Facilities & Gases Joint North America TC Chapter

Meeting Summary and Minutes

SEMICON West Standards Meetings 2019

Tuesday, July 9, 09:00 – 12:00 Pacific

Moscone Center, San Francisco, California

TC Chapter Announcements

Next TC Chapter Meeting

NA Standards Fall Meetings 2019

Tuesday, November 5, 09:00 – 12:00 Pacific

SEMI Global Headquarters, Milpitas, California/USA

Table 1 Meeting Attendees

Italics indicate virtual participants

***Facilities* Co-Chairs:** Steve Lewis (BW Design Group)
***Gases* Co-Chairs:** Mohamed Saleem (Brooks Instrument)
SEMI Staff: Laura Nguyen

Company	*Last*	*First*	*Company*	*Last*	*First*
Advanced Pressure (AP) Technology	Kiikvee	Bill	Daido Steel	Yoshida	Yutaka
Air Liquide Electronics	*Cowles*	*Dan*	Electric Power Research Institute	Stephens	Mark
Air Liquide	Pan	Maohua	Meeco	Riddle	Jeremiah
Applied Materials	Chen	Yanli	MTA Labs	Blum	Mike
Applied Materials	Mohammed	Bala	MTA Labs	Damron	Bill
Brisk Heat	Colquhoun	David	Swagelok	Ferraro	Matthew
Brooks Instrument	Nagarajan	Arun	Swagelok	Shutler	Rob
Brooks Instrument	Saleem	Mohamed	TEL	Mashiro	Supika
BW Design Group	Lewis	Steve	Valex Corp	Kim	Joshua
BW Design Group	Sanders	Chris	WIKA Instruments	Christian	Jeff
CONSCI	Geiger	William			
Daido Steel	Mitsuhiro	Matsuda	SEMI	Nguyen	Laura

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
Facilities		
None		
Gases		
Mass Flow Controller	Erica Kitano (Fujikin) – stepped down	Open

Table 3 Committee Structure Changes

None

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
Facilities		
None		
Gases		
R6340C	Revision to SEMI F53-0600 (Reapproved 0412), Test Method for Evaluating the Electromagnetic Susceptibility of Thermal Mass Flow Controllers, with title change to Test Method for Evaluating the Electromagnetic Susceptibility of Mass Flow Controllers	**Passed**, submitted to ISC A&R for approval
6512	Reapproval of SEMI E12-1213, Guide for Standardized Pressure, Temperature, Density, and Flow Units Used in Mass Flow Meters and Mass Flow Controllers	**Failed**

#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Activities Approved by the GCS between meetings of the TC Chapter

None

Table 6 Authorized Activities

None

Table 7 Authorized Ballots

#	*When*	*TF*	*Details*
Facilities			
None			
Gases			
6290C	Cycle 6 or 7-2019	Filters & Purifiers TF	New Standard: Test Method for the Determination of Organic Contaminants Present on Wetted Surfaces of Ultra High Purity Chemical Delivery Systems and Components
6291C	Cycle 6 or 7-2019	Filters & Purifiers TF	New Standard: Test Method for the Determination of Metallic Elements Present on Wetted Surfaces of Ultra High Purity Chemical Delivery Systems and Components
6394	Cycle 6 or 7-2019	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F74-1103 (Reapproved 0710), Test Method for the Performance and Evaluation of Metal Seal Designs for Use in Gas Delivery Systems
6441A	Cycle 6 or 7-2019	Filters & Purifiers TF	Revision to add a New Subordinate Standard, Test Method for Determination of Particle Contribution of Gas Delivery System and its Components through Dynamic (Pulse) Testing, to SEMI F70-0611 (Reapproved 0517), Test Method for Determination of Particle Contribution of Gas Delivery System
6457	Cycle 6 or 7-2019	Filters & Purifiers TF	Revision to SEMI F38-0699, Test Method for Efficiency Qualification of Point-of-Use Gas Filters
6477	Cycle 6 or 7-2019	Filters & Purifiers TF	Revision to SEMI F112-0613 Test Method for Determination of Moisture Dry Down Characteristics of Surface Mounted and Conventional Gas Delivery Systems by Cavity Ring Down Spectroscopy (CRDS)
6492A	Cycle 6 or 7-2019	Gases Specification TF	Line Item Revision to SEMI C3.32-0614, Specification for Chlorine (Cl2), 99.996% Quality
6493A	Cycle 6 or 7-2019	Gases Specification TF	Line Item Revision to SEMI C3.37-0614, Specification for Hexafluoroethane (C2F6), 99.97% Quality
6510	Cycle 6 or 7-2019	Materials of Construction of Gas Delivery Systems TF	Line Item to SEMI F32-0211, Test Method for Determining of Flow Coefficient for High Purity Shutoff Valves

Table 8 SNARF(s) Granted a One-Year Extension

None

Table 9 SNARF(s) Abolished

#	TF	Title
Facilities		
None		
Gases		
6512	Mass Flow Controller TF	Reapproval of SEMI E12-1213, Guide for Standardized Pressure, Temperature, Density, and Flow Units Used in Mass Flow Meters and Mass Flow Controllers ***– Reapproval ballot failed Committee review, new SNARF to be issued to reflect change in scope.***

Table 10 Standard(s) to receive Inactive Status

None

Table 11 New Action Items

None

Table 12 Previous Meeting Action Items

Item #	Assigned to	Details
2017July#02	Bala Mohammed	Bala Mohammed will send Matt information for someone that is familiar heater jacket at Applied Materials. Ongoing. No one at this time. Closed.
2018April #02	Bill Kiikvee	To set up an offline meeting to discuss SEMI F32 with Mohamed, Matt, Bill; cc: Yanli Chen, Brian Sullivan. Ongoing. Closed.
2019Apr#01	Laura Nguyen	Send Max ballot results for Doc 6441. Completed. Closed.
2019Apr#02	Milk Blum	Prepare proposal for SEMICON West. Completed. Closed.
2019Apr#03	Steve Lewis	To contact Alex McEachern. Alex is longer leading the Power Grid Harmonics TF. Closed.
2019Apr#04	Laura/James	Communicate helium shortage to SEMI Executives. Ongoing.

1 Welcome, Reminders, and Introductions

Steve Lewis (BW Design Group) 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 Meetings Elements

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion: To accept the previous meeting minutes as written.
By / 2nd: Rob Shutler (Swagelok) / Jeff Christian (WIKA)
Discussion: None.
Vote: 15-0 in favor. Motion passed.

Attachment: [2019Spring] F&G NA Minutes FINAL

3 Liaison Reports

3.1 *Gases & Liquid Chemicals Europe TC Chapter*

There is no update since last meeting. The next Gases & Liquid Chemicals Europe TC Chapter will be held in conjunction with SEMICON Europa 2019

3.2 *Gases & Facilities Japan TC Chapter*

Laura Nguyen (SEMI) reported for the Japan TC Chapter. Of note:

Meeting Information

- Last meeting: Friday, April 12, 2019; SEMI Japan Standards Spring Meetings; SEMICON Japan
- Next meeting: Friday, October 4, 2019 at the SEMI Japan Standards Fall Meetings; SEMI Japan

F&G Leadership

- Committee Co-chairs
  - Hiromichi Enami (Consultant), Isao Suzuki (Consultant), Masafumi Kitano (Fujikin)

F&G Current Organization Chart of Japan TC Chapter *{See attachment for Org Chart}*

Gases

Five-Year Review

- SEMI F89-1012, Specification for Dimension of Compact Size Mass Flow Controllers and Mass Flow Meters for 1.5 Inch Type Surface Mount Gas Distribution Systems

Facilities

Ballot Results

Doc #	Document Title	TC Chapter Action
6395	Revision to SEMI F1-0812, Specification for Leak Integrity of High Purity Gas Piping Systems and Components	Failed, returned to TF for rework

Authorized Ballots

Doc #	*When*	*TF*	*Document Title/Details*
6395A	Cycle 6, 2019	F1 Revision TF	Revision to SEMI F1-0812, Specification for Leak Integrity of High Purity Gas Piping Systems and Components

Abolished SNARF(s)

Doc #	TF	Document Title/Details
6323	F1 Revision TF	Reinstatement of SEMI F1-0812 Specification for Leak Integrity of High-Purity Gas Piping Systems and Components

Task Force Highlights

- F1 Revision TF
  - 6323: Reinstatement of SEMI F1-0812, Specification for Leak Integrity of High-Purity Gas Piping Systems and Components
    - SNARF was approved at Facilities Japan TC Chapter meeting on December 12, 2017.
    - Ballot was submitted for Cycle 2-2018 and failed at Facilities Japan TC Chapter meeting on April 24, 2018.

- 6395: Revision to SEMI F1-0812, Specification for Leak Integrity of High Purity Gas Piping Systems and Components
    - SNARF was approved at Facilities Japan TC Chapter meeting on April 24, 2018.
    - Ballot will be submitted for Cycle 7-2018
    - There were 2 rejects voting and 4 accepts voting with comments.
    - TF meeting was held on November 2nd. We discussed that there are some rooms to be reviewed in the Scope , Limitation and Wording of the document in addition to the returned comments because the original standard was published in 1990 and there were a lot of innovations and changes in gas piping systems from 1990.
    - Ballot was failed at Facilities Japan TC Chapter meeting on November 30, 2018
- 6395A: Revision to SEMI F1-0812, Specification for Leak Integrity of High Purity Gas Piping Systems and Components
    - Ballot will be submitted for Cycle 6-2019

- 5-year-review TF
    - 6321: Reapproval of SEMI F45-0307, Specification for Machined Stainless Steel Reducing Weld
        - SNARF was approved at Facilities Japan TC Chapter meeting on December 12, 2017.
        - Ballot was submitted for Cycle 2-2018 and passed at Facilities Japan TC Chapter meeting on April 24, 2018.
        - Passed A&R in May 2018
        - Published as SEMI F45-0307(Reapproved 0818)
- 6322: Reapproval to SEMI F44-0307, Specification for Machined Stainless Steel Weld Fittings of Machined Stainless Steel Weld Fittings
    - SNARF was approved at Facilities Japan TC Chapter meeting on December 12, 2017.
    - Ballot was submitted for Cycle 2-2018 and passed at Facilities Japan TC Chapter meeting on April 24, 2018.
    - Passed A&R in May 2018
    - Published as SEMI F44-0307(Reapproved 0818)

Five-Year Review

Designation	Standard Title	Action By	Assigned to
SEMI F102-0306 (Reapproved 0513)	Guide for Selecting Specifications for Dimension of Components for Surface Mount Gas Distribution Systems	Past due	--

Staff Contact: Mizue Iwamura, miwamura@semi.org

Attachment: 20190617_JA_G+F_LiaisonR_v1.0

3.3 *Facilities Korea TC Chapter*

There is no update for this TC Chapter at this time.

3.4 *SEMI Staff Report*

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

SEMI Global Calendar of Events

- SEMICON Taiwan (September 18-20; Taipei, Taiwan)
- SEMICON Europa (November 12-15; Munich, Germany)
- SEMICON Japan (December 11-13; Tokyo, Japan)
- SEMICON Korea (February 5-7; Seoul, Korea)

Upcoming North America Standards Meetings

- NA Standards Fall 2019 Meetings (November 4-7, SEMI HQ in Milpitas, California)
- NA Standards Spring 2020 Meetings (March 30-April 2, SEMI HQ in Milpitas, California)
- SEMICON West 2020 Meetings (July 20-23, Moscone Center, San Francisco, California)

Letter Ballot Critical Dates for 2019

- Cycle 6-2019: Ballot Submission Due: Jul 19/Voting Period: Jul 31 – Aug 30
- Cycle 7-2019: Ballot Submission Due: Aug 22/Voting Period: Sept 4 – Oct 4
- Cycle 8-2019: Ballot Submission Due: Oct 11/Voting Period: Oct 25 – Nov 25
- Cycle 9-2019: Ballot Submission Due: Nov 14/Voting Period: Nov 26 – Dec 26

Critical Dates: http://www.semi.org/en/Standards/Ballots

Standards Publications Report

Cycle	*New*	*Revised*	*Reapproved*	*Withdrawn*
March 2019	1	5	6	0
April 2019	1	4	6	0
May 2019	0	16	5	0
June 2019	1	5	0	0

Total in portfolio – 1,003 (includes 268 Inactive Standards)

New Standards

Cycle	*Designation*	*Title*	*Committee*	*Region*
March 2019	SEMI PV90	Guide for Material Requirements of Internal Feeders Used in Monocrystal Silicon Growers	Photovoltaic	China
April 2019	SEMI A2	Specification for Surface Mount Assembler Smart Hookup (SMASH)	Automation Technology	Japan
June 2019	SEMI 3D19	Test Method for Adhesive Strength of Adhesive Tray Used for Thin Chip Handling	3D Packaging & Integration	Japan

Inactive Standards

Committee	*Number of Inactive Standards*
Assembly & Packaging	48
Automated Test Equipment	2
Compound Semiconductor Materials	4
Environmental Health & Safety	8
Facilities	15
FPD – Equipment	5
FPD – Factory Automation	14
FPD – Materials & Components	13
Gases	18
Information & Control	37
Liquid Chemicals	24
MEMS	3
Metrics	9
Micropatterning	29
Photovoltaic	1
Physical Interfaces & Carriers	19
Silicon Wafer	11
Traceability	8

connect@SEMI - Contact your staff if a TF Site is desired

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

Regulations & Procedure Manual

- *Regulations* (Feb 28, 2019)
  - Latest version clarifies procedures applicable for Copyrighted Items and trademarks
- *Procedure Manual* (Feb 28, 2019)
- SNARF (Feb 2019)

What is a Trademark?

- Trademarks are brands that owners consider to be valuable intellectual property.
- It can be a company name, an acronym, a graphical symbol, or a product name, even a software product. Products that are trademarked services are usually called service marks.
- Anyone can claim to trademark something, not already in use by others, to identify and distinguish it from others.
- Trademarks are identified in two ways:

- A TM is used for claimed trademarks; SM is used for claimed service marks
- The symbol ® is used for trademarks registered with the US Patent Office or other national trademark offices.

Why are the Rules for Trademarks Clarified?

- As part of SEMI policy to avoid any appearance of restraint of trade, the *Regulations* allow incorporation of trademarks in Standards Documents only under specific conditions.
- Hence, incorporation of a trademark in a Standards Document without complying with those conditions is a violation of the *Regulations*.
- It was brought to the attention of the ISC Regulations Subcommittee that a number of SEMI Standards Documents include trademarks or even require use of trademarked products without indicating that they were trademarks, who owned them, or the existence of a record of TC Chapter approval of that use.
- The *Regulations* already stated where & how trademarks could be used.
- After review of the rules, the Regs SC decided that the procedures for approving the incorporation of trademarks and the way they are presented needed to be clarified. Changes were incorporated in the June 8, 2018 and the Feb. 28, 2019 versions of the *Regulations* and the *Style Manual*.

Responsibilities of the TC Chapter (Summary of Rules and Procedures)

- See *Regulations* §§ 1.5.11 & 16.4 for official requirements
- Don't include company/organization names in official parts or Notes, except in footnotes and for SDOs in subheadings of Referenced Standards and Related Documents sections.
  - Many SDO names and acronyms are trademarked
    - SEMI Publications is assembling a list, for the *Style Manual*, of trademarked SDO names, acronyms and whether they are registered
  - Do not need to indicate that SEMI is trademarked.
- Only include trademark for a branded item if technically justified (only it meets requirements) and approved by TC Chapter vote.
  - Currently, assessment & approval is also required for inclusion of any trademark
  - Regs SC is reviewing the requirements for the trademarked SDOs name and acronym used in subheadings mentioned above.
- Research whether a brand for an item is trademarked by owner and if it is registered
  - Owner's website (also get official name of owner)
  - http://www.uspto.gov; http://www.inta.org (international)
- At first convenient usage of a trademark in a Document:
  - Ensure that it is represented with the proper symbol (see *Style Manual 1-24*)
  - Also give the generic term for the product, if possible
  - Add a footnote that references the owner's name
- Corrections to a Document that uses a not-acknowledged trademark may be made editorially, if done properly (see *Regulations* ¶ 16.4.4.1.1 and Note 48)

Examples

- Example 1 for a product trademarked name
  - Not acknowledged: Kleenex

- Not allowed: Kimberly-Clark Kleenex®
- Allowed: Kleenex®[1]
- Preferred: Kleenex®[1] brand tissue (straight quote from box)
- [1] Kleenex trademark is owned by Kimberly-Clark Corporation.

- Example 2 for trademarked SDO name in subheadings of applicable sections
  - ASTM® Standards[1]
  - [1] ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA; Telephone: +1.610.832.9585, Fax: +1.610.832.9555, http://www.astm.org. ASTM trademark is owned by ASTM International.

F&G Nonconforming Titles (See PM Appendix 4) *{None}*

Facilities & Gases Five-Year Review *{See attachment for full list}*

SNARF 3 Year Status, TC Chapter may grant a one-year extension

- Facilities
  - 5155, New Standard: Guide for Facilities Data Package for Semiconductor Equipment Installation
    - Expired – action to abolish
  - 6037, New Standard: Specification for Power Grid Harmonics Compatibility
    - Expires – action to abolish
- None for Gases

In progress/Needs action

- Facilities
  - SEMI E51, Guide for Typical Facilities Services and Termination Matrix
    - Abolished SNARF Fall 2017 - Reapproval ballot failed Committee review, new SNARF needs to be issued to reflect change in scope
  - SEMI F47, Specification for Semiconductor Processing Equipment Voltage Sag Immunity
    - Failed committee review Spring 2018; Voltage Sag Immunity TF to take over the revision of this document
- Gases
  - Heater Jacket TF
    - SEMI F109, Guide for Heater Systems Requirements
    - Abolished Spring 2018; new SNARF need to be issued for major revision (title cannot have Guide and Requirements)

Attachment: Staff Report July 2019_F&G

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 *Facilities*

None.

4.2 *Gases*

4.2.1 Document # R6340C: Revision to SEMI F53-0600 (Reapproved 0412), Test Method for Evaluating the Electromagnetic Susceptibility of Thermal Mass Flow Controllers, with title change to Test Method for Evaluating the Electromagnetic Susceptibility of Mass Flow Controllers

- The ballot passed TC Chapter review with technical changes during Spring 2019 Meetings. A Ratification Ballot was issued in Cycle 5, 2019. R6341 reached an acceptance rate of at least 30% and was forwarded to A&R for Procedural Review.

Attachment: R6340C_Ballot Review

4.2.2 Document # 6512, Reapproval of SEMI E12-1213, Guide for Standardized Pressure, Temperature, Density, and Flow Units Used in Mass Flow Meters and Mass Flow Controllers

- The committee found the negatives related and persuasive. The ballot failed and returned to the task force for re-work and re-ballot in the next cycle if ready. See attachment for details.

Attachment: MFC Task Force Report_Semicon West 2019

5 Subcommittee and Task Force Reports

5.1 *Facilities*

5.1.1 *Power Grid Harmonics Task Force – Did not meet*

5.1.2 *SEMI F51 Revision Task Force – Did not meet*

5.1.3 *Building Information Modeling (BIM) for Semiconductor Capital Equipment Task Force – Did not meet*

5.1.4 *Voltage Sag Immunity Task Force*

Mark Stephens (EPRI) reported for this Task Force. Of note, the key items are as follows:

- Review TF Topics
- Review of Task Force Scope, Charter, and Tasks
- Review of Task Force Discussions and Findings to Date
- Review of Task 2 and Available PQ Data Sources
- Discussion of Task 3 Tool Sets for Voltage Sag Testing
- Round Table Discussions *{See attachment for detailed comments"}*
- Action Item Review

Objectives

- The key objectives of this task force are to:
    - Review the characteristics of the power quality events that are still causing semiconductor plant process downtime
    - Take a new look at the sensitivities in the process equipment
    - To determine any potential adjustments to equipment design, facility design, utility systems, or standards to further reduce voltage sag induced losses by the semiconductor industry.
        - What about how voltage sags propagate through the facility?
            - Transformations from monitoring point to the POC tool (Sean L.)
        - Phase shifting vs. amplitude drops? (Dazid Ezer)
        - PCC to delta-wye transformers – phase shifting, etc (Clay B.)
- This important work will:
    - Help utilities, semiconductor manufacturers, and tool equipment providers to better understand the tolerance and susceptibility of today's generation of semiconductor processing tools

- Potentially lead to effective strategies to improve uptime and lower product losses due not only to single-phase (Type I) and two-phase (Type II) voltage sag events but for three-phase (Type III) events as well

Attachment: SEMI VS TF Meeting 5 SEMICON West 2019 June 9 Report Out

5.2 *Gases*

5.2.1 *Materials of Construction of Gas Delivery Systems Task Force*

Bill Kiikvee (AP Tech) reported for this task force. Of note:

- Rob Shulter gave presentation of rough draft of proposed Vacuum testing to size components.
- TF Leader needs to resolve SEMI F32 Line item ballot and review SEMI F74 for balloting.
- Continue working on Vacuum testing to size components.
- Open Action Items
  - Rob Shulter to finish up draft of test plan and submit to task force for input. Due mid July 2019.
  - BK: SEMI F32, SEMI F74 for reballoting and SNARF for new Vacuum test for sizing components.
- New Action Items
  - Five-year review: SEMI F72, F79, F105, F60 and F73

Bill addressed the Committee on the below:

Motion:	Motion to authorize Document 6510 (SEMI F32) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Chris Sanders (BW Design Group) / Jeff Christian (WIKA)
Discussion:	None.
Vote:	12-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6394 (SEMI F74) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Jeff Christian (WIKA) / Joyce Chen (Applied Materials)
Discussion:	None.
Vote:	16-0 in favor. Motion passed.

Attachment: Minutes_Materials_of_Const_TF - Standard July 2019

5.2.1 *Filters & Purifiers Task Force*

Mohamed Saleem (Brooks Instrument) reported for this Task Force. Of note:

- Reviewed documents from Spring Meetings and decided to ask the TC Chapter to ballot. See below for motions.

New Business

- Revision of SEMI E49.6 and E49.8; SNARFs to be done for these documents;
- Discussed inclusion of updated particle specification based on nano-particle level spec from SEMI end users.

Motion:	Motion to authorize Document 6457 (SEMI F38) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Bala Mohammed (Applied Materials) / Arun Nagarajan (Brooks Instrument)
Discussion:	None.
Vote:	19-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6290C for ballot in Cycle 6 or 7-2019.
By / 2nd:	Joyce Chen (Applied Materials) / Arun Nagarajan (Brooks Instrument)
Discussion:	None.
Vote:	18-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6291C for ballot in Cycle 6 or 7-2019.
By / 2nd:	Bill Kiikvee (AP Tech) / Bala Mohammed (Applied Materials)
Discussion:	None.
Vote:	19-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6 477 (SEMI F112) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Jeff Christian (WIKA) / Arun Nagarajan (Brooks Instrument)
Discussion:	None.
Vote:	10-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6441A for ballot in Cycle 6 or 7-2019.
By / 2nd:	Rob Shutler (Swagelok) / Chris Sanders (BW Design Group)
Discussion:	None.
Vote:	16-0 in favor. Motion passed.

Attachment: FP Task Force Report 07_08_2019

5.2.2 *Mass Flow Controller Task Force*

Mohamed Saleem (Brooks Instrument) reported for this task force. Of note:

The task force:

- Reviewed Ballot Results as mentioned in Section 4 *{See attachment for embedded file}*
- Because Doc 6512 was a Reapproval Ballot and failed TC Chapter Review, the TF asked the TC Chapter to abolish SNARF 6512 and will reissue new SNARF for major revision and send out for two-week TC Chapter review before Fall Meetings

New Business

- Create a SNARF for defining physical parameters for EtherCAT MFCs within SEMI Standards. During May 2019 ETG meeting, the ETG agreed in principle. Additional internal discussion within ETG required, per email communication from ETC in June.

Motion:	Motion to abolish Document 6512; Reapproval ballot failed Committee review, new SNARF to be issued to reflect change in scope.
By / 2nd:	Chris Sanders (BW Design Group) / Bala Mohammed (Applied Materials)
Discussion:	None.
Vote:	14-0 in favor. Motion passed.

Attachment: MFC Task Force Report_Semicon West 2019

5.2.3 *Gases Specification Task Force*

Mohamed Saleem (Brooks Instrument) reported for this Task Force. Of note:

- Reviewed Minority Reports (MR)submitted by Eric Sklar in opposition to action taken by the Gases TC chapter

Notes:

- GCS during a two week review in May 2019 found the objections raised in MRs related and persuasive.
- The docs 6492, 6493 failed in the TC chapter meeting held at Semicon West 2019
- New Line Item ballots for 6492, 6493 will be issued which reflects correct trademark/copyrighted information usage.
- New figures for 6492, 6493 were created and issued as line item ballots
- Make a motion to submit revised documents for balloting
- No Fall Standards meeting planned

Motion:	Motion to authorize Document 6492A, LI 2 (SEMI C3.32) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Jeff Christian (WIKA) / Chris Sanders (BW Design Group)
Discussion:	None.
Vote:	15-0 in favor. Motion passed.

Motion:	Motion to authorize Document 6493A, LI 2 (SEMI C3.37) for ballot in Cycle 6 or 7-2019.
By / 2nd:	Jeff Christian (WIKA) / Joyce Chen (Applied Materials)
Discussion:	None.
Vote:	15-0 in favor. Motion passed.

Attachment: Gases Specification Task Force Report_Semicon West 2019

5.2.4 *Heater Jacket Task Force*

David Colquhoun (Brisk Heat) reported for this Task Force. Of note:

- The updated design guide is a work-in-progress.
- An outline of a new test standard was started and discussed for particle testing. No date commitment for this and it needs a SNARF.
- Another aspect of heaters and testing was also discussed: the outgassing characteristics for curing, initial heat-up, and aging. This is a completely different test than particles with a need for expensive analytical equipment unlike the particle testing that requires much less expensive test equipment. A new SNARF is required for combining Design and Material Selection for Heater Jackets.
- (David Colquhoun) To complete document that should able to move out for general comment in few months.

6 Old Business

6.1 Previous Action Items

6.1.1 Previous action items are noted in Table 12 in 'red' and for recent updates in 'blue'. There is no further old business.

7 New Business

7.1 *Gases*

7.1.1 *Presentation: A Proposed Standard for Measuring Pitting Resistance of Stainless Steel Components Based on ASTM G-61*

Mike Blum (MTA Labs) addressed the committee on this topic.

- SEMI Standards to look into creating a new standard for measurement of Pitting Potential of Stainless Steels

- *This new standard will complement existing SEMI F77, suitability of which is limited to flat coupons. The proposed standard, based on ASTM G-61 will extend to other geometries such as fittings, glands which are routinely used in semiconductor gas delivery systems. Dynamic Pitting Potential tests are important to assess the quality of stainless steel surfaces used in gas delivery systems.* While both measurements are good indicators for onset of corrosion in stainless steel, it is possible that pitting potential measurement test setup (and sample size/prep) is relatively easier than CPT measurement. A SNARF would be needed to work on this standard.
- CPT tests are less user-friendly to complex surfaces such as glands and elbows.
- Pitting potential measurement may be easier to perform with complex shaped parts.

Attachment: Mike Blum SEMI Standards Committee Presentation on ASTM-G61 07-09-2019

8 Next Meeting and Adjournment

The next meeting is scheduled for Tuesday, November 5, in conjunction with the NA Standards Fall 2019 Meetings at SEMI Global Headquarters in Milpitas, California. See http://www.semi.org/standards-events for the current list of events.

Tentative Schedule:

Monday, November 4

Gases Task Force Meetings

09:00-10:00 Materials of Construction of Gas Delivery Systems (TF)
10:00-11:00 Filters and Purifiers (TF)
11:00-12:00 Mass Flow Controller (TF)
~~13:00-14:00 Gas Specification (TF)~~
13:00-14:00 Heater Jacket (TF)Thank you

Facilities Task Force Meetings

~~TBD Building Information Modeling (BIM) for Semiconductor Capital Equipment (TF)~~
~~14:00-16:00 Voltage Sag Immunity (TF)~~

Tuesday, November 5

09:00-12:00 Facilities & Gases (C)

Adjournment: 11:21.

Respectfully submitted by:

Laura Nguyen

Sr. Coordinator, International Standards

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Minutes tentatively approved by:

Steve Lewis (BW Design Group), Facilities Co-chair	<Date approved>
Mohamed Saleem (Brooks Instrument), Gases Co-chair	10-08-2019

Minutes approved by: F&G **NA TC Chapter on November 5, 2019**

Table 13 Index of Available Attachments[#1]

Title	*Title*
SEMI Standards Required Meetings Elements	SEMI VS TF Meeting 5 SEMICON West 2019 June 9 Report Out
[2019Spring] F&G NA Minutes FINAL	Minutes_Materials_of_Const_TF - Standard July 2019
20190617_JA_G+F_LiaisonR_v1.0	FP Task Force Report 07_08_2019
Staff Report July 2019_F&G	Gases Specification Task Force Report_Semicon West 2019
R6340C_Ballot Review	Mike Blum SEMI Standards Committee Presentation on ASTM-G61 07-09-2019
MFC Task Force Report_Semicon West 2019	

#3 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 Laura Nguyen at the contact information above.