TC Chapter Announcements

Next TC Chapter Meeting
Thursday, July 13, 09:00 – 18:00
SEMICON West 2017, San Francisco, CA

Table 1 Meeting Attendees
*Italics* indicate virtual participants

<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>Air Liquide</td>
<td>Dawson</td>
<td>Anita</td>
<td>Nikon Precision</td>
<td>Greenberg</td>
<td>Cliff</td>
</tr>
<tr>
<td>ASM America</td>
<td>Fessler</td>
<td>Mark</td>
<td>Safety Guru</td>
<td>Sklar</td>
<td>Eric</td>
</tr>
<tr>
<td>ASML</td>
<td>Planting</td>
<td>Bert</td>
<td>Salus Engineering</td>
<td>Evanston</td>
<td>Chris</td>
</tr>
<tr>
<td>Brooks Automation</td>
<td>Fitzgerald</td>
<td>Daniel</td>
<td><em>Texas Instruments</em></td>
<td>Schwab</td>
<td>Paul</td>
</tr>
<tr>
<td>BSI EHS Services and Solutions</td>
<td>McIntyre</td>
<td>Andrew</td>
<td>Tokyo Electron</td>
<td>Crane</td>
<td>Lauren</td>
</tr>
<tr>
<td><em>Global Foundries</em></td>
<td>Petry</td>
<td>Bill</td>
<td>Tokyo Electron</td>
<td>Mashiro</td>
<td>Supika</td>
</tr>
<tr>
<td>KLA-Tencor</td>
<td>McDaid</td>
<td>Raymond</td>
<td>Tokyo Electron</td>
<td>Tsuru</td>
<td>Mark</td>
</tr>
<tr>
<td>LAM Research</td>
<td>Claes</td>
<td>Brian</td>
<td>Tokyo Electron</td>
<td>Laird</td>
<td>Jon</td>
</tr>
<tr>
<td>Lam Research</td>
<td>Larsen</td>
<td>Sean</td>
<td>Tokyo Electron</td>
<td>Hirai</td>
<td>Mark</td>
</tr>
<tr>
<td>Muratec</td>
<td>Tominaga</td>
<td>Tadamas</td>
<td>SEMI</td>
<td>Collins</td>
<td>Junko</td>
</tr>
<tr>
<td>Nikon Precision</td>
<td>Girlea</td>
<td>Lucian</td>
<td>SEMI</td>
<td>Skvortsova</td>
<td>Inna</td>
</tr>
</tbody>
</table>

Table 2 Leadership Changes
None

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>New Anchorage TF</td>
<td></td>
</tr>
<tr>
<td>New S3 Revision TF</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>6098</td>
<td>Reapproval of SEMI S3-1211, Safety Guideline for Process Liquid Heating Systems</td>
<td>Passed with editorial changes</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 prior to the Originating TC Chapter meeting

None

Table 6 Authorized Activities

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

<table>
<thead>
<tr>
<th>#</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6171</td>
<td>S2 Chemical Exposure TF</td>
<td>Line Item Revision to SEMI S2 related to chemical exposure improvements.</td>
</tr>
<tr>
<td>5681</td>
<td>S6 Revision TF</td>
<td>SNARF (Line Item Revisions to SEMI S6, EHS Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment ) revised to add LI revision to correct nonconforming title</td>
</tr>
<tr>
<td>6172</td>
<td>Fire Protection TF</td>
<td>Line Item Revision to SEMI S14 to correct nonconforming title</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>5681</td>
<td>Cycle 5-2017</td>
<td>S6 Revision Task Force</td>
<td>Line Item Revision to SEMI S6, EHS Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>5996</td>
<td>Cycle 5-2017</td>
<td>S8 TF</td>
<td>Line Item Revision to S8, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment</td>
</tr>
<tr>
<td>6049</td>
<td>Cycle 5-2017</td>
<td>S10 TF</td>
<td>Line-Item Revision to SEMI S10-0815E Safety Guideline for Risk Assessment and Risk Evaluation Process</td>
</tr>
<tr>
<td>6172</td>
<td>Cycle 5-2017</td>
<td>Fire Protection TF</td>
<td>Line Item Revision to SEMI S14-1016 - Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment to correct nonconforming title</td>
</tr>
</tbody>
</table>
Table 8 SNARF(s) Granted a One-Year Extension
None

Table 9 SNARF(s) Abolished
None

Table 10 Standard(s) to receive Inactive Status
None

Table 11 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>04062017-#1</td>
<td>James Amano (SEMI Staff)</td>
<td>Staff to include 6098 in next A&amp;R cycle.</td>
</tr>
<tr>
<td>04062017-#2</td>
<td>Chris Evanston</td>
<td>Chris Evanston to prepare TFOF and SNARF for S28 revision.</td>
</tr>
<tr>
<td>04062017-#3</td>
<td>James Amano (SEMI Staff)</td>
<td>Staff to add ICRC update (Crane) to EHS TC agenda</td>
</tr>
<tr>
<td>04062017-#4</td>
<td>NA TC Chapter Co-Chairs</td>
<td>NA TC Chapter Co-Chairs to coordinate with Andy McIntyre and set up teleconference.</td>
</tr>
<tr>
<td>04062017-#5</td>
<td>James Amano (SEMI Staff)</td>
<td>James Amano to distribute S3 SNARF to global EHS TC Members for review.</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>11102016-#1</td>
<td>John Visty (Salus Engineering)</td>
<td>To prepare the Ratification Ballot R4683J and forward to SEMI for cycle 9-16 ballot.  <strong>COMPLETED</strong></td>
</tr>
<tr>
<td>11102016-#2</td>
<td>Sean Larsen (Lam Research)</td>
<td>To distribute a slide on revised Regs 9.6.4 to EHS leaders. <strong>COMPLETED</strong></td>
</tr>
<tr>
<td>11102016-#3</td>
<td>Kevin Nguyen (SEMI Staff)</td>
<td>To prepare S3 reapproval ballot for cycle 9-16. <strong>COMPLETED</strong></td>
</tr>
</tbody>
</table>

1 Welcome, Reminders, and Introductions
Sean Larsen called the meeting to order at 09:00. 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_June2016.ppt

2 Review of Previous Meeting Minutes
The TC Chapter reviewed the minutes of the previous meeting.

**Motion:** To approve the minutes with editorial change (addition of Tadamasa Tominaga/Muratec to Meeting Attendees)
**By / 2nd:** Bert Planting/John Visty
**Discussion:** None
**Vote:** 10-0

Attachment: EHS NA TC Minutes 11102016.ppt
3 Liaison Reports

3.1 Japan TC Chapter
Supika Mashiro reported.

- Leadership Changes
  - Naokatsu Nishiguchi/SCREEN BSS stepped down from Seismic Protection Task Force. New task force leader has not yet been assigned.

- Ballot Results
  - Doc. 5556B: Line Item Revision to SEMI S2-0715, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment, Revisions to §19 “Seismic Protection” (In Delayed Effective Date Format)
    - Passed with editorial changes and technical changes on June 28
      - Ratification Ballot issued to validate all of the technical changes made by a TC Chapter during adjudication of 5556B in Cycle 6.
      - Met approval conditions
    - Also both 5556B and R5556B passed the A&R process, published as S2-1016a

- Five-year review
  - S16-0307 (Reapproved 0812) Guide for Semiconductor Manufacturing Equipment Design for Reduction of Environmental Impact at End of Life
    - SNARF for reapproval will be prepared.
  - S17-0113 Safety Guideline for Unmanned Transport Vehicle (UTV) Systems
    - SNARF for re-approval will be prepared
  - S18-0312 Environmental, Health and Safety Guideline for Flammable Silicon Compounds
    - SNARF for the item ballot with the title change (PM A4-1)
  - S21-1106E (Reapproved 0612) Safety Guideline for Worker Protection
    - SNARF for re-approval will be prepared
  - S29-0712 Guide for Fluorinated Greenhouse Gas (F-GHG) Emission Characterization and Reduction
    - The task force will discuss
  - S24-0306 (Reapproved 0811) Safety Guideline for Multi-Employer Work Areas
    - Inactive

Attachment: EHS Japan NA_2017.03.28.ppt

3.2 Taiwan TC Chapter
James Amano reported. There were several leadership changes as follows:

- Mr. Eric Lin (quit from Epistar) stepped down from Equipment Safety TF Task Force. Ms. Eliza Liu (Epistar) succeed Mr. Eric Lin as leader.
- Mr. Benny Chen (quit from AUO) stepped down from Equipment Safety TF Task Force. Mr. Wells Lin (AUO) succeed Mr. Benny Chen as leader.
- Mr. Alice Lin (quit from Innolux) stepped down from Equipment Safety TF Task Force. Ms. Jean Yang (Innolux) succeed Mr. Alice Lin as leader.
• Mr. C.Y Hung (quit from TSMC) stepped down from Environmental Sustainability Task Force. New task force leader is not assigned yet.

• Mr. D.W. Sun (quit from TSMC) stepped down from Seismic Task Force. New task force leader is not assigned yet.

**Attachment:** Taiwan EHS Liaison Report _ 20170331 v2.ppt

### 3.3 SEMI Staff Report

James Amano(SEMI) gave the SEMI Staff Report. Of note:

- Critical Dates for ballots to be adjudicated at SEMICON West

<table>
<thead>
<tr>
<th></th>
<th>Ballot Submission Deadline</th>
<th>Voting Opens</th>
<th>Voting Closes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle 4</td>
<td>Apr 14</td>
<td>Apr 25</td>
<td>May 25</td>
</tr>
<tr>
<td>Cycle 5</td>
<td>May 12</td>
<td>May 26</td>
<td>June 26</td>
</tr>
</tbody>
</table>

- Nonconforming Titles
  - SEMI S6-0707E - EHS Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment
    - Replacement terms
      - Safety Guideline for… or Environmental, Health, and Safety Guideline for …
  - SEMI S14-1016 - Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment
    - Replacement term
      - Safety Guideline for….

- Documents due for Five-Year Review
  - SEMI S25-0213 - Safety Guideline for Hydrogen Peroxide Storage & Handling Systems

**Attachment:** Staff Report EHS March 2017 v6.ppt

### 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.

4.1 Document # 6098, Reapproval of SEMI S3-1211, Safety Guideline for Process Liquid Heating Systems

- Approved with editorial changes. Details are in the attached procedural review form. Staff will include in next Audits and Reviews Subcommittee procedural review cycle.

**Action Item:** Staff to include 6098 in next A&R cycle.

**Attachment:** 6098 Procedural Review.doc

### 5 Subcommittee and Task Force Reports

5.1 Manufacturing Equipment Safety Subcommittee (MESSC)

Lauren Crane reported.
• S2 DR2 – Item 1 – what is certified?
  o “18.8.5.3 If fall arrest or fall restraint systems are recommended by the equipment supplier, anchor points should be provided as part of the equipment or specified as part of the facility. Each anchor point should be designed or specified to support a static load of at least 22.24 kN (5,000 lbf).
  o EXCEPTION: Fall arrest or fall restraint systems that meet the criteria for “certified” (those designed and evaluated by a qualified person) may use two (2) times the arresting force or a static load of at least 8 kN (1,800 lbf).”
  o The exception is not aligned with surrounding terminology and concepts.
  o There are no criteria provided for ‘certified’ fall arrest (FA) or fall restraint (FR) systems – other than the criteria provided parenthetically. If this use of certified is meant to recall S2 §13.4.3, then the parenthetical text is not an accurate summary of that section.
  o There is terminology for ‘certified anchor point’ … perhaps there is some tangling here?.
  o The base criterion is about the anchor points ability to support a certain static load, but the exception changes focus to FA/FR systems being allowed to ‘use’ 2 times the arresting force etc… Thus it is not at all clear what aspect of the base criterion is being excepted.
  o Details of the proposed change are in the attached presentation (MESCC - Spring 2017 report-cg.ppt). TFOF will be submitted for approval in “New Business”

• S22 DR 1 – Bad TOC
  o In S22 there is currently a DR section planning to install a table of contents in July 2018, but the document already has been given a table of contents.
  o If the DR is executed as written, the page numbers, and possibly some of the contents descriptions will be incorrect.
  o For this particular DR execution, SEMI staff could ‘do the right thing’ and S22 would not be disrupted.
  o What concerns me is we have a DR planned for ‘release’ that, I doubt, SEMI staff has no plan to actually follow as written – when we have DRs that are not executed as written, we have a credibility and reliability problem.
  o One procedurally correct solution might be to ballot the TOC out of the DR, since it already exists, and leave in the DR only the deletion of section 2.2.
  o Sean Larsen explained that the issue could be resolved via a Publications Improvement Proposal (PIP) form. He displayed the form that he prepared:
    ▪ Proposed Change and Revision: Remove the Table of Contents from the DR that is in conflict with the ToC that is in the front of the document.
    ▪ Action Item: James Amano to forward PIP form to Publications staff.

• S2/S22 FECS linking
  o S22 Section 13.7.3.2 (currently in DR 2) is a ‘landing point’ for EMO system pointers from S2 and from S22.
  o Both S2 and S22 differentiate EMO systems from Safety Interlock Systems - there is no statement in either that an EMO circuit is a type of safety interlock circuit.
  o However, the criterion in S22 Section 13.7.3.2 is worded only for safety interlock systems, and so arguably is not applicable to EMO circuits utilizing FECSs.
  o S2 DR2 - 12.2.2 The EMO circuit should consist of electromechanical components.
  o Exception 2: FECS may be used… provided the FECS meeting the Safety Interlock Criteria in SEMI S22.
• S22 §13 – Safety Circuits §13.3 – Emergency Off §13.7 – Safety Interlock Circuits
• DR1 → 13.7.3.2 If a FECS is used as part of the safety interlock system, the following criteria apply….
• Furthermore, the criterion in the S2 section that points to S22 speaks of a “programmable safety controller or FECS”, but at the S22 landing point there is not reference to programmable safety controllers.
• Possible solution - issue a ballot to change the S22 DR 13.7.3.2 text to the effect of “If a FECS or programmable safety controller is used as part of a safety interlock system or EMO circuit, the following criteria apply.”

Attachment: MESSC - Spring 2017 report-cg.ppt

5.2 S2 Seismic Protection Liaison TF

Lauren Crane reported. The Ratification Ballot has been approved and published in S2-1016a. The TF is currently working through the feedback received, but more discussion is required before a decision on future action can be made.

5.3 S23 Global TF

Lauren Crane reported.

- There are many different CO2 conversion factors around the world, depending on how the energy was generated and other sources. It would be difficult to come on agreement on what to add to S23.
- IEEE is developing a standard for carbon footprint.

5.4 S10 Task Force

Bert Planting reported.

- Main discussion this week was how to continue with SEMI S10
  o Phase 1: update the main body text (completed 2015)
  o Phase 2: Update Risk Ranking tables and add and RI about risk assessment
- Based on the discussion a Phase 3 might be considered for a major rewrite of SEMI 10
  o More focus on scenarios for risks
- Taskforce voting was done to continue with Phase 2 (14-0)
- Additional actions:
  o Set up teleconference
  o Check TFOF is in line with current taskforce activities
  o What were issues of the reballot of SEMI S10
- Request from Task Force to TC Chapter
  o Authorization of ballot 6049 for issuance in Cycle 5.

Attachment: SEMI S10 Spring 2017.ppt

5.5 S6 Task Force

John Visty reported.

- Line Item 1 change to Flow rate definitions
  o Proposed Separate Ballot, need technical editor, pass 5-0 to go to ballot at Semicon West
  o Sean Larsen agreed to be TE. Task force identified some concerns that need to be addressed. Sean will work with Glenn and John to formally draft ballot and address concerns and share with TF before Semicon West
• New discussion topic
  o It has been expressed to some equipment manufactures that the end users of the equipment refuse
    or do not want to install flow limiting devices in the gas lines going to the system as stipulated in
    SEMI S6 testing for the test to be considered valid.
    ▪ Discussed but no agreed upon approach – discussion of utilizing Hazop to determine
      release rates as well as other ideas were expressed – need to revisit
• Line items 2 and 3 (release rate determination, internal testing requirement for flammability)
  o continued discussion, work in progress

Attachment: S6 Task Force_GH-04_4_17 – Summary.ppt

5.6 Chemical Exposure Task Force

John Visty reported.
• Ratification Ballot R4683J: Line Item Revision to SEMI S2-0715, Environmental, Health, and Safety Guideline
  for Semiconductor Manufacturing Equipment. Delayed Revisions Related to Chemical Exposure
  o Approved.
  o TF discussed disapproval vote from Eihiro Hiranuma (Safe Techno)
    ▪ Referenced Standards and Documents’ must be IEC 60204-1 and/or NFPA 79.
      Semiconductor manufacturing equipment is an industrial machine and this is because a
      power supply feeding is carried out from a distribution panel. The office machine (IEC
      60950) and testing machine (IEC 61010) which use an indoor electric socket as a power
      supply have the high possibility of the fire in an overvoltage category, and a functional
      defect.
    ▪ Discussion
      • Sean Larsen: The referenced standards and documents section is only a list
        indicating what other documents are referenced within this document. It is not a
        statement that they are fully appropriate for evaluations. Both 60950 and 61010
        are referenced for specific topics, one being creepage and clearance. Therefore,
        the existing document is considered correct and no action is needed.

Motion: To take no further action on Eihiro Hiranuma’s disapproval vote
By / 2nd: John Visty/Bert Planting
Discussion: None
Vote: 8-0

• TF Identified 2 topics to continue discussion
  o Representative sampling
    ▪ Started discussion of primary points of concern
  o Gas detection
    ▪ Need to organize gas vendors for discussion
  o Will need SNARF to continue

John Visty presented the SNARF for Line Item revision for chemical exposure improvements to SEMI S2

• Rationale: Ventilation and Industrial hygiene sections (22 & 23) as well as applicable definitions require
  clarification to insure consistent technical interpretation by equipment suppliers, end-users and third-party
  evaluators. The review and clarification of section 23 paragraphs will benefit equipment suppliers, end-users and
  third-party evaluators that are reviewing the chemical exposure criteria. The benefit will be in providing consistent

and updated chemical conformance criteria. This is a continuation of the effort after the previous ballot was completed.

- Scope: Conformance to industrial hygiene (IH) methods and exposure limits detailed in S2 section 22 & 23 require clarification to insure consistent application for: 1. Discussion of ventilation, 2. Representative testing conditions, 3. Representative test equipment, and 4. Gas sensors

**Motion:** To approve the SNARF for Line Item revision for chemical exposure improvements to SEMI S2

**By / 2nd:** John Visty/Bert Planting

**Discussion:** None

**Vote:** 6-0

**Attachment:** Chem Exposure TF_report-040617 rev 1.ppt

5.7 S22 Task Force

Sean Larsen reported.

- Ballot issuance was approved at the Fall meetings, but it still needs more work before it can launch. Hopefully will be able to issue before SEMICON West.

5.8 S28 Task Force

Chris Evanston reported.

- Distinction between “industrial robot” (S28) and “substrate handler” (S2) – worth discussing? The general consensus of attendees was to go after the low hanging fruit rather than tackling the bigger issues.

**Action Item:** Chris Evanston to prepare TFOF and SNARF for S28 revision.

5.9 Hazardous Energy Isolation Task Force

Mark Fessler reported.

- Priorities between now and SEMICON West
  - Complete SEMI White Paper (referenced in ANSI Z244.1)
    - Originally drafted a longer 16 page response to ANSI – which was truncated to 4 pages in Annex S
    - Now we have web-link reference within Annex S:
    - For more information about the Control of Hazardous Energies within the semiconductor industry, please refer to link: http://www.semi.org/en/semi-2016-white-paper-cohe-lo
  - Finishing previous proposed wording within Section 17 (estimated 25% through current draft wording) and consider new wording based on new ANSI Standard.
  - Work on new SEMI S2 Definitions Section
  - Consider RI for Visual Examples of Requirements (include our SEMI White paper contents)

- Five teleconferences planned

**Attachment:** CoHE TF Update - April 6 2017.ppt

5.10 Fire Protection Task Force

- Eric Sklar presented the SNARF for Line item revision to SEMI S14-1016: Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment to correct nonconforming title

**Motion:**

- To approved the SNARF for Line item revision to SEMI S14-1016: Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment to correct nonconforming title

**By / 2nd:** Bert Planting/Lauren Crane
Discussion: None
Vote: 6-3

5.11 S8 Task Force
Paul Schwab reported.
  • # 5996
    o 1. Multi-person lifts (team lifting)
      ▪ In progress, should be ready for Cycle 5
    o 2. One-handed handling (in progress)
    o 3. Torque and Push/Pull knobs/lever handles
      ▪ In progress, should be ready for Cycle 5
    o 4. Update/Clarification of conformance statement in Section 3.5 of SEMI-S8
    o 5. Expansion of Display section for modern technology (HD Displays) and User interface (GUI) (in progress)
    o 6. Considerations pertaining to an aging workforce (no update)
    o 7. Considerations for people with special needs or disabilities (no update)
  • #5917
    o Line item 3 – Revisions and additions to hand/arm clearances
      ▪ In progress, should be ready for Cycle 5
    o Line item 4 – Add a new Related Information section to assist with determining what tasks are within the scope of an assessment to SEMI S8
      ▪ In progress, should be ready for Cycle 5

Attachment: SEMI-S8_TF_meeting_summary_05APR2017.ppt

5.12 E95 Task Force
No report.

5.13 Co-Chairs Report
  • NARSC Report
    o A new Taiwanese Chapter was approved for Automation Technology
    o Translation activities increasing in Asia
      ▪ On-going concerns about translation review and accuracy
    o A&R report
      ▪ Two Chinese ballots were rejected, both for making “editorial changes” that were technical changes to the documents
    o Regulations SC report
      ▪ As discussed at last meeting, the regulations and PM changes were published just after the fall meetings in time for implementation at SEMICON Japan 2016
      ▪ Continuing to work on Virtual Meetings and other topics – currently working with SEMI IT discussing meeting software needs
    o Regs changes of interest
      ▪ Ballot adjudication process
• EHS has done an unusual method for adjudication for quite a while, where we do editorial changes before adjudicating the negative

• A&R’s ongoing dislike for how we adjudicate negatives that can be resolved with an editorial change has now been formalized in a regulations change

• 9.6.4 Decisions on Negatives — If the Reject Vote is not withdrawn as a result of negotiations, the TC Chapter must first, prior to making any editorial changes related to the Negative being adjudicated, decide whether each Negative of a valid Reject Vote is related or not related to the Letter Ballot item, and then, if it is related, whether it is persuasive or not persuasive.

  o Sean was made the NA RSC observer to the Regulations SC
    ▪ This is a development role to allow us to participate in the Regs SC discussions, but not be a voting member

**Action Item:** Staff to add ICRC update (Crane) to EHS TC agenda

**Attachment:** Co-Chairs report v2.ppt

5.14 EHS Division

Sanjay Baliga reported.

• Mark Frankfurth has stepped down as ICRC Co-Chair. Lauren Crane is the temporary Co-Chair. Lauren Crane commented that the bylaws are unclear in regards to approval of new ICRC Co-Chairs, and that the ICRC would review their charter at SEMICON West.

• There will be no Sustainable Manufacturing events at SEMICON West. Events must be driven by members.

• There is a new Working Group for PFOA compliance concerns.

5.15 Energetics Task Force

Andy McIntyre reported.

• Status
  o Resumed weekly Task Force meetings to close out technical comments, based on second ballot negatives
  o 6 major technical comments remain to be discussed and resolved
  o Many other technical comments have been addressed, but need final review/approval by the Task Force

• Task Force Meetings
  o Fall 2016
    ▪ Fall Standards Meeting
    ▪ Followed by two meetings in December, 2016
  o 2017
    ▪ Resumed meetings mid March 2017

• Concerns
  o Representation during the task force meetings is sporadic at best, and those that have supplied the negatives are not representing themselves, therefore the progress is significantly slowed.
  o Action items are routinely deferred or ignored, only to be brought up as issues later on by the same individuals
There is a recurring trend by some task force meeting members to argue minor points, at the expense of utilizing our valuable time on the other significant issues.

- Steve Trammell and Andy McIntyre are still committed to this important EHS Task Force
- We are interested in EHS Committee Leadership input on what we can do differently to get this draft guideline approved and request a meeting to discuss

**Action Item:** NA TC Chapter Co-Chairs to coordinate with Andy McIntyre and set up teleconference.

**Attachment:** EnergeticMaterialsTFrpt_es06apr17a.ppt

6 Old Business

None

7 New Business

7.1 Anchorage TFOF

Lauren Crane presented the Anchorage TFOF.

- Leaders: Raymond McDaid
- Rationale: A line item ballot to S2 related to section 18.8.5.3 and its exception with a goal of clarifying the criterion.
- Scope: A line item ballot to S2 related to section 18.8.5.3 and its exception with a goal of clarifying the criterion.

**Motion:** To approve the Anchorage TFOF
**By / 2nd:** Lauren Crane/Chris Evanston
**Discussion:** None
**Vote:** 8-0

7.2 S3 Revision TFOF

Eric Sklar presented.

- Leader: Eric Sklar
- Charter: a) expansion of the scope to include systems for heating liquid and solid process chemicals that are delivered as gases to substrates, b) incorporation of appropriate industry learning and experience from the use of S3 or the equipment to which it pertains, and c) correction of errors, if any, that are indentified during the TF’s work. d) Modification of S3 invoking reference in S2
- Scope
  - Meet via telecon and corporeally
  - Prepare and submit technical ballots
  - Prepare ballot responses for adjudication by the NA EHS TC

**Motion:** To approve the S3 Revision TFOF
**By / 2nd:** Eric Sklar/Lauren Crane
**Discussion:** None
**Vote:** 8-0

7.3 S3 Revision SNARF

Eric Sklar presented a S3 revision SNARF for informational purposes. (Approval take place at the next NA EHS TC Chapter meeting)
• Rationale
  o SEMI S3, Safety Guideline for Process Liquid Heating Systems was recently balloted for Reapproval. A Reject vote was received that suggested the scope be expanded to include heating systems for process chemicals that are liquids before they are heated, but are delivered as gases to the substrates. Discussion at an ad hoc TF meeting to discuss the ballot response led to further expansion to include materials that are solids before they are heated. There may also be other technical revisions that, in the course of its work, the TF finds it appropriate to submit for formal consideration by Technical Ballot.

• Scope:
  o Revision to SEMI S3, Safety Guideline for Process Liquid Heating Systems, including:
    ▪ Expansion of the scope to include systems for heating liquid and solid process chemicals that are delivered as gases to substrates,
    ▪ incorporation of appropriate industry learning and experience from the use of S3 or the equipment to which it pertains, and
    ▪ correction of errors, if any, that are identified during the TF’s work.
    ▪ Modification of S3 invoking reference in S2

**Action Item:** Staff to distribute S3 SNARF to global EHS TC Members for review.

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

7.4 Ballot Authorization

**Motion:** To approve issuance of ballots 5681, 5761B, 5917, 5996, 6049, and 6172 in Cycle 5-2017.

By / 2nd: Bert Planting/Chris Evanston

**Discussion:** None

**Vote:** 8-0

8 Next Meeting and Adjournment

The next meeting is scheduled for Thursday, July 13 at SEMICON West. See [http://www.semi.org/en/events](http://www.semi.org/en/events) for the current list of meeting schedules.

Having no further business, the meeting was adjourned at 13:30.

Respectfully submitted by:

James Amano

SEMI HQ

Minutes tentatively approved by:

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<th>Name</th>
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**Table 13 Index of Available Attachments**

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<td>SEMI S10 Spring 2017.ppt</td>
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<td>Staff Report EHS March 2017 v6.ppt</td>
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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.