due for 5 year review. TF recommendation to issue reapproval ballot.
Motion: To approve SNARF for Reapproval to SEMI E43-0813: Guide for Electrostatic Measurements on Objects and Surfaces
By / 2nd: David Bouldin (Fab Consulting) / Russell Fitzpatrick (AMAT)
Discussion: None.
Vote: 5-0. Motion passed.

Motion: To authorize ballot submission in Cycle 5-2019 for Reapproval ballot for SEMI E43-0813: Guide for Electrostatic Measurements on Objects and Surfaces
By / 2nd: David Bouldin (Fab Consulting) / Russell Fitzpatrick (AMAT)
Discussion: None.
Vote: 5-0. Motion passed.

Attachment 07: SEMI ESD/ESC Task Force Summary (April 2019)
Action Item: (Russell F. and Chuck M.) To coordinate on E43 content input with ESD Association.

6.4 Equipment RAMP Metrics Task Force Report
Russell Fitzpatrick reported for the E-RAMP Metrics Task Force. Of note:
• Leadership change
  – None
• SNARFs proposal / Ballots Adjudicated
  – None
• Open Activities
  – SNARF for Line-time Revision to SEMI E10-0814E, Specification for Definition and Measurement of Equipment Reliability, Availability, and Maintainability (RAM) and Utilization
    • Due to technical questions the work on E10 is postponed until next TF meeting.
  – SNARF for Line-item Revision to SEMI E79-0814E, Specification for Definition and Measurement of Equipment Productivity
NOTE: Current SNARF for SEMI E10 will be replaced with a SNARF for a major revision due to changes required to comply with current version of Style Manual.
6.5 RF Measurements Task Force Report
Supika Mashiro presented on behalf of RF Measurements TF leader. Of note:

- TF Leadership & changes (if any):
  - Ya-hong Neirynck (Intel), stepping down;
  - Position currently open
- SNARFs proposals: None
- Ballots Results: None
- Upcoming Activities:
  - Focus on revision to SEMI E136
    - TEGAM 1st lead to review currently published version of the E136 and provide first screening for NA RF TF review by 4/30/2019
    - Draft SNARF for E136 Revision – for authorization at SEMICON West 2019
      - Will be distributed to the Metrics GTC members for 2-week review in June
  - Collaborate with JA RF Measurement TF for review/liaison on E113
    - TEL 1st lead on revision to SEMI E113
      - 1st draft of the revision management table was made and sent out to both JA and NA TF members
  - Consideration for the next topic is creating a new standard to address reliability/transient load testing that could not be structured within the scope of existing SEMI E135.
    - Upon when significant progress on revision to E136 & E113 is completed ~ 2020;

7 Old Business
7.1 Standards Due for Five-Year Review.
Inna Skvortsova addressed the TC Chapter on this topic. Of note:

<table>
<thead>
<tr>
<th>Name</th>
<th>Due for Review</th>
<th>Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMI E78-0912</td>
<td>9/1/2017</td>
<td>Guide to Assess and Control Electrostatic Discharge (ESD) and Electrostatic Attraction (ESA) for Equipment</td>
<td>Assigned to ESD/ESC TF</td>
</tr>
<tr>
<td>SEMI E129-0912</td>
<td>9/1/2017</td>
<td>Guide to Assess and Control Electrostatic Charge in a Semiconductor Manufacturing Facility</td>
<td>Assigned to ESD/ESC TF</td>
</tr>
<tr>
<td>SEMI E43-0813</td>
<td>08/21/2018</td>
<td>Guide for Electrostatic Measurements on Objects and Surfaces</td>
<td>Assigned to ESD/ESC TF for review</td>
</tr>
<tr>
<td>SEMI E165-0813</td>
<td>8/30/2018</td>
<td>Guide for a Comprehensive Equipment Training System When Dedicated Training Equipment is not Available</td>
<td>TC cochair is reaching out to Cymer to support document review. Expect to form new TF when recruit sufficient number of members (by SW)</td>
</tr>
<tr>
<td>SEMI E150-0314</td>
<td>3/14/2019</td>
<td>Guide for Equipment Training Best Practices</td>
<td>TC cochair is reaching out to Cymer to support document</td>
</tr>
</tbody>
</table>
7.2 SNARFs Approaching Three-Year Review

The TC Chapter reviewed the SNARFs approaching the 3-year document development period.

- No SNARFs needed extension.

8 New Business

8.1 New TFOFs Approval

- Manufacturing Ownership Diversity Task Force:
  - Task Force Leadership:
    - Beckett Tracy (Intel)
    - Carlos Dones (AMAT)
  - TF Charter:
    - Create a new SEMI Standard covering Manufacturing Ownership Diversity.
      - Customers increasingly require diverse ownership within the semiconductor supply chain and there is not an efficient and consistent method to measure or assess success. It appears there are not many companies owned by diverse individuals based on preliminary searches. In addition, the industry is missing the innovation that comes from diverse ideas driven by supplier owners.
  - TF Scope:
    - This task force will meet regularly to define Standards that contain the following:
      - Definitions needed for Manufacturing Ownership Diversity
      - Globally recognized method to determine if a supplier is diverse (e.g. >51% owned, controlled, and operated)
      - Needs to be affordable and certified by a third party
      - Criteria for a public company to state they have a Supplier Diversity program

Motion:  Move to authorize new Task for Manufacturing Ownership Diversity (MOD) under the leadership of Beckett Tracy (intel) and Carlos Dones (AMAT)

By / 2nd: Supika Mashiro (TEL) / Beckett Tracy (Intel)

Discussion: MOD TFOF is approved with condition that this activity will be transferred from Metrics GTC targeting for SEMICON West upon changes to Regulations being completed.

Vote: 5/1. Motion passed.

Attachment 10: SEMI Stds MOD TF Proposal Report April 2019

Action Item: (Brandie L.) To provide Supika internal contact within TEL responsible for diversity programs
Action Item: (Supika M.) To bring to Regulations Subcommittee the changes to SEMI Standards Regulations that might be required to accommodate new MOD TF. Target completion by SEMICON West.

Action Item: (James A., Inna S.) Allocate time on SEMICON West Metrics agenda for MOD TF. James will coordinate on behalf of Standards staff if Inna must attend another TF/TC in parallel.

8.2 New SNARFs
- New SNARFs were authorized as part of Task Force business/report.
  - Please refer to Section 6. Subcommittee and Task Force Reports of the meeting minutes.

8.2 New Ballots
- New ballots were authorized as part of the Task Force business/report section.
  - Please refer to Section 6. Subcommittee and Task Force Reports of the meeting minutes.

9 Action Items Review
9.1 Previous Meeting(s) Action Items
Inna Skvortsova (SEMI) reviewed open action items. These can be found in the Previous Meeting(s) Action Items table at the beginning of these minutes.

9.2 New Action Items
Inna Skvortsova (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

10 Next Meeting and Adjournment
The next meeting is scheduled for July 10, 2019 at Moscone Center, San Francisco, CA. See http://www.semi.org/en/events for the current list of meeting schedules.

Having no further business, a motion was made to adjourn at 6:15PM.

Respectfully submitted by:
Inna Skvortsova
Sr. Standards Coordinator
SEMI North America
Phone: 408-943-6996
Email: iskvortsova@semi.org

Minutes tentatively approved by:
David Bouldin (Fab Consulting), Cochair
Vladimir Kraz (BestESD), Cochair

Table 13 Index of Available Attachments

<table>
<thead>
<tr>
<th>Title</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Attachment 01) SEMI Standards Required Meeting Elements.pdf</td>
<td>(Attachment 06) SEMI EMC Task Force Summary (April 2019)</td>
</tr>
<tr>
<td>(Attachment 02) NA Metrics TC Meeting Minutes (Fall 2019).pdf</td>
<td>(Attachment 07) SEMI ESD Task Force Report (April 2019)</td>
</tr>
</tbody>
</table>
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 Inna Skvortsova at the contact information above.