



## EH&S NA TC Chapter Meeting Summary and Minutes

SEMICON West  
Thursday, July 11, 2024  
9:00 AM – 3:00 PM Pacific  
Moscone Center, San Francisco, CA

### TC Chapter Announcements

Next TC Chapter Meeting  
Thursday, November 7, 2024 in conjunction with NA Fall Standards Meetings at the SEMI HQ, Milpitas, CA. Check [www.semi.org/en/standards](http://www.semi.org/en/standards) for the latest update.

### Table 1 Meeting Attendees

**Co-Chairs:** Chris Evanston (Salus Engineering International), Sean Larsen (KLA), Bert Planting (ASML)  
**SEMI Staff:** Kevin Nguyen (SEMI)

<i>Company</i>	<i>Last Name</i>	<i>First Name</i>	<i>Company</i>	<i>Last Name</i>	<i>First Name</i>
<b>Teradyne</b>	<b>Bombardier</b>	<b>Brad</b>	<i>KLA</i>	<i>Larsen</i>	<i>Sean</i>
<b>Axcelis Technologies</b>	<b>Brick</b>	<b>Clifton</b>	<b>Tokyo Electron</b>	<b>Mashiro</b>	<b>Supika</b>
<i>Cymer, ASML</i>	<i>Choi</i>	<i>Joyce</i>	<b>SCREEN</b>	<b>Nishimura</b>	<b>Takayuki</b>
<b>Intertek</b>	<b>Cose</b>	<b>Allen</b>	<b>ASML</b>	<b>Pennings</b>	<b>Wilbert</b>
<b>Lam Research</b>	<b>Crane</b>	<b>Lauren</b>	<b>Tokyo Electron</b>	<b>Petraszak</b>	<b>Andrew</b>
<i>VAD Consulting, LLC</i>	<i>DeGiorgio</i>	<i>Vincent</i>	<b>ASML</b>	<b>Planting</b>	<b>Bert</b>
<i>Salus Engineering</i>	<i>Evanston</i>	<i>Chris</i>	<i>Texas Instruments</i>	<i>Schwab</i>	<i>Paul</i>
<b>Applied Materials</b>	<b>Faust</b>	<b>Bruce</b>	<i>Safety Guru</i>	<i>Sklar</i>	<i>Eric</i>
<i>Cymer, ASML</i>	<i>Frankfurth</i>	<i>Mark</i>	<i>MURATA MACHINERY</i>	<i>Tominaga</i>	<i>Tadamasa</i>
<i>Nikon Precision</i>	<i>Girlea</i>	<i>Lucian</i>	<b>Tokyo Electron</b>	<b>Tomito</b>	<b>Yugo</b>
<b>Tokyo Electron</b>	<b>Hama</b>	<b>Naoya</b>	<b>Tokyo Electron</b>	<b>Tsuru</b>	<b>Mark</b>
<b>Tokyo Electron</b>	<b>Hayashi</b>	<b>Haruna</b>	<b>Tokyo Electron</b>	<b>Wotta</b>	<b>Michael</b>
<b>Teradyne</b>	<b>Kim</b>	<b>JJ</b>	<b>Cymer, ASML</b>	<b>Yakimow</b>	<b>Byron</b>
<i>Applied Materials</i>	<i>Jumper</i>	<i>Steve</i>			

*Italic* indicates online participant. **Bold** indicates in person participant.

### Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
S10 Revision TF	Bert Planting (ASML)	Lucian Girlea (Nikon Precision)
EHS NA TC Chapter	Bert Planting (ASML) stepped down due to retirement.	

### Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
Flammable Gas Task Force	Task Force is disbanded.



**Table 4 Ballot Results**

<i>Document #</i>	<i>Document Title</i>	<i>TC Chapter Action<sup>#1</sup></i>
None		

#1 For **Passed** editorial changes, it will be submitted to the ISC Audit & Review Subcommittee for procedural review.

**Table 5 Ratification Ballot Results**

<i>Document #</i>	<i>Document Title</i>	<i>ISC A&amp;R Action<sup>#1</sup></i>
R6980	Line Item Revisions to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment	
	Line Item 1 - Delayed Revision Related to Flammable Substances	Passed
R7108A	Line Item Revision to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment	
	Line Item 1 - Delayed Revision Related to Safety Labels	Passed
R7158	Line Item Revision to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment	
	Line Item 1 - Delayed Revisions related to lifting equipment and hinged loads (§§ 5.2, 18.6)	Passed

#1 **Passed** Ratification ballots will be submitted to SEMI Publications for final processing.

**Table 6 Activities Approved by the GCS between meetings of the TC Chapter**

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
None			

**Table 7 Authorized Activity**

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details<sup>#1</sup></i>
7135	SNARF	Global S23 Revision TF	Revision of SEMI S23-1021E2 - Guide for Conservation of Energy, Utilities and Materials Used by Semiconductor Manufacturing Equipment SNARF was revised

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

**Table 8 Authorized Ballots**

<i>#</i>	<i>When</i>	<i>TF</i>	<i>Details</i>
6907	Cycle 7 or 8, 2024	S7 Revision TF	Revision to SEMI S7-0515 Safety Guideline for Evaluating Personnel and Evaluating Company Qualifications
7134	Cycle 7 or 8, 2024	Ergonomics TF	Revision to SEMI S8-0218, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment
7169	Cycle 7 or 8, 2024	S10 Revision TF	Revision of SEMI S10-0423 Safety Guideline for Risk Assessment and Risk Evaluation Process



**Table 9 Granted a One-Year Extension**

#	TF	Title	Expiration Date
6830	S3 Revision TF	Revision to SEMI S3-1211 (Reapproved 1017)E Revision to SEMI S3-1211 (Reapproved 1017)E Safety Guideline For Process Liquid Heating Systems	July 11, 2025
6888	S12 (Equipment Decon) Review TF	Revision of SEMI S12-0211e, Environmental, Health and Safety Guideline for Manufacturing Equipment Decontamination	July 11, 2025

**Table 10 SNARF(s) Cancelled**

#	TF	Title
None		

**Table 11 Standard(s) to receive Inactive Status**

Standard Designation	Title
None	

**Table 12 New Action Items**

Item #	Assigned to	Details
July11-2024#1	Kevin Nguyen (SEMI staff)	To discuss with SEMI IT and create a Connect@SEMI feedback forum for members
July11-2024#2	Kevin Nguyen (SEMI staff)	To ask SEMI to improve productive members slides

**Table 13 Previous Meeting Action Items**

Item #	Assigned to	Details	Status
Mar28-2024#1	Kevin Nguyen	To notify the Liquid Chemicals TC (NA and Europe) of the outcome of Reapproval of SEMI S25-0319, Safety Guideline for Hydrogen Peroxide Storage & Handling Systems and invite participation if there is interest in supporting further work.	Completed



## 1 Welcome, Reminders, and Introductions

1.1 Bert Planting called the meeting to order at 9:01 AM. The meeting reminders on antitrust, intellectual property, 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 / 2<sup>nd</sup>:** By: Eric Sklar / Safety Guru, LLC  
Second: Lauren Crane / Lam Research  
**Discussion:** None  
**Vote:** 20-0. Motion passed.

## 3 Ballot Review

For those **Passed** ballots for which the Ratification Ballots are approved, the ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

NOTE 1: TC Chapter adjudication of ballots 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 file name for each balloted document is provided under each ballot review section below.

### 3.1 *Doc. R6980, Ratification Ballot, Line Item Revision to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment*

3.1.1 Line Item 1 - Delayed Revision Related to Flammable Substances

3.1.2 This document **passed** ISC Audits & Review (A&R) Subcommittee and was forwarded to SEMI Publications for final processing.

**Attachment: R6980\_Ballot Review**

### 3.2 *Doc. R7108A, Ratification Ballot, Line Item Revision to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment*

3.2.1 Line Item 1 - Delayed Revision Related to Safety Labels

3.2.2 This document **passed** ISC Audits & Review (A&R) Subcommittee and was forwarded to SEMI Publications for final processing.

**Attachment: R7108A\_Ballot Review**

### 3.3 *Doc. R7158, Ratification Ballot, Line Item Revision to SEMI S2-0821Eb, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment*

3.3.1 Line Item 1 - Delayed Revisions related to lifting equipment and hinged loads (§§ 5.2, 18.6)

3.3.2 This document **passed** ISC Audits & Review (A&R) Subcommittee and was forwarded to SEMI Publications for final processing.

**Attachment: R7158\_Ballot Review**



### **3.4 SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (Type 2 Editorial Changes)**

3.4.1 This document **passed** and was sent to ISC Audits & Review (A&R) Subcommittee for procedural review.

**Attachment: S2\_Type 2 Editorial Changes**

## **4 Subcommittee & Task Force Reports**

### **4.1 S3 Revision TF (Andy Petraszak)**

- TF continues working on doc. 6830, Revision to SEMI S3-1211E (Reapproved 1017) Safety Guideline for Process Liquid Heating Systems.
  - Check for alignment opportunities between the liquid and gas heating sections.
  - Make any necessary changes to Appendix 1 for Liquid Heating Systems to align with the body of the standard and Appendix 2 after TF review.
  - Create new Appendix 3 for Gas Heating Systems to align with the body of the standard and Appendix 4 after TF review.
  - Update RI 1 to align with any changes in the body of the standard and Appendix 2.
  - Consider a RI for an example regarding Gas Heating Systems.
- Not asking for ballot authorization at this time.
  - Reasonably confident we will ask for ballot authorization at the Fall Meeting.
- SNARF expires in August so need to extend our SNARF
  - Motion: Approve a 1 year extension of the project period for the S3 SNARF  
By: Eric Sklar / Safety Guru, LLC  
Second: Lauren Crane / Lam Research  
Discussion: None.  
Result: 19-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

**Attachment: S3 Report Summer 2024**

### **4.2 S2 Mechanical TF (Andy Petraszak)**

- Doc. R7158, Line Item Revision to SEMI S2-0821EB, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (Subject: Delayed Revisions related to lifting equipment and hinged loads (§§ 5, 18.6, and 18.7))
  - The ratification ballot passed and approved by ISC A&R. The document was sent to SEMI Publications for final processing.
  - The ratification ballot also received two Disapprove votes. The TF will meet to discuss the disapproval votes and determine next steps.

**Attachment: S2 Mech Report Summer 2024**

### **4.3 Environmental Performance Rating (EPR) TF (Andreas Neuber)**

- On behalf of EPR TF, Lauren Crane reported.
- The EPR draft pump test conditions sets will be integrated into S23 by modifying existing Related Information section on vacuum pumps:



- 2024-07-08: Decision by SEMI S23 task force team to integrate EPR test conditions of vacuum pumps as a recommendation in existing Related Information on vacuum pumps in SEMI S23.
- Increase pump vendor spectrum for broader acceptance:
  - Invite other pump vendors to join.
  - Kevin Nguyen to post a short description in SEMI newsletter (A. Kloeppel, B. Gross).
- Technical details:
  - It was considered to be possible to deviate from general S23 method by NOT applying 5% Off time to process pumps, i. e. conditions 0-5. For loadlock pump application 5% Off time should be kept.
  - ECF PCW; Lauren will think about if we continue with the current approach for PCW energy usage of having 50% C-PCW and 50% T-PCW simultaneously or if – as in S23 – we give the option to select between both or prescribe the use of one or the other PCW ECF.

**Attachment: 20240710 SEMI Greenstar TF Meeting**

#### **4.4 S10 Risk Assessment TF (Eric Sklar)**

- Since the Spring Meetings
  - Further work on SEMI S10 (SNARF 7169) in nearly weekly telecons:
    - Generalized the thing the risk of which is being considered in the normative portions of SEMI S10 (i.e., body and appendices) to 'Object Under Consideration (OUC)'
    - Separation of risk of harm to Building/Facility, due to OUC, into an RI
    - Modification of process flow charts
      - Application of SEMI S10 to observed (as distinguished from, or in addition, to foreseen) events
      - Separation of "EHS Risk" (personnel and environment) from "Commercial Risk" (equipment)
    - Redefinition Severity categories for Equipment
  - Bert Planting is stepping down from his S10 Task Force leadership role, as of this week.
    - Thanks to Bert for his years of effort on S10 and other EHS activities
    - Anyone interested in co-leading the S10 TF?
      - Lucian Girlea, Nikon
    - Motion: Accept Lucian Girlea as the S10 TF Co-leader  
By: Eric Sklar / Safety Guru, LLC  
Second: Lauren Crane / Lam Research  
Discussion: None  
Result: 19-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

**Attachment: S10\_Report\_es11jul24a**

#### **4.5 Flammable Gas TF (Bert Planting)**

- Doc. R6980, Line Item Revisions to SEMI S2-0821, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (Re: Sections 13.7 and 23.5.5) is completed. No further work is necessary.



- Motion: Disband the S2 Flammable Gas TF  
By: Bert Planting / ASML Netherlands BV  
Second: Lauren Crane / Lam Research  
Discussion: None  
Result: 20-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

**Attachment: SEMI-con west 24 report flammable substances**

**4.6 Manufacturing Equipment Safety Subcommittee (MESSC) (Lucian Girlea)**

- Request (Carl Wong, Applied Materials – Spring) – change S2 13.4.9 to remove industrial control panel reference

13.4.9 The short circuit current rating of the equipment ~~or its industrial control panel~~, for each supply circuit from the facility to the equipment, should be identified in the equipment installation instructions.

- Addressed:
  - S2 MR TF changed this in S2 MR draft, then assessed and made other changes needed.
- Request (Lauren Crane - Spring) – should S2 consider addressing Emergency Rescue/ Egress (as in Machinery Regulation)?
  - Update
    - No new Machinery Regulation changes or new information found
  - Discussion
    - We found the requirements unclear
    - No definition on what the terms mean
    - We do not have enough information to act
  - Next step?
    - Monitor for any new clarifying information (all)
    - Find if we can ask questions of the source about Machinery Regulation (LG)
    - Discuss @ SEMI Fall

**Attachment: MESSC SEMI West 2024 Report**

**4.7 S2 Major Revision TF (Lucian Girlea)**

- TF Activity
  - S2 revision work continues. updating content, addressing conflicts, clarifying statements
  - Very good TF participation in weekly meetings.
  - Eric Sklar is the TF Technical Editor
  - Coordinating with other EHS TFs (e.g., S1, S10, S8)
    - new items routed to the S2 MR TF
    - S2 MR TF approach being adopted by other TFs
  - Japan Liaison TF (JA-S2 revision LTF).
    - Mashiro-san working directly with S2 MR TF when the schedule permits

- Next Steps
  - Continue the revision work under the same format.
    - Will ask to maintain the same timeslot for the TF meetings.
  - Planning to implement the following actions.
    - Clean up the comments, update the draft with the latest S2 release
    - Send an information ballot out, for validation and to gather new concerns
      - maybe we need a SNARF before – to check (Lucian Girlea)
  - Work on the draft to complete a first pass and address all issues found
  - Submit SNARF, coordinate with other TFs, work on S2 MR ballot
  - Discussed “safety critical” – will continue in TF meetings.

#### **Attachment: S2 MR SEMI West 2024 Report**

#### **4.8 S6 Ventilation TF (Eric Sklar)**

- The Task force has been working on Doc 7133 Revision of SEMI S6-0618 - Environmental, Health, and Safety Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment, in telecons most weeks
  - Glenn Holbrook does not foresee completing the leak rate testing he has undertaken in time for 27 August submittal.
  - No one voiced the opinion that we could or should try for that date.
  - Lauren Crane asked in what form the information necessary to duplicate the leak rate testing would be made available.
    - TF discussed publishing as “Supplementary Materials” at: <https://downloads.semi.org/web/wstandards.nsf/supvm> which is where the S10 and S23 Excel workbooks are published.
    - This is believed to require no more than a vote in a TCC meeting to authorize
    - Glenn Holbrook did not foresee any objection or difficulty to doing that
- TF Plans: Authorization to ballot 7133, Revision of SEMI S6, not before Fall Meetings.

#### **Attachment: S6\_Report\_es11jul24a**

#### **4.9 S23 Global TF (Lauren Crane)**

- Near Term History
  - Meetings have focused on our continued review of the SEMATECH “Application Guide and Total Equivalent Energy (TEE) CalcII User’s Guide” - Technology Transfer #06094783D-ENG and identifying information that we would like to include an S23 RI 5.
    - We have completed our review
    - Lauren has begun putting our ideas into RI 5 of the test method
- EPR Task Force Request
  - It was agreed that EPR would aim for informative (rather than normative) content that can be taken into S23 as an RI. Most likely it will be in the form of a set of test conditions for various vacuum pumps.



- The EPR TF will continue to develop their ideas into a more mature package that will be given to the S23 task force for incorporation.
  - S23 leadership (L. Crane) particularly requested that the EPR task force take some additional steps to tempt engagement of more SEMI industry pump manufacturers to help provide a more substantiated consensus such as: Writing an article about the EPR task force work for publication in a SEMI news feed or identifying obvious pump manufacturers from among exhibitors at West and sending them an email inviting their participation. Ben agreed to these ideas in principle.
  - L. Crane supposed the S23 SNARF would need amendment to accommodate this new goal and committed to reviewing it.
    - After reviewing the SNARF it seems arguable the rationale could accommodate the new goal without amendment, but L. Crane would prefer a small amendment to make the TF linkage explicit. Further it appears there is a mistake in the current SNARF regarding Section 4 – Liaisons, that should be corrected.
    - Motion: Approve the revision of the existing S23 SNARF  
By: Lauren Crane / Lam Research  
Second: Clifton Brick / Axcelis Technologies  
Discussion: None  
Result: 19-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority
  - Draft ballot expected at best by end of year – ballot authorization not needed.
- Attachment: 2024 S23 US Summer (SEMICON West) TF mtg & rpt Crane r2**
- Attachment: SNARF\_S23 Guide to TM conv. r3+SCWest2024r1\_es11jul24a**

#### 4.10 S2 Seismic Liaison TF (Lauren Crane)

- No meeting during West 2024. The TF is in sleep mode as there is no urgent issue.

#### 4.11 Fire Protection TF (Eric Sklar)

- Old Business (items assigned to TF members, but no proposals have, as yet, been submitted to the TF)
  - Adding performance criteria (Such as effectiveness, fire size to be considered) for detection and protection systems.
  - Adding design criteria (such as treatment of pyrophoric materials) for detection and protection systems.
  - Should exhaust ventilation be reduced or stopped if a fire is detected?
  - Request from Lauren Crane (11 March 2024 e-mail to TF leaders):  
“I propose that the Fire Protection TF take up an action to create an S14 ballot to bring its terminology in line with S10 – particularly regarding the terms risk, hazard, mishap, and harm.”
  - PFAS Impact on Fluoropolymer Plastics Used in Tool Construction
    - Task Force had discussed, in previous meeting, that equipment manufacturers were having difficulty obtaining “fire-safe” polymeric materials of construction.
    - Concerns listed 09 July 2024 by Vinnie DeGiorgio:
      - Availability of FM4910 and other fluoropolymer plastics
      - Increased cost of plastics
      - Changing to less expensive combustible plastics
      - Is this change being recognized in S2/S14 assessments?
        - Review of Bill of Materials
      - Insurance companies make big bets on tool construction materials being compliant with S2/S14.



- New Business
  - NFPA 318: Standard for the Protection of Semiconductor Fabrication Facilities
    - Maximum Allowable Quantities (MAQs)
      - Major impact on Fab Design & Cost
    - USA needs to be on a “level playing field” for new Fab locations
    - NFPA Research Foundation
      - A New Method to Determine MAQs
      - Proposal Submitted and Accepted
- Plans
  - Telecons to discuss reconciling SEMI S14’s terminology with SEMI S10’s after SEMICon West
  - Ballot authorization: No request at this time.

**Attachment: FireProt\_Report\_es11jul24a**

#### **4.12 Energetic Materials TF (Eric Sklar)**

- Previous Business
  - S30 Conformance Reports
    - Reports of some “what’s this going to be?” questions from equipment suppliers to third parties, but no substantive responses. Third parties seem to be waiting to see how the market handles this.
    - Report of some queries from equipment manufacturers to chemical suppliers for information on which to determine whether particular substances are “energetic materials”. No report of the outcome of those queries.
- New Business
  - None
- TF Plans
  - No immediate plans for telecons, but would like a slot assigned on the schedule in case matters requiring TF discussion arise.

**Attachment: EnergeticMatls\_Report\_es11jul24a**

#### **4.13 S1 Labels TF (Eric Sklar)**

- Old Business
  - Doc R7108A, Ratification Ballot for Line Item Revision to SEMI S2-0821Ea, Environmental, Health, And Safety Guideline For Semiconductor Manufacturing Equipment (Delayed Revision Related to Safety Labels)
    - Was balloted in Cycle 4 of 2024
    - Was Approved with no Disapprove votes (Therefore, there’s nothing left for us to do regarding 7108.)
    - Changes are in SEMI Publications’ queue for normative incorporation (i.e., *not* a Delayed Revision) in SEMI S2-0724
- New Business

- Report that there may be forthcoming US Federal regulations related to labelling, possibly HazCom, but the agency, specific topic, or timing are not known to any meeting participant.
- Samsung is working on traceability labelling standard and is interested in any helpful guidance this TF's experience may have to offer.
  - May provide ES as draft for distribution to the S1 TF for review and comment.
  - It may be appropriate to hold telecons thereafter.
- TF voted (6:0) to remain a Task Force, as further concerns with labelling are reasonably foreseeable, particularly with the normative revision of SEMI S2 this month.
- TF Plans & Requests
  - Keep our telecon time slot in case an issue arises for this TF's attention, but not schedule telecons unless that happens
  - No request for ballot authorization

**Attachment: S1\_Report\_es11jul24a**

**4.14 S2 Control of Hazardous Energy (CoHE) TF (Eric Sklar)**

- Discussion
  - No interest voiced in addressing the SNARF 6942 (set to expire in July 2025) until we have a plan as to what we are looking to send to ballot
  - The ANSI CoHE committee is scheduled to meet 16&17 July, but no evidence that the ANSI committee is resolving apparent internal conflicts in Z244.1
- Plans
  - Ballot authorization: No request at this time

**Attachment: S2\_CoHE\_Report\_es11jul24b**

**4.15 S12 Decontamination TF (Eric Sklar)**

- Work on SEMI S12 since Fall
  - Since Spring 2024, this Task Force has been inactive
  - TF discussed whether a change of the day & time of the meeting (currently 1100 Pacific Time on Thursday) improve participation. Nobody voiced that position.
  - TF discussed whether anyone thinks we both can and should try to get a ballot ready by 27 August, the Cycle 7 submission date (i.e., to ballot in time for adjudication at Fall Meetings)? Predominant opinion is that we will not be ready for ballot by Cycle 7. No interest in requesting Cycle 7 authorization.
- Task Force Plans & Requests
  - SNARF 6888 Extension Request
    - **Motion:** Approve a 1 year extension of the project period for the SNARF 6888  
By: Eric Sklar / Safety Guru, LLC  
Second: Lauren Crane / Lam Research  
Discussion: None  
Result: 19-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority
  - Continue work on SEMI S12 rewrite draft.
    - No ballot authorization request now, maybe at Fall Meetings

**Attachment: S12(decon)\_Report\_es11jul24a**

#### 4.16 S8 Ergonomics TF (Paul Schwab)

- Task Force has been meeting regularly since January 2022 to work on changes to SEMI S8 and balloted a major revision in Cycle 2, 2024.
- Task force has been meeting weekly since April 5th, 2024 to resolve the negative items from ballot #7134.
- Task Force will continue to meet weekly to resolve the remaining negative vote items. The TF will aim for ballot in cycle 7 or 8-2024.
- Support documents are located in the SEMI-S8 Task Force document library:  
<https://connect.semi.org/communities/community-home?CommunityKey=c1526656-40a4-4245-af86-34d3ecc68624>

**Attachment: SEMI-S8\_TF\_summary\_11jul2024**

#### 4.17 S7 TF (Sean Larsen)

- Drafting Doc. 6907, Revision to SEMI S7-0515, Safety Guideline for Evaluating Personnel and Evaluating Company Qualifications.
- No teleconferences held lately.
- Ballot is getting cleaned up, will try to issue ballot for coming cycles.

#### 4.18 S2/S22 TF (Chris Evanston)

- Edited the draft document.
- Plans:
  - Hold Teleconferences between now and Fall.
  - No ballot is planned. If anyone wants to get involved, please send an email to Chris.

#### 4.19 Other Documents of Interest

##### 4.19.1 F47 TF

- Sean Larsen mentioned F47 is continuing to have discussion on voltage sags on 3 phases vs 1 phase. There are conflicting directions on which way to go. No data was presented for suggesting which ways to proceed.
- Byron Yakimow also echoed what Sean has said. However, he reported additional tests need to be done for different types of patterns, etc.. as the TF tries to align with the IEC standard. If 3 phase testing is required, how and who is responsible is yet to be determined. Two OEMs presented potential prototypes for testing, further development is needed. The TF continues to meet and discuss further, so stay tuned.

##### 4.19.2 BIM TF

- Sean Larsen did not attend the meeting. Eric Sklar also did not have a chance to attend, but it appears the TF to be resurrected.

### 5 Liaison Reports

#### 5.1 ICRC Liaison (Bert Planting)

- SEMI Working groups. Lauren Crane provided a high level overview SEMI explainer on PFAS [https://www.semi.org/en/EHS\\_PFAS\\_Explainer](https://www.semi.org/en/EHS_PFAS_Explainer)



- TSCA: finalized new PFAS reporting obligations
- PFAS: US State Level
  - Minnesota
  - Maine
    - TSCA, PIP 3:1 TSCA: PIP 3:1 and DecaBDE
- Greenhouse Gas (US, EU)
- Supika Mashiro also called for attention if any companies using F gas for refrigeration or chiller, please forward the contact to her. Supika reported that SEMI Europe is about to conduct a survey on this subject.
- REACH
- Also there is a new Cyber Security Act; different working groups are active on different aspects. SEMI involved in definition on Microprocessors (MPU), Microcontrollers (MCU) and Application specific integrated circuits (ASIC), and Field-programmable gate arrays (FPGA).
- Sean Larsen also added that the new NFPA 79 includes cybersecurity, so he thought it may be worth to mention.
- Bert Planting stepped down (due to retirement). New co-chair appointed (Clif Brick).

**Attachment: ICRC SEMI-con west 2024 report**

*5.2 Other EHS*

5.2.1 Taiwan TC Chapter is idle. No further business reported.

*5.2.2 Japan EH&S TC Chapter (Supika Mashiro)*

- Last meeting
  - Wednesday, May 15, 2024
  - SEMI Japan Office, Tokyo, Japan/ OVTCCM (Hybrid)
- Next meeting
  - Wednesday, September 11, 2024
  - SEMI Japan Office, Tokyo, Japan/ OVTCCM (Hybrid)
- Authorized Ballots
  - 7243, Reapproval of SEMI S13-0113 (Reapproved 0819), Environmental, Health And Safety Guideline Fordocuments Provided To The Equipment User For Use With Manufacturing Equipment
  - 7244, Reapproval of SEMI S17-0319, Safety Guideline For Unmanned Transport Vehicle (UTV) System
- S18 Revision Task Force
  - There has been no activity since the last meeting, but the TF would like to restart activity within three months.

**Attachment: EHS JA TC Chapter Liaison Report\_June 2024\_R0**



5.2.3 Korea TC Chapter Formation Group (Natalie Shim)

- Kicked off on April 29, 2024
- Co-leaders: Hyunjin Kang / Samsung Electronics, Bruce Lim / Safe-world engineering
- Attendees: 42 attendees from 25 companies.
- Identify/prioritize urgent topics
  - Disputes arising from differing interpretations of SEMI Standards (examples below)
    - Do we need to install an interlock on a bolted door that gives access to a hazardous area? (unclear distinction between a cover and a door)
    - Is it appropriate to have a side door on the Gasbox Main Door that doesn't require an interlock? (considering safety and legal aspects)
  - Ensure Accuracy translated SEMI Safety Guidelines
    - Review the existing or anticipated translations of the SEMI Safety Guidelines into Korean to ensure accuracy
- Agreed to form two sub-groups below
  - Interpretation (tentative) sub-group
  - Translation review (tentative) sub-group

**Attachment: Liaison report\_Korea\_EHS\_June2024**

5.3 RSC report (Sean Larsen)

- Latest SEMI Regulations & Procedure Manual are up on the web from the Spring meeting.
- Discussion on productive members and code of conduct
- Push for training materials for members.

5.4 SEMI Staff Report (Kevin Nguyen)

- SEMI upcoming events
  - SEMICON West 2025-2030
    - 2025—October 7-9 | Phoenix Convention Center | Phoenix, AZ
    - 2026—October 13-15 | Moscone Center | San Francisco, CA
    - 2027—October 12-14 | Phoenix Convention Center | Phoenix, AZ
    - 2028—October 10-12 | Moscone Center | San Francisco, CA
    - 2029—October 9-11 | Phoenix Convention Center | Phoenix, AZ
    - 2030—October 29-31 | Moscone Center | San Francisco, CA
  - Upcoming NA 2025 Meetings

NA Standards Winter Meetings	Feb 24-27, 2025 [Tentative] SEMI HQ, Milpitas, California/USA
NA Standards Summer Meetings	June 2-6, 2025 [Tentative] SEMI HQ, Milpitas, California/USA



SEMICON West	Oct 6-9, 2025 Phoenix Convention Center Phoenix, Arizona/USA
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- 2024 Critical Dates for SEMI Standards Ballots
  - <https://www.semi.org/en/collaborate/standards/ballots>
- The Use of Connect@SEMI for TF Management and Document Development Depository
  - Refer to PM § 6.4.5 Operation of TFs
    - Task Forces have until 02/20/25 to implement use of Connect@SEMI. (<https://connect.semi.org>)
    - Once TFs have implemented use of Connect@SEMI, they shall use it to:
      - Maintain the TF member roster up to date.
      - Share the working drafts.
        - The default format for working Draft Document sharing shall be Adobe Acrobat PDF.
      - Distribute the Draft Document at least one week before ballot submission to SEMI.
    - All existing TFs have been set up in Connect@SEMI as Communities with the TF leaders assigned community admin and moderator capabilities
    - Training materials for TF leaders and members (users) are available at <https://www.semi.org/standards>  
Under Standards Developer Resources □ Collaboration Tools (scroll to the bottom)
  - Discussion
    - Eric Sklar said he provided some comment/feedback on improvement on Connect@SEMI, but has not heard back.
    - Sean Larsen said it may be a good idea to create a feedback forum, so members would have an opportunity to raise comments.
    - **Action Item 1** – Kevin will discuss with SEMI IT and create a feedback forum.
- Productive Committee Member Guidelines
  - SEMI standards development is built on the work of volunteers and Standards staff.
    - Be considerate of everyone’s time and effort
  - Please make an honest effort to provide constructive feedback on ballots during the review period
    - It is considerably less work for everyone to edit a ballot prior to voting than to adjudicate and rework the ballot
    - Do not intentionally delay providing feedback until the voting period
  - Please vote on time
    - Do not wait for last-minute voting reminders or skip voting cycles
    - When submitting negatives be technically clear and persuasive; refer to specific sections or paragraphs
    - Clearly identify negatives only for technical/procedural errors (refer to Regulations ¶ 9.1.10, Procedure Manual ¶ 2.9.3.2.1) and comments for grammatical/editorial errors.
  - Discussions
    - The intent is good, but it may be offensive for some members. It was requested to take these slides back and modify for a neutral tone.
    - Meeting participants identified several errors, e.g., items in which the slides do not conform to the *Regulations and Procedure Manual*
    - **Action Item 2** – Kevin will ask SEMI to improve productive members slides.
- SEMIViews 4.0 – Coming Soon!
  - New or improved features include:



- Improved search functionality and navigation panel
- New custom Library feature
- User defined shortcuts using Collections, Favorites, and Bookmarks
- Improvements for account admin functions
- A more dynamic landing page with feeds on new & revised Standards, upcoming meetings & events as well as help & resource center
- Refreshed user interface
- In progress
  - Incorporating feedback from customer/user beta testing
  - Beta testing with select SEMIViews account admins
  - New SEMIViews platform planned for launch on August 5, 2024.
- SEMI Standards Publications
  - Total SEMI Standards in portfolio: 1,088
    - Includes 342 Inactive Standards

**Attachment: Staff Report July 2024 v5**

## **6 Old Business**

6.1 None

## **7 New Business**

7.1 PFAS

7.1.1 Andy Petraszak reported there are various groups dealing with PFAS in which he is participating. EPA now has reporting rule on PFAS. SIA has lot of information from the PFAS Consortium. He raised awareness and called for participation. If anyone is interested, please contact Andy.

### **7.2 Leadership Change**

7.2.1 Bert Planting is retiring and stepped down. The NA TC Chapter now has 2 co-chairs. A third co-chair is needed, someone representing a chip maker is desired. Paul Schwab (TI) was asked, but he respectfully declined.

### **7.3 TC Meeting Scheduling**

7.3.1 Eric Sklar raised a concern with the current meeting time (9 AM-3 PM), which has been the NA EHS TCC's habit for a while, but does not always allow enough time to complete the TCC's business. The Procedure Manual does not prohibit meeting going over 6 hours, but it does mention to not scheduling more than 6 hours per session and that a meal break is required between sessions on the same day.

7.3.2 Lauren Crane said sometimes the meetings went over. A good practice is to end the meeting at the scheduled time.

7.3.3 Based on the discussion, the NA TC Chapter suggested two sessions (9AM-Noon, 1PM-4PM) for future meeting. As there was no objection, the proposed time slots will be used going forward.

### **7.4 Upcoming Ballot Authorization**

7.4.1 The following ballots are authorized for upcoming cycles.

**Motion:** Authorize (S10, S7, S8) for cycle 7 or 8

**By:** Lauren Crane / Lam Research



**Second:** Lucian Girlea / Nikon Precision Inc.

**Result:** 15-Y 0-N Voting Result: Pass - 100.00%. Voting Rule: Majority

#	When	TF	Details
6907	Cycle 7 or 8, 2024	S7 Revision TF	Revision to SEMI S7-0515 Safety Guideline for Evaluating Personnel and Evaluating Company Qualifications
7134	Cycle 7 or 8, 2024	Ergonomics TF	Revision to SEMI S8-0218, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment
7169	Cycle 7 or 8, 2024	S10 Revision TF	Revision of SEMI S10-0423 Safety Guideline for Risk Assessment and Risk Evaluation Process

### 7.5 Teleconferences

- Eric Sklar presented and modified the Google calendar for all NA EH&S TF teleconferences, which was accepted by consensus for the period between this meeting and the NA EHS TCC meeting during Fall:  
<https://calendar.google.com/calendar/u/0/embed?src=0dblgh8j8j0im0e8bt4jkbocs4@group.calendar.google.com>

### 8 Next Meeting and Adjournment

8.1 The next meeting is scheduled for Thursday, November 7, 2024 in conjunction with NA Fall Meetings at SEMI HQ, Milpitas, CA. Refer to <http://www.semi.org/standards> for the current list of meeting schedules.

8.2 There being no further business, a motion was made to adjourn. Adjournment was at 2:42 PM.

Respectfully submitted by:

Kevin Nguyen,  
SEMI Standards Operations Manager  
Phone: 408-943-7997  
Email: [knguyen@semi.org](mailto:knguyen@semi.org)

Minutes tentatively approved by:

Sean Larsen (KLA)	<Date approved>
Chris Evanston (Salus Engineering International)	<Date approved>
Bert Planting (ASML)	<Date approved>



**Table 14 Index of Available Attachments#1**

<i>Title</i>	<i>Title</i>
R6980_Ballot Review	2024 S23 US Summer (SEMICON West) TF mtg & rpt Crane r2
R7108A_Ballot Review	SNARF_S23 Guide to TM conv. r3+SCWest2024r1_es11jul24a
R7158_Ballot Review	FireProt_Report_es11jul24a
S2_Type 2 Editorial Changes	EnergeticMatls_Report_es11jul24a
S3 Report Summer 2024	S1_Report_es11jul24a
S2 Mech Report Summer 2024	S2_CoHE_Report_es11jul24b
20240710 SEMI Greenstar TF Meeting	S12(decon)_Report_es11jul24a
S10_Report_es11jul24a	SEMI-S8_TF_summary_11jul2024
SEMI-con west 24 report flammable substances	ICRC SEMI-con west 2024 report
MESSC SEMI West 2024 Report	EHS JA TC Chapter Liaison Report_June 2024_R0
S2 MR SEMI West 2024 Report	Liaison report_Korea_EHS_June2024
S6_Report_es11jul24a	Staff Report July 2024 v5

#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](http://www.semi.org). For additional information or to obtain individual attachments, please contact Kevin Nguyen at the contact information above.