TC Chapter Announcements

Next TC Chapter Meeting
Thursday, April 4, 2019 Milpitas, CA in conjunction with the NA Spring Standards Meeting. Check www.semi.org/en/standards for the latest update.

Table 1 Meeting Attendees

Co-Chairs: Chris Evanston (Salus Engineering International), Sean Larsen (Lam Research), Bert Planting (ASML)

SEMI Staff: Kevin Nguyen (SEMI HQ), James Amano (SEMI HQ), Laura Nguyen (SEMI HQ)

<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>Salus Engineering</td>
<td>Austin</td>
<td>Lindy</td>
<td>Lam Research</td>
<td>Larsen</td>
<td>Sean</td>
</tr>
<tr>
<td>Lam Research</td>
<td>Claes</td>
<td>Brian</td>
<td>Tokyo Electron</td>
<td>Mashiro</td>
<td>Supika</td>
</tr>
<tr>
<td>Axcelis</td>
<td>Clifton</td>
<td>Brick</td>
<td>ASML</td>
<td>Planting</td>
<td>Bert</td>
</tr>
<tr>
<td>ASM</td>
<td>Collins</td>
<td>Tara</td>
<td>TUV Rheinland</td>
<td>Pochon</td>
<td>Stephan</td>
</tr>
<tr>
<td>Tokyo Electron</td>
<td>Crane</td>
<td>Lauren</td>
<td>Axcelis</td>
<td>Roberge</td>
<td>Steve</td>
</tr>
<tr>
<td>Salus Engineering</td>
<td>Evanston</td>
<td>Chris</td>
<td>Safety Guru</td>
<td>Sklar</td>
<td>Eric</td>
</tr>
<tr>
<td>Nikon Precision</td>
<td>Girlea</td>
<td>Lucian</td>
<td>MURATA MACHINERY</td>
<td>Tominaga</td>
<td>Tadamasa</td>
</tr>
<tr>
<td>Nikon Precision</td>
<td>Greenberg</td>
<td>Cliff</td>
<td>Tokyo Electron</td>
<td>Tsuru</td>
<td>Mark</td>
</tr>
<tr>
<td>Applied Materials</td>
<td>Jumper</td>
<td>Steve</td>
<td>Seagate</td>
<td>Wong</td>
<td>Carl</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>Manufacturing Equipment Safety Subcommittee</td>
<td>Kalysha Rivera (TEL)</td>
<td>Tara Collins (ASM)</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>6172A</td>
<td>Line item revision to SEMI S14-1016 Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment</td>
<td>Failed and returned to TF for rework</td>
</tr>
</tbody>
</table>
### 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>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](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>6366A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Anchorage TF</td>
<td>Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6049B</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>S10 Revision TF</td>
<td>Line Item Revision to SEMI S10-0815E, Safety Guideline for Risk Assessment and Risk Evaluation Process</td>
</tr>
<tr>
<td>5969A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Fire Protection TF</td>
<td>Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (pertaining to Fire)</td>
</tr>
<tr>
<td>5970A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Fire Protection TF</td>
<td>Line Item Revisions to SEMI S14, Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6309</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Ergonomics TF</td>
<td>Line Item Revision to S8-0915, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment</td>
</tr>
</tbody>
</table>
Table 8 SNARF(s) Granted a One-Year Extension

<table>
<thead>
<tr>
<th>#</th>
<th>TF Title</th>
<th>Title</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>5970</td>
<td>Fire Protection TF</td>
<td>Line Item Revisions to SEMI S14, Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment (pertaining to alignment with SEMI S10 )</td>
<td>November 2019</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>None</td>
<td>None</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>None</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>Nov8-2018#1</td>
<td>Kevin Nguyen</td>
<td>To ask Dean Chang (SEMI Taiwan) to send Sean Larsen materials on Taiwan OSHA safety update</td>
</tr>
<tr>
<td>Nov8-2018#2</td>
<td>Kevin Nguyen</td>
<td>To remind Natalie Shim (SEMI Korea) that Chris Evanston would like a face to face meeting with S2 Korean High Pressure Gas Safety TF during SEMICON Korea.</td>
</tr>
</tbody>
</table>

Table 12 Previous Meeting Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>July12-2018#1</td>
<td>Kevin Nguyen</td>
<td>To ask Dean Chang (SEMI Taiwan) to send Sean Larsen materials on Taiwan OSHA safety update</td>
<td>Completed. However, Dean did not follow-up.</td>
</tr>
<tr>
<td>July12-2018#2</td>
<td>Kevin Nguyen</td>
<td>To ask SEMI IT for a virtual meeting demo at the next EHS TC Chapter meeting</td>
<td>Request was sent to IT.</td>
</tr>
</tbody>
</table>
1 Welcome, Reminders, and Introductions

1.1 Bert Planting called the meeting to order at 9:00 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: Carl Wong/Lucian Girlea
Discussion: None
Vote: 5-0. Motion passed

3 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 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.

3.1 Doc. 6172A Line item revision to SEMI S14-1016: Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment
- Line Item 1 - Correct title for conformance
  - Failed and returned to TF for rework
- Refer attachment below for details.

Attachment: 6172A Procedural Review

3.2 Doc. 6049A Line-Item Revision to SEMI S10-0815E Safety Guideline for Risk Assessment and Risk Evaluation Process
- Line Item 1 - Delete the exception to section 19.1.2
  - Failed and returned to TF for rework
- Line Item 2 - Changes pertaining to Severity Groups: Environment
  - Failed and returned to TF for rework
- Line Item 3 - Changes pertaining to Severity Groups: Equipment/Facility
  - Failed and returned to TF for rework
- Line Item 4 - Changes pertaining to Likelihood Groups
  - Failed and returned to TF for rework
- Refer attachment below for details.

Attachment: 6049A Procedural Review

3.3 Doc. 6354 Line Item Revision to SEMI S2-0818, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment
- Line Item 1 - Delayed Revisions related to High Pressure Gas Safety
Failed and returned to TF for rework

- Refer attachment below for details.

**Attachment:** 6354 Ballot Review

### 3.4 Doc. 5671D New Standard: Safety Guideline for Use of Energetic Materials in Semiconductor R&D and Manufacturing Processes

- Failed and returned to TF for rework
- Refer attachment below for details.

**Attachment:** 5761D_CompiledResponses_es07nov18c

### 4 Liaison Reports

#### 4.1 Japan TC Chapter

4.1.1 Supika Mashiro reported. Of notes:

- Last Meeting
  - September 4 at the Japan Fall 2018 Meetings
  - SEMI Japan office, Tokyo
- Next Meeting
  - December 14 at the Japan Winter 2018 Meetings in conjunction with SEMICON Japan 2018
- STEP/SEMI S2 was held in November 2018 at SEMI Japan office with more than 70 attendees.
- Ballot Results
    - Passed as balloted
    - Passed as balloted

**Attachment:** 20181030_EHS Japan_NA_v1.0

#### 4.2 Taiwan TC Chapter

4.2.1 Kevin Nguyen reported. Of notes:

- Last Meeting
  - October 4, 2018 at the Taiwan Fall 2018 Meetings
  - SEMI Taiwan office, Hsinchu, Taiwan
- Next Meeting
  - Thursday, March 20, 2019 at the Taiwan Spring 2019 Meetings
  - SEMI Taiwan office, Hsinchu, Taiwan
- Leadership / Leadership Changes
  - Fang-Ming Hsu (TSMC) Retired from TSMC(10/23).
  - Note: Looking for new TC co-chair from TSMC.
- Equipment Safety TF
  - Will re-organize the member before year-end.
- Seismic TF
o Will re-organize the member before year-end.

o Chai Juin-Fu (NCREE) will visit Sony to discuss seismic issue during SEMICON Japan 2018.

**Attachment:** EHS TW Liaison Report_201801004 rev1

4.3 Korea EHS Activities
4.3.1 Chris Evanston reported S2 revision to include a Related Information on Korean High Pressure Gas Safety Control Requirement for Specific Equipment is moving along. Due to language barrier, the process is slow but encouraging. There is a strong desire to have end user participation, and the effort is underway. Chris will discuss with Natalie Shim (SEMI Korea staff) and James Amano to push for Korean EHS TC CFG (Chapter Formation Group).

4.4 ICRC Liaison
4.4.1 Lauren Crane reported the group discussed and reviewed the dashboard. There are many EHS related issues rising, and some are quite difficult.

4.4.2 Also, SEMI is hosting an EHS summit on November 29 at SEMI HQ. This event is opened to SEMI members only. This forum will be a brainstorming session on EHS issues effecting SEMI members. The goal is to come up with a plan on how SEMI can help its members.

4.5 RSC / Committee Leadership Report
4.5.1 Sean Larsen reported. Of notes.
      - Improvements on Rules for Handling of Patented Technology ( Regulations § § 16.1-16.3)
      - If trademark is used in standards, reference to ownership must be identified.
   - SEMI may be phasing out with RingCentral. Skype conferencing is being tested. More information will be available next year.

5 Subcommittee & Task Force Reports
5.1 S10 Revision TF
5.1.1 Bert Planting reported the ballot for S10 failed.
5.1.2 The TF will set up teleconferences and prepare for ballot for review at NA Spring meeting.

**Attachment:** SEMI S10 report committee meeting fall 2018

5.2 Manufacturing Equipment Safety Subcommittee (MESSC)
5.2.1 Cliff Greenberg reported. Of notes:
   - Tara Collins has offered to co-chair

**Motion:** To nominate Tara as a co-chair
**By / 2nd:** Clifton Brick/Lauren Crane
**Discussion:** None
**Vote:** 12-0. Motion passed
   - Should safety interlocks be testable? (S13)
      - Included some discussion about interlock circuits vs US-OSHA LOTO for safe work

**Attachment:** MESSC 2018 Fall minutes1
5.3 *S2 Chemical Exposure TF*

5.3.1 Sean Larsen reported. Of notes,

- TF Revisited O₂ deficient atmospheres (ODA)
  - ODA definition < 19.5% as the threshold for conformance

- Continued Efforts
  - Documentation by supplier on consumption and potential equipment emissions of simple asphyxiants
  - Add information on the requirements for evaluation after installation to address facility specific exposure during maintenance tasks
  - Outline potential parameters for equipment installation
  - Phone calls to address beyond normal operation prior to ballot cycle to be able to submit for last cycle prior to Spring

**Attachment:** 2018 Fall Chem Exp TF report out

5.4 *S6 Revision TF*

5.4.1 Sean Larsen reported. Of notes:

- Reviewed topics from West
  - Discussed RFO installation / validation issue
  - Determined user performance issue that doesn’t need more effort at this time

- Gas Detector Mfg Discussion
  - Suppliers acknowledged they wanted to continue discussion and work on finding a solution on qualifying parameters that can be used as a beginning basis to establish reliable use
  - Detector quality parameters to be considered:
    - sensitivity / reliability / MTTF / basis for test reports provided to customers / response time / collaboration with available existing std requirements / (EN / Taiwan) traceability / response linearity
  - Conference call before December Holidays to keep momentum

**Attachment:** 2018 Fall S6 TF rpt out

5.5 *Fire Protection TF*

5.5.1 Eric Sklar reported. Of notes:

- Previous Ballot:
  - SEMI Draft Document # 5969: Addition of criteria to determine which method of assessing fire risk is to be used.
  - Failed, returned to TF for rework.

- Future Topics
  - Modification of the Fire Detection Only section to be more applicable to industry needs and practice
  - Addition of fire protection design, integration, and fire detection performance criteria
  - Assessment of smoke risk in fabs
  - Explicit inclusion of FPD, solar, solid state light sources, et al. equipment in the Scope of S14
o Further Alignment of S14 with S10 (awaiting S10 TF’s action on S10’s Severity table)
o Fire suppression system disable switches

• Future Plans
  o Reballot 5969 in time to be adjudicated at the 2019 Spring Meetings
  o Define SNARF(s) necessary to proceed with proposed plans, to be requested at the 2019 Spring Meetings

Attachment: FPTF_tf08nov18es

5.6 S3 Revision TF

5.6.1 Eric Sklar reported. Of notes:

• SEMI S3 was balloted for 5-year Reapproval, republished as S3-1017E
  o The ballot responses included the suggestion that the scope should be substantially expanded to include heating used in SME, but not within the published scope.
  o Task Force was formed and agreed that expansion of scope is appropriate.

• Current topics list, in the order in which TF intends to address them.
  1. Heating of chemicals obtained as solids, liquids, gases, or combinations thereof
  2. Chemicals obtained as liquids that contact substrates as liquids, gases, or combinations thereof
  3. Chemicals used directly for processing and for such purposes as in situ chamber cleaning and seasoning
  4. Heating to maintain the temperature of piping and other components to manage the risks resulting from condensation (upstream and downstream of process chamber) (including feedback to address loss of heating, such as in effluent lines)
  5. Corrosion, including by novel process chemicals
  6. Chemical reactions used for, or incidentally resulting in, heating
  7. Use of heaters for energetic materials
  8. Other improvements that might be found appropriate for EHS Committee consideration.

• Discussion: Chris Evanston asked if the TF plans to cover all topics listed above. He feels some of these are already covered in S2. Eric Sklar said the TF will look at, but this is the priority list.

• Plan
  o At its 07 November 18 meeting, the TF decide to approach this piece-wise. The first revision ballot to be prepared will address items 1 and 2.
  o SNARF 6209 has already been approved
  o covers process chemicals obtained as liquid, delivered as gas
  o TF will begin work under this number, but foresees needing to modify or replace SNARF before balloting, which is expected to be after the Fall 2019 Meetings.

Attachment: S3rev_tf08nov18a

5.7 Control of Hazardous Energy (CoHE) TF

5.7.1 Sean Larsen reported. Of notes:

• It was a short meeting. Lack of idea on moving forward, however, there was enough interest of keep the task force active for the time being.
5.8 S8 (Ergonomics) TF

5.8.1 Sean Larsen reported. Of notes:

- Status of SNARF Open Line Items
  - SNARF #5996 LI 2: One-handed handling
  - SNARF #5996 LI 3: Torque and Push/Pull knobs/lever handles
  - Task force discussed adding more parameters for hand grip types.
  - SNARF #6309 LI 3: Create a new related information section that provides ergonomics risk assessment guidance.
  - Task force agreed that the first item should be lifting risk characterization tool using a model similar to the ISMI risk characterization matrix with adjustments.
  - Task force agreed it would be best to make this a new related information section.
  - Assumptions for the number of machines per worker needs further discussion.
  - Plan to continue task force teleconferences to finalize ballot items.

Attachment: SEMI-S8_TF_meeting_summary_08NOV2018

5.9 S23 TF

5.9.1 Lauren Crane reported. Of notes,

- There was a presentation from Applied Materials.
- The intent is determining if there is interest within SEMI on the issuance of standard, guideline or other document dealing with Semiconductor Manufacturing Equipment (SME) on the use of high temperature water cooled by evaporation or free-cooling rather refrigeration for the purpose of facilitating reductions in end-user energy consumption.
- The next step will be forwarding this information to Japanese TF members for further discussion.

Attachment: SEMI Draft Proposal HTPCW_181101 20181102-1521

5.10 S2 Seismic TF

5.10.1 Lauren Crane reported. Of notes,

- There is still an outstanding line item 1 for doc. 6372 (Line Item Revision to S2), failed at SEMICON West, on deleting exception on 19.1.2. Since it is not a pressing matter, the TF will be on sleep mode until someone brings up any other issues.

5.11 PFOA Specification TF

5.11.1 Steve Roberge reported. Of notes,

- Good discussion was held in the meeting. The TF plans to move all trademarks reference the Related Information section and issue for ballot doc. 6439, New Standard: Specification for PFOA Restriction in Fluoromaterials, for review at NA Spring meeting.

Attachment: 2018-11-07 SEMI EHS Specification Restricting PFOA

5.12 S2 Anchorage TF

5.12.1 The TF leader did not show up, but Sean Larsen reported the TF plans to issue ballot for review at the next meeting.
5.13 Other Interest Documents

5.13.1 Sean Larsen reported Power Harmonic TF under NA Facilities was working on doc. 6037, New Standard, Specification for Power Grid Harmonics Compatibility. The TF did not meet. The status is still unknown.

5.13.2 Also, Sean Larsen mentioned Mark Stephens at EPRI is forming a Voltage Sag Immunity Task Force under the Facilities NA TC Chapter. The goal is to evaluate three-phase voltage sags for possible inclusion for testing in the SEMI F47. This may be a challenge since many are not capable of testing for 3-phase sags and unclear how to increase system ride through.

6 SEMI Staff Report

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

- Next meetings
  - April 1-4, 2019 at SEMI HQ in Milpitas, California
- 2018 Critical Dates for SEMI Standards Ballots
  - Cycle 9, 2018
    - Ballot Submission Date: Nov 14
    - Voting Period Starts: Nov 28
    - Voting Period Ends: Dec 28
- 2019 Critical Dates
- SEMI Standards Publications
  - Total SEMI Standards in portfolio: 996
    - Includes 252 Inactive Standards
- New Forms, Regulations & Procedure Manual
  - New version of Regulations (June 8, 2018)
    - Improvements on Rules for Handling of Patented Technology (Regulations § § 16.1-16.3)
      - Sections 16.4.1 and 16.4.4 of the recently revised of the Regulations contain requirements for the use of trademarks in published Documents.
      - Existing Documents have been found that contain trademarks for items such as materials, software protocols, and equipment.
      - All TC Chapters should review their Documents at the time a revision or reapproval ballot is planned to determine if a trademark is used and, if so, whether its use is justified, properly represented, and that a footnote references the trademark owner.
      - Failure to do so could jeopardize ballot approval.
- SNARF 3 year status - TC Chapter may grant a one-year extension
  - Doc. 5969, Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (pertaining to Fire)
  - Doc. 5970, Line Item Revisions to SEMI S14, Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment (pertaining to alignment with SEMI S10)

Motion: Authorize 1 year extension for above SNARFs
By / 2nd: Eric Sklar/Bert Planting
Discussion: None
Vote: 9-0. Motion passed

Attachment: Staff Report Nov 2018_SA rev1
7 Old Business
None

8 New Business

8.1 Upcoming Ballot Authorizations

8.1.1 The following ballots are authorized for the next meeting.

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>TF</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6366A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Anchorage TF</td>
<td>Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6049B</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>S10 Revision TF</td>
<td>Line Item Revision to SEMI S10-0815E, Safety Guideline for Risk Assessment and Risk Evaluation Process</td>
</tr>
<tr>
<td>5969A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Fire Protection TF</td>
<td>Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (pertaining to Fire)</td>
</tr>
<tr>
<td>5970A</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Fire Protection TF</td>
<td>Line Item Revisions to SEMI S14, Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6309</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Ergonomics TF</td>
<td>Line Item Revision to S8-0915, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6171</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Chemical Exposure TF</td>
<td>Line Item Revision to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment + Chemical exposure</td>
</tr>
<tr>
<td>6439</td>
<td>Cycle 9-18, 1 or 2 of 2019</td>
<td>Restriction of Materials TF</td>
<td>New Standard: Specification for PFOA Restriction in Fluoromaterials</td>
</tr>
</tbody>
</table>

Motion: To authorize above documents for ballots for cycle 9 of 2018, cycle 1 or 2 of 2019.
By / 2nd: Eric Sklar/Bert Planting
Discussion: None
Vote: 7/0. Motion passed

8.2 Fall Scheduling

The following is the draft schedule for Spring.

Attachment: Spring 2019

9 Next Meeting and Adjournment

9.1 The next meeting is scheduled for Thursday, April 4, 2019 at SEMI HQ, Milpitas, 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. Adjournment was at 1:00 PM.
Respectfully submitted by:
Kevin Nguyen,
SEMI Standards Operations Manager
Phone: 408-943-7997
Email: knguyen@semi.org

Minutes tentatively approved by:
<table>
<thead>
<tr>
<th>Name</th>
<th>Date Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean Larsen (Lam Research)</td>
<td>December 10, 2018</td>
</tr>
<tr>
<td>Chris Evanston (Salus Engineering International)</td>
<td>&lt;Date approved&gt;</td>
</tr>
<tr>
<td>Bert Planting (ASML)</td>
<td>&lt;Date approved&gt;</td>
</tr>
</tbody>
</table>

Table 13 Index of Available Attachments

<table>
<thead>
<tr>
<th>Title</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>6172A Procedural Review</td>
<td>2018 Fall Chem Exp TF report out</td>
</tr>
<tr>
<td>6049A Procedural Review</td>
<td>2018 Fall S6 TF rpt out</td>
</tr>
<tr>
<td>6354 Ballot Review</td>
<td>FPTF_tff08nov18es</td>
</tr>
<tr>
<td>5761D_CompiledResponses_es07nov18c</td>
<td>S3rev_tff08nov18a</td>
</tr>
<tr>
<td>20181030_EHS Japan NA_v1.0</td>
<td>SEMI-S8_TF_meeting_summary_08NOV2018</td>
</tr>
<tr>
<td>EHS TW Liaison Report_20180104 rev1</td>
<td>2018-11-07 SEMI EHS Specification Restricting PFOA</td>
</tr>
<tr>
<td>SEMI S10 report committee meeting fall 2018</td>
<td>Staff Report Nov 2018_SA rev1</td>
</tr>
<tr>
<td>MESSC 2018 Fall minutes1</td>
<td>Spring 2019</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.