

North America Facilities & Gases TC Chapters Meeting Summary and Minutes

N.A. Standards Spring 2014 Meetings
Tuesday, 01 April 2014, 9:00 AM – 12:00 PM PDT
SEMI Headquarters in San Jose, California

Next Meetings

The next N.A. Facilities and Gases standards meetings are tentatively scheduled for July 7-8, 2014 at the San Francisco Marriott Marquis Hotel in San Francisco, California in conjunction with the NA Standards SEMICON West 2014 meetings. Exact meeting dates and details will be announced when finalized and will be available at: <http://www.semi.org/node/49446>

Table 1 Meeting Attendees

Italics indicate virtual participants

Facilities Co-Chair: Steve Lewis (DPS Engineering)

Gases Co-Chairs: Tim Volin (Parker Hannifin), Mohamed Saleem (Fujikin)

SEMI Staff: Michael Tran

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
<i>AP TECH</i>	<i>Kiikvee</i>	<i>Bill</i>	Parker Hannifin	Volin	Tim
<i>CONSCI</i>	<i>Ripkowski</i>	<i>Mark</i>	<i>CARTEN CONTROLS</i>	<i>Katz</i>	<i>Paul</i>
DPS Engineering	Lewis	Steve	Ultra Clean Technology (UCT)	Chen	Joyce
DPS Engineering	Sanders	Chris			
Fujikin	Saleem	Mohamed	SEMI N.A.	Tran	Michael

Table 2 Leadership Changes

<i>Group</i>	<i>Previous Leader</i>	<i>New Leader</i>
Pressure Measurement TF		Joyce Chen (UCT), TF co-leader Jeff Christian (WIKA), TF co-leader

Table 3 Ballot Results

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

Failed ballots and line items were returned to the originating task forces for re-work and re-balloting.

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
5671	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality	Failed committee review
5672	Revision of SEMI C3.32-1109, Specification for Chlorine (Cl ₂), 99.996% Quality	Passed committee review with editorial changes
5673	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality	Failed committee review
5674	Revision of SEMI C3.37-1109, Specification for Hexafluoroethane (C ₂ F ₆), 99.97% Quality	Passed committee review with editorial changes
5668	Withdrawal of SEMI E52-1213, Practice for Referencing Gases, Gas Mixtures and Vaporizable Materials Used in Digital Mass Flow Controllers	Passed committee review. Superclean

Document #	Document Title	Committee Action
5669	Line Item Revisions of: •SEMI E6-0303, Guide for Semiconductor Equipment Installation Documentation •SEMI E54.18-1106 (Reapproved 1211), Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device •SEMI E54.22-0613, Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges •SEMI F79-0710, Guide for Gas Compatibility with Silicon Used in Gas Distribution Components •SEMI F105-0708, Guide for Metallic Material Compatibility in Gas Distribution Systems Line Item 1: Change all instances of SEMI E52 to AUX030 as noticed.	Line Item 1 passed committee review.

Table 4 Authorized Activities

#	Type	SC/TF/WG	Details
5714	SNARF	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5712	SNARF	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F73-0309 , Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components
5715	SNARF	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F77-0703 (Reapproved 0310), Test Method for Electrochemical Critical Pitting Temperature Testing of Alloy Surfaces Used in Corrosive Gas Systems

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

Table 5 Authorized Ballots

Listing of documents approved by the committee for letter ballot.

#	When	SC/TF/WG	Details
5445	Cycle 3 or 4,2014	Materials of Construction of Gas Delivery Systems TF	Revision of SEMI F60-0306 (Reapproved 0611), Test Method for ESCA Evaluation of Surface Composition of Wetted Surfaces of Passivated 316L Stainless Steel Components
5714	Cycle 3 or 4,2014	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5712	Cycle 3 or 4,2014	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F73-0309 , Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components
5715	Cycle 3 or 4,2014	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F77-0703 (Reapproved 0310), Test Method for Electrochemical Critical Pitting Temperature Testing of Alloy Surfaces Used in Corrosive Gas Systems

Table 6 New Action Items

Item #	Assigned to	Details
2014Apr#01	Michael Tran	To send Chris Sanders SEMI E72 and SEMI E6 for review.

Table 6 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
2014Apr#02	Michael Tran	To ask Justin Hough to step down and ask for the status Document 3440 for Joyce Chen and Jeff Christian.
2014Apr#03	Filters and Purifiers TF	To ask Tiger Optics and Paul Katz from Carten Controls to volunteer and run some tests.
2014Apr#04	Tim Volin	To check with Bob Irwin about status of SEMI F6-92, SEMI F13-1101, and SEMI F14-93 (Reapproved 0699).
2014Apr#05	Tim Volin	To report the possibility of a chemical critical pitting test based on ASTM G48.
2014Apr#06	Mark Ripkowski	To draft a SNARF to revise SEMI C71-0611 (Boron Trichloride (BCI3)).
2014Apr#07	Michael Tran and Chris Sanders	Michael Tran to work with Chris Sanders to form the potential TF for tool templates.
2014Apr#08	Michael Tran	To send out the updated list of documents due for five year review to everyone who attended this NA Facilities and Gases TC Chapter meeting.

Table 7 Previous Meeting Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
1013-1	Kevin Nguyen (SEMI Staff)	To inform European Liquid Chemicals leaders on requesting for Gases codes (if needed) for inclusion in SEMI E52	CLOSED
1013-2	Kevin Nguyen (SEMI Staff)	To verify if SEMI F80 Test Method for Determination of Gas Change/Purge Efficiency of Gas Delivery System was published by the US region. If yes, inform Japan that the reviewing should be done by the NA Purifier and Filter Task Force.	CLOSED
1013-3	Kevin Nguyen (SEMI Staff)	To email Japan staff for additional information on Standardization of Live Gas Flow Rate Study Group. If there is any information such as presentation or meeting minutes, send prospective materials to Mohamed Saleem and Bala Mohammed	CLOSED
1013-4	Kevin Nguyen (SEMI Staff)	To email Justin Hough for the progress of doc. 3440B, Test Method for Pressure Transducers in Gas Delivery Systems	CLOSED
1013-5	Kevin Nguyen (SEMI Staff) and others	To provide guidance on 5 year review to Chris Sanders and Yanli Chen for: <ul style="list-style-type: none"> • SEMI F107-0309 Guide for Process Equipment Adapter Plates (Chris Sanders) • SEMI F73-0309 Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components (Yanli Chen) 	Open for SEMI F107; Closed for SEMI F73.

1 Welcome, Reminders, and Introductions

1.1 Steve Lewis (DPS Engineering) called the meeting to order. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01, SEMI Standards Required Meeting Elements

2 Review of Previous Meeting Minutes

2.1 The committee reviewed the minutes of the previous meeting.

Motion: To approve the minutes of the previous meeting as written.

By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)

Discussion: None.

Vote: 3-0 in favor. Motion passed.

Attachment: 02, NA Facilities and Gases TC Chapters meeting minutes (Fall 2013)

3 Liaison Reports

3.1 Japan Facilities TC Chapter

3.2 Michael Tran (SEMI N.A.) reported for the Japan Facilities TC Chapter. Of note:

- Last Meetings
 - December 4, 2013 in conjunction with SEMICON Japan 2013, Makuhari Messe, Chiba, Japan
 - April 4, 2014 during Japan Spring Meetings 2014 at SEMI Japan, Tokyo, Japan
- Next Meeting
 - July 4, 2014 during Japan Summer Meetings 2014 at SEMI Japan, Tokyo, Japan
- *Doc. #5686, Reapproval of SEMI F80-0309, Test Method for Determination of Gas Change/Purge Efficiency of Gas Delivery System (with Editorial Changes)*
 - Passed committee review
- Standardization of live Gas Flow Rate Study Group
 - Shared and discussed the result of the survey about calibration of Live Gas Flow Rate which was made to Mass Flow Manufacturers in November.
 - However, how to perceive the questions was different by the manufacturers.
 - SG decided to resurvey focusing on the item which could be candidates to be standardized.
 - On the basis of the result of the survey, SG will discuss it should be standardized or it should be solved by the other methods.

Attachment: 03, Japan Facilities TC Chapter Report (Spring 2014)

Attachment: 04, Standardization Live Gas Flow Rate SG Minutes

3.3 Europe Gases and Liquid Chemicals TC Chapter

3.3.1 Michael Tran (SEMI N.A.) reported for the Europe Gases and Liquid Chemicals committee. Of note:

- Meeting Information
 - Last Meeting
 - October 8, 2013 at SEMICON Europa in Dresden, Germany
 - Next Meeting
 - 7-9 October, 2014 at SEMICON Europa in Grenoble, France
- Ballot results
 - All passed as balloted:
 - Doc. 5496, Revision to SEMI C80: Guide for Tetrakis(Dimethylamino) Silane (TDMAS)
 - Doc. 5324 New Standard: Guide for Cyclopentanone
 - Doc. 5326 New Standard: Guide for Methyl Isobutyl Carbinol (MIBC) or 4-Methyl 2-Pentanol

- Doc. 5635 Withdrawal of SEMI C61: Specification for Bar Code Container Identification
- New SNARFs
 - Doc. 5658, New Standard: Guide for PDMAT (pentakis dimethyl amino Tantalum)
 - Doc. 5656, Revision to SEMI C65: Guide for trimethyl silane (3MS)
 - Doc. 5657, Revision to SEMI C66: Guide for trimethyl Aluminium (TMAI)
- Existing SNARFs
 - Doc. 5495, New Standard: Guide for Cyclo Hexanone
 - Doc. 5491, New Standard: Guide for Titanium Tetrachloride (TiCl₄)
 - Doc. 5492, New Standard: Guide for Ethylene Glycol
 - Doc. 5493, New Standard: Guide for Octa Methyl Cyclo Tetra Siloxane (OMCTS)
 - Doc. 5494, New Standard: Guide for Tetra Methyl Cyclo Tetra Siloxane (TMCTS)
 - Doc. 5325, New Standard: Guide for Dimethyl Dimethoxy Silane (DMDMOS)
- The draft documents resulting from the SNARFs once completed will be balloted and reviewed at the next meeting in conjunction with SEMICON Europa 2014
- SEMI Europe Contact: Andrea Busch, abusch@semi.org

Attachment: 05, Europe Gases & Liquid Chemicals Committee Report (Spring 2014)

3.4 SEMI Staff Report

3.4.1 Michael Tran (SEMI N.A.) gave the SEMI N.A. Staff Report. The key items were as follows:

- 2014 Global Calendar of Events
 - European 3D TSV Summit (January 21-22, Grenoble, France)
 - SEMICON Korea / LED Korea (February 12-14, Seoul)
 - SEMICON China (March 18-20, Shanghai)
 - SEMICON Singapore (April 23-25, Marina Bay Sands)
 - SEMICON Russia (May 14-15, Moscow)
 - SEMI Advanced Semiconductor Manufacturing Conference [ASMC] (May 19-21, Saratoga Springs, New York)
 - SEMICON West (July 8-10, San Francisco, California)
 - SEMICON Taiwan (September 3-5, Taipei)
 - SEMICON Europa / Plastic Electronics (October 7-9, Grenoble, France)
 - SEMICON Japan (December 3-5, Tokyo)
- NA Standards Spring 2014 Meetings (March 31 – April 3)
 - Committees meeting at SEMI Headquarters (San Jose)
 - 3DS-IC | EHS | Facilities & Gases | Information & Control | Metrics | PV Materials
 - SEMI thanks Intel (Santa Clara) for hosting the PIC and Silicon Wafer meetings

- Upcoming North America Meetings (2014)
 - NA Compound Semiconductor Materials in conjunction with CS MANTECH 2014 (May 21, Denver, Colorado)
 - NA Standards Meetings at SEMICON West 2014 (July 7- 10, San Francisco, California)
 - NA Standards Fall 2014 Meetings (November 3-6, San Jose, California)
- Standards Publications Report
 - November 2013 Cycle
 - New Standards – 1, Revised Standards – 6, Reapproved Standards – 3, Withdrawn Standards – 0
 - December 2013 Cycle
 - New Standards – 2, Revised Standards – 11, Reapproved Standards – 4, Withdrawn Standards – 0
 - January 2014 Cycle
 - New Standards – 3, Revised Standards – 3, Reapproved Standards – 0, Withdrawn Standards – 1
 - February 2014 Cycle
 - New Standards – 4, Revised Standards – 5, Reapproved Standards – 0, Withdrawn Standards – 1
 - Total in portfolio – 901 (includes 99 Inactive Standards)
- Official SEMI Standards Groups
 - LinkedIn
 - <http://www.linkedin.com/groups/Official-SEMI-Standards-Group-1774298/about>
 - Twitter
 - @SEMI_standard
- SEMI N.A. Standards staff contact: Michael Tran, mtran@semi.org

Discussion: Tim Volin commented if there are stats about the utilization of standards. Maybe see if there are Facilities and Gases in the bottom 100 of standards used.

Attachment: 06, SEMI North America Standards Staff Report (Spring 2014)

4 Ballot Review

NOTE 1: Committee adjudication on ballots is detailed in the Audits & Reviews (A&R) Subcommittee Forms for procedural review. These A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each committee review motion below.

Document #	Document Title	Committee Action
5671	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality	Failed committee review
5672	Revision of SEMI C3.32-1109, Specification for Chlorine (Cl ₂), 99.996% Quality	Passed committee review with editorial changes
5673	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality	Failed committee review

Document #	Document Title	Committee Action
5674	Revision of SEMI C3.37-1109, Specification for Hexafluoroethane (C2F6), 99.97% Quality	Passed committee review with editorial changes
5668	Withdrawal of SEMI E52-1213, Practice for Referencing Gases, Gas Mixtures and Vaporizable Materials Used in Digital Mass Flow Controllers	Passed committee review. Superclean
5669	Line Item Revisions of: <ul style="list-style-type: none"> •SEMI E6-0303, Guide for Semiconductor Equipment Installation Documentation •SEMI E54.18-1106 (Reapproved 1211), Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device •SEMI E54.22-0613, Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges •SEMI F79-0710, Guide for Gas Compatibility with Silicon Used in Gas Distribution Components •SEMI F105-0708, Guide for Metallic Material Compatibility in Gas Distribution Systems Line Item 1: Change all instances of SEMI E52 to AUX030 as noticed.	Line Item 1 passed committee review.

Motion: Document 5671 failed committee review and will be returned to the TF for rework.
By / 2nd: Mark Ripkowski (CONSCI) / Chris Sanders (DPS Engineering)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 07, Ballot Review for Document #5671

Motion: Document 5672 passed committee review with editorial changes and will be forwarded to the A&R for procedural review.
By / 2nd: Tim Volin (Parker Hannifin) / Chris Sanders (DPS Engineering)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 08, Procedural Review for Document #5672

Motion: Document 5673 failed committee review and will be returned to the TF for rework.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 09, Ballot Review for Document #5673

Motion: Document 5674 passed committee review with editorial changes and will be forwarded to the A&R for procedural review.
By / 2nd: Chris Sanders (DPS Engineering)/ Tim Volin (Parker Hannifin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 10, Procedural Review for Document #5674

Motion: Document 5668 passed committee review as balloted and will be forwarded to the A&R for procedural review.
By / 2nd: Tim Volin (Parker Hannifin) / Joyce Chen (UCT)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 11, Procedural Review for Document #5668

Motion: Document 5669, Line Item 1 passed committee review as balloted and will be forwarded to the A&R for procedural review.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Attachment: 12, Procedural Review for Document #5669

5 Facilities Task Force Reports

5.1 SEMI F51(Elastometric Sealing) Revision TF

5.1.1 Steve Lewis (DPS Engineering) reported for the F51 TF. Of note:

- Doc. 5080, *Revision of SEMI F51-0200 - Guide for Elastometric Sealing Technology*
 - There is general consensus to make the document a general guide
 - Each criteria in the rating table should be defined and has basic information on testing methodology (including sample preparation)
 - The TF incorporated the testing methodologies provided by Balazs Air Liquide lab into the document
 - The TF will request review from the Facilities & Gases committees to vote on whether the document is ready for letter ballot in Cycle 4, 2014

5.2 Building Information Modeling (BIM) for Semiconductor Capital Equipment TF

5.2.1 Michael Tran (SEMI NA) reported for the Task Force. Of note:

- A 3-D model will work with multiple different software applications and needs to reflect true dimensions of the semiconductor fabrication tool with its location and interface point.
 - Drafting doc. 5155, Guide for Building Information Modeling (BIM) for Semiconductor Capital Equipment
 - Minutes posted on: <https://sites.google.com/a/semi.org/bim-tf/>
- SEMI E72, *Specification and Guide for 300 mm Equipment Footprint, Height, and Weight*
 - SEMI E72 is long overdue for 5 year review
 - Future plans and activities to update SEMI E72:
 - Implementing Building Information Modeling (BIM) for tool modeling and floor plans
 - Future joint TF between the NA PIC TC Chapter and NA Facilities TC Chapter
 - Address issues such as variations in fab layout, factory, ceiling height, moving weight, and ergonomics for the equipment

- Standardization of definitions, concepts, and interfaces with input from suppliers, vendors and end users
- Revise SEMI E6 (Semiconductor Equipment Installation) and SEMI E52 (Facilities Services) at the same time

Action Item: 2014Apr#01, Michael Tran to send Chris Sanders SEMI E72 and SEMI E6 for review.

6 Gases Task Force Reports

6.1 Heater Jacket TF

6.1.1 There was no report.

6.2 Mass Flow Controller (MFC) TF

6.2.1 Mohamed Saleem (Fujikin) reported for the Task Force. Of note:

- The TF found a typo in an equation while reviewing SEMI E56-0912 (Thermal Mass Flow Controllers)
 - A line item revision ballot (Document 5722) was submitted in Cycle 4 to correct the typo
 - Documents 5668 and 5669 both passed committee review
 - See §4 of these minutes for adjudication details

Attachment: 13, MFC TF Report (Spring 2014)

6.3 Pressure Measurement TF

6.3.1 The TF did not meet, but Joyce Chen (UCT) and Jeff Christian (WIKA) were nominated as the new TF co-leaders. Justin Hough (AMAT) and David Colquhoun (BriskHeat) stepped down as TF leaders. The new co-leaders will continue the work for Document 3440, (Pressure Measurement Devices).

Motion: To approve Joyce Chen (UCT) and Jeff Christian (WIKA) as the new Pressure Measurement TF co-leaders.

By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)

Discussion: None.

Vote: 4-0 in favor. Motion passed.

Action Item: 2014Apr#02, Michael Tran to ask Justin Hough to step down and ask for the status Document 3440 for Joyce Chen and Jeff Christian.

6.4 Surface Mount Sandwich Component Dimensions TF

6.4.1 Mohamed Saleem (Fujikin) reported for the TF. The TF is still developing specifications for the dimensions. The largest component is the mass flow controller and there four different components that have different thicknesses. Work in progress and the discussion will continue at the next TF meeting at SEMICON West 2014.

6.5 Filter and Purifiers TF

6.5.1 Mohamed Saleem (Fujikin) reported for the TF. Of note:

- Update on Document 5244B (*Classification of Airborne Molecular Contaminant Levels in Clean Environments*)

- The document is still being drafted by Entegris
- If the activity stretches to 2015, then SEMI F21's status will be changed to inactive
- Update on Document 5667 (*Determination of Moisture Dry-Down Characteristics of Surface-Mounted and Conventional Gas Delivery Systems by Cavity Ring Down Spectroscopy (CRDS)*)
 - The TF will need to complete the following items for the document:
 - Test the schematic and add a Mass Flow Controller at the outlet of analyzer
 - They need a needle valve at the vent line
 - The TF will ask a manufacturer (E.g., Tiger Optics) for suggestions on the recommended flow and how to test high flow components that are >2 slm components
 - Test setup - contact a test lab; Carten Controls volunteered to run some tests
 - Answer questions on why valves V3b and V3a are needed

Action Item: 2014Apr#03, The TF to ask Tiger Optics and Paul Katz from Carten Controls to volunteer and run some tests.

Attachment: 14, Filter and Purifiers TF Report (Spring 2014)

6.6 *Materials of Construction Gas Delivery Systems TF*

6.6.1 Tim Volin (Parker Hannifin) reported for the TF. Of Note:

- The TF reviewed documents due for five year review, but they were not completed:
 - SEMI F6-92 Guide For Secondary Containment Of Hazardous Gas Piping Systems
 - SEMI F13-1101 Guide For Gas Source Control Equipment
 - SEMI F14-93 (Reapproved 0699) Guide For The Design Of Gas Source Equipment Enclosures
- The TF submitted SNARFs 5714, 5712, and 5715 for reapproval ballots
 - Please see § 8.1 of these minutes for details.
- Documents 5445, 5714, 5712, and 5715 will be balloted in Cycle 3 and 4, 2014.
 - Please see § 8.2 of these minutes for details.

Action Item: 2014Apr#04, Tim Volin to check with Bob Irwin about status of SEMI F6-92, SEMI F13-1101, and SEMI F14-93 (Reapproved 0699).

Action Item: 2014Apr#05, Tim Volin to report the possibility of a chemical critical pitting test based on ASTM G48.

Attachment: 15, Materials of Construction Gas Delivery Systems TF Report (Spring 2014)

6.7 *Gas Specifications TF*

- The TF is revising the following documents that failed committee review:
 - Doc. 5671, Revision of SEMI C3.12-1109, Specification for Ammonia (NH₃) in Cylinders, 99.998% Quality
 - Doc. 5673 Revision of SEMI C3.34-1109, Specification for Disilane (Si₂H₆) in Cylinders, 97% Quality
 - The documents will be reviewed and discussed at SEMICON West 2014 and balloted thereafter

Action Item: 2014Apr#06, Mark Ripkowski to draft a SNARF to revise SEMI C71-0611 (Boron Trichloride (BCI3)).

Attachment: 16, Gas Specifications TF Report (Spring 2014)

7 Old Business

7.1 New TF Proposal

7.1.1 Michael Tran will help Chris Sanders (DPS Engineering) form a new task force for Tool Templates led by Chris Sanders. This TF will focus on updating and revising SEMI E49 (*High Purity and Ultrahigh Purity Piping Performance, Subassemblies, and Final Assemblies*) and SEMI E51 (*Typical Facilities Services and Termination Matrix*).

Action Item: 2014Apr#07, Michael Tran to work with Chris Sanders to form the potential TF for tool templates.

7.2 5-Year Review Update

7.3 Michael Tran will provide the updated list of documents due for five year review at the next NA Facilities and Gases TC Chapter meeting at SEMICON 2014.

Action Item: 2014Apr#08, Michael Tran to send out the updated list of documents due for five year review to everyone who attended this NA Facilities and Gases TC Chapter meeting.

8 New Business

8.1 New SNARFs

The following SNARFs were reviewed by the committee:

#	Type	SC/TF/WG	Details
5714	SNARF	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5712	SNARF	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F73-0309 , Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components
5715	SNARF	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F77-0703 (Reapproved 0310), Test Method for Electrochemical Critical Pitting Temperature Testing of Alloy Surfaces Used in Corrosive Gas Systems

Note: SNARFs and TFOFs are available for review on the SEMI Web site at:

<http://downloads.semi.org/web/wstsdbsal.nsf/TFOFSNARF>

Motion: To approve the SNARF #5714

By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)

Discussion: None.

Vote: 4-0 in favor. Motion passed.

Motion: To approve the SNARF #5712

By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)

Discussion: None.

Vote: 4-0 in favor. Motion passed.

Motion: To approve the SNARF #5715
By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

8.2 New Ballots Authorizations

8.2.1 The following documents were submitted for letter ballot authorization:

#	When	SC/TF/WG	Details
5445	Cycle 3, 2014	Materials of Construction of Gas Delivery Systems TF	Revision of SEMI F60-0306 (Reapproved 0611), Test Method for ESCA Evaluation of Surface Composition of Wetted Surfaces of Passivated 316L Stainless Steel Components
5714	Cycle 3 or 4, 2014	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5712	Cycle 3 or 4, 2014	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F73-0309, Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components
5715	Cycle 3 or 4, 2014	Materials of Construction of Gas Delivery Systems TF	Reapproval of SEMI F77-0703 (Reapproved 0310), Test Method for Electrochemical Critical Pitting Temperature Testing of Alloy Surfaces Used in Corrosive Gas Systems

Motion: To approve letter ballot of Document 5445 in Cycle 3, 2014.
By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Motion: To approve letter ballot of Document 5714 in Cycle 3 or 4, 2014.
By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Motion: To approve letter ballot of Document 5712 in Cycle 3 or 4, 2014.
By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

Motion: To approve letter ballot of Document 5715 in Cycle 3 or 4, 2014.
By / 2nd: Tim Volin (Parker Hannifin) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: 4-0 in favor. Motion passed.

9 Action Item Review

9.1 Open Action Items

9.1.1 Michael Tran (SEMI) reviewed the open action items. These can be found in the Open Action Items table at the beginning of these minutes.

9.2 New Action Items

9.2.1 Michael Tran (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

10 Next Meeting and Adjournment

10.1 The next N.A. Facilities and Gases standards meetings are tentatively scheduled for July 7-8, 2014 at the San Francisco Marriott Marquis Hotel in San Francisco, California in conjunction with the NA Standards SEMICON West 2014 meetings. Exact meeting dates and details will be announced when finalized and will be available at: <http://www.semi.org/node/49446>

Tentative Schedule:

Monday, July 7*

Gases TFs

- Materials of Construction of Gas Delivery Systems TF (8:00 to 9:30)
- Filters and Purifiers TF (9:30 to 11:00)
- Mass Flow TF (11:00 to 12:00)
- Gas Specifications TF (13:00 to 14:00)
- Surface Mount Sandwich Component Dimensions TF (14:00 to 15:00)
- Pressure Measurement TF (15:00 to 17:00)

Facilities TFs

- SEMI F51 (Perfluoroelastomer) TF (10:00 - 12:00)
- Building Information Modeling (BIM) TF (15:00 - 17:00)

Tuesday, July 8*

- Facilities and Gases Committee (9:00 to 12:00)

*All times are in PST. Times and dates are subject to change without notice.

For meeting details, registration, the latest schedule, and travel information please visit <http://www.semi.org/node/49446>

9.2 Having no further business, a motion was made to adjourn the N.A. Liquid Chemicals committee meeting on April 01, 2014 in conjunction with the N.A. Standards Spring 2014 Meetings at SEMI Headquarters in San Jose, California. Adjournment was at 3:57 PM (PDT).

Respectfully submitted by:

Michael Tran
Senior Standards Engineer
SEMI North America
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Minutes approved by:

Steve Lewis (DPS Engineering), Facilities chair	June 16, 2014
Tim Volin (Parker Hannifin), Gases Co-chair	June 16, 2014
Mohamed Saleem (Fujikin), Gases Co-chair	June 16, 2014

Table 8 Index of Available Attachments #1

<i>#</i>	<i>Title</i>	<i>#</i>	<i>Title</i>
01	SEMI Standards Required Meeting Elements	09	Ballot Review for Document #5673
02	NA Facilities and Gases TC Chapter meeting minutes (Fall 2013)	10	Procedural Review for Document #5674
03	Japan Facilities TC Chapter Report (Spring 2014)	11	Procedural Review for Document #5668
04	Standardization Live Gas Flow Rate SG Minutes	12	Procedural Review for Document #5669
05	Europe Gases & Liquid Chemicals Committee Report (Spring 2014)	13	MFC TF Report (Spring 2014)
06	SEMI North America Standards Staff Report (Spring 2014)	14	Filter and Purifiers TF Report (Spring 2014)
07	Ballot Review for Document #5671	15	Materials of Construction Gas Delivery Systems TF Report (Spring 2014)
08	Procedural Review for Document #5672	16	Gas Specifications TF Report (Spring 2014)

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Michael Tran at the contact information above.