

North America Gases Technical Committee Chapter Meeting Summary and Minutes

N.A. Standards Fall 2014 Meetings
Tuesday, November 04 2014, 9:00 AM – 12:00 PM Pacific
SEMI Headquarters in San Jose, California

Next N.A. Gases TC Chapter Meeting

The next N.A. Gases TC Chapter meeting is tentatively scheduled for March 31, 2015 at SEMI Headquarters in San Jose, California in conjunction with the N.A. Standards Spring 2015 meetings. See § 9 of these minutes for full tentative schedule of all N.A. Gases standards meetings. Exact meeting date and details will be announced when finalized and available at: <http://www.semi.org/node/54226>

Table 1 Meeting Attendees

Italics indicate virtual participants

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>
AP TECH	Kiikvee	Bill	Parker Hannifin	Volin	Tim
<i>Applied Seals N.A.</i>	<i>Vernikovsky</i>	<i>Dalia</i>	Ultra Clean Technology (UCT)	Chen	Joyce
<i>CARTEN CONTROLS</i>	<i>Katz</i>	<i>Paul</i>	Ultra Clean Technology (UCT)	Milburn	Matt
<i>CONSCI</i>	<i>Ripkowski</i>	<i>Mark</i>	WIKA	Christian	Jeff
Fujikin	Saleem	Mohamed			
Pall	Barth	Douglas	SEMI N.A.	Tran	Michael

Table 2 Leadership Changes

There were no leadership changes.

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>TC Chapter Action</i>
5671A	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality	Failed TC Chapter review and returned to the TF for rework
5673A	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality	Failed TC Chapter review and returned to the TF for rework

Table 4 Authorized Activities

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
5811	SNARF	Gas Specifications TF	Reapproval of SEMI C3.35-1109E - Specification for Hydrogen Chloride (HCl), 99.997% Quality
5812	SNARF	Gas Specifications TF	Reapproval of SEMI C3.6-0710 - Specification for Phosphine (PH ₃) in Cylinders, 99.98% Quality

#	Type	SC/TF/WG	Details
5813	SNARF	Mass Flow TF	Reapproval of SEMI E77-1104 (Reapproved 0710) - Test Method for Calculation of Conversion Factors for a Mass Flow Controller Using Surrogate Gases
5814	SNARF	Mass Flow TF	Reapproval of SEMI E80-0299 (Reapproved 0710) - Test Method for Determining Attitude Sensitivity of Mass Flow Controllers (Mounting Position)
5815	SNARF	Filters and Purifiers TF	Reapproval of SEMI F28-1103 (Reapproved 0710) - Test Method for Measuring Particle Generation from Process Panels
5816	SNARF	Filters and Purifiers TF	Reapproval of SEMI F30-0710 - Start-Up and Verification of Purifier Performance Testing for Trace Gas Impurities and Particles at an Installation Site

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 TC Chapter for letter ballot.

#	When	SC/TF/WG	Details
5671B	Cycle 1 or 2, 2015	Gas Specifications TF	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality
5673B	Cycle 1 or 2, 2015	Gas Specifications TF	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality
5721A	Cycle 1 or 2, 2015	Gas Specifications TF	Revision to SEMI C71-0611, Specification and Guide for Boron Trichloride (BCl ₃) with title change to: Specification for Boron Trichloride (BCl ₃)
5811	Cycle 1 or 2, 2015	Gas Specifications TF	Reapproval of SEMI C3.35-1109E - Specification for Hydrogen Chloride (HCl), 99.997% Quality
5812	Cycle 1 or 2, 2015	Gas Specifications TF	Reapproval of SEMI C3.6-0710 - Specification for Phosphine (PH ₃) in Cylinders, 99.98% Quality
5722A	Cycle 1 or 2, 2015	Mass Flow TF	Line item revision to SEMI E56-0314, Test Method for Determining Accuracy, Linearity, Repeatability, Short-Term Reproducibility, Hysteresis, and Deadband of Thermal Mass Flow Controllers
5813	Cycle 1 or 2, 2015	Mass Flow TF	Reapproval of SEMI E77-1104 (Reapproved 0710) - Test Method for Calculation of Conversion Factors for a Mass Flow Controller Using Surrogate Gases
5814	Cycle 1 or 2, 2015	Mass Flow TF	Reapproval of SEMI E80-0299 (Reapproved 0710) - Test Method for Determining Attitude Sensitivity of Mass Flow Controllers (Mounting Position)
5595	Cycle 1 or 2, 2015	Surface Mount Sandwich Component Dimensions TF	New Standard: Guide for the Development of Dimensional Standards for "Sandwich" Surface Mount Components
5667	Cycle 1 or 2, 2015	Filters and Purifiers TF	New Standard: Test Method for Determination of Moisture Dry-Down Characteristics of Gas Delivery Components
5815	Cycle 1 or 2, 2015	Filters and Purifiers TF	Reapproval of SEMI F28-1103 (Reapproved 0710) - Test Method for Measuring Particle Generation from Process Panels
5816	Cycle 1 or 2, 2015	Filters and Purifiers TF	Reapproval of SEMI F30-0710 - Start-Up and Verification of Purifier Performance Testing for Trace Gas Impurities and Particles at an Installation Site
5714A	Cycle 8, 2014	Materials of Construction of Gas Delivery Systems TF	Revision of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5715A	Cycle 1 or 2, 2015	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

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
2014Nov#01	Mohamed Saleem/Michael Tran	To follow up with David Colquhoun regarding the Heater Jacket TF activities.
2014Nov#02	Michael Tran, Tim Volin, and Bill Kiikvee	To work together and to fix a figure in Document 5715A.
2014Nov#03	Matt Milburn/Jeff Christian	To follow up with a contact from Air Products (Christine Steltz) to help revise SEMI F16, F13, and F14.

Table 7 Previous Meeting Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
2014Jul#01	Michael Tran	To contact David Colquhoun (BriskHeat) to see if he wishes to continue as the leader of the Heater Jacket TF.	Closed
2014Jul#02	Michael Tran	To coordinate a telecon between Joyce Chen, Jeff Christian and Justin Hough (AMAT) regarding Document 3440 (Test Method for Pressure Transducers in Gas Delivery Systems) before the N.A. Standards Fall 2014 Meetings.	Closed
2014Jul#03	Tim Volin	To provide Michael Tran an updated figure as an editorial change to Document 5445 as approved by the N.A. Facilities & Gases TC Chapter.	Closed
2014Jul#04	Tim Volin	To follow up with Daniel Mudd of Reno-Subsystems regarding a contact to help revise SEMI F16, F13, and F14.	Closed
2014Jul#05	Michael Tran	To send out the documents that are due for five year reviews to the assigned reviewers.	Closed
2014Apr#04	Tim Volin	To check with Bob Irwin about status of SEMI F6-92, SEMI F13-1101, and SEMI F14-93 (Reapproved 0699).	Open
2014Apr#05	Tim Volin	To report the possibility of a chemical critical pitting test based on ASTM G48.	Open
2014Apr#07	Michael Tran and Chris Sanders	Michael Tran to work with Chris Sanders to form the potential TF for tool templates.	Open
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.	Open and recurring.

1 Welcome, Reminders, and Introductions

1.1 Tim Volin (Parker Hannifin) called the meeting to order at 9:03 AM. 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 TC Chapter reviewed the minutes of the previous meeting held during the N.A. Standards Meetings at SEMICON West 2014.

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

By / 2nd: Bill Kiikvee (AP TECH) / Joyce Chen (Ultra Clean Technology)

Discussion: None.

Vote: Unanimous in favor. Motion passed.

Attachment: 02, N.A. Facilities and Gases TC Chapters Meeting Minutes (West 2014)

3 Liaison Reports

3.1 Europe Gases and Liquid Chemicals TC Chapter

3.1.1 Michael Tran (SEMI N.A.) reported for the Europe Gases and Liquid Chemicals TC Chapter. Of note:

- Meeting Information
 - Last Meeting
 - October 7, 2014 at SEMICON Europa in Grenoble, France
 - Next Meeting
 - (Tentative) October 7, 2015 at SEMICON Europa in Dresden, Germany
- Ballot Results from the Last Meeting
 - Passed as balloted:
 - Doc. 5492, New Standard: Guide for Ethylene Glycol
 - Failed as balloted:
 - Doc. 5656, Revision to SEMI C65-0308 with title change to: Guide For Trimethylsilane (3MS), 99.995% Quality
 - Doc. 5657, Revision to SEMI C66-0308 with title change to: Guide For Trimethylaluminium (TMAI), 99.5% Quality
 - Doc. 5658, New Standard: Guide for Pentakis (Dimethylamino) Tantalum (PDMAT)
- Upcoming Ballots
 - Doc. 5765, Revision to SEMI C15, Test Method for ppm and ppb Humidity Standards
 - Will be re-balloted in 2015:
 - Doc. 5656A, Revision to SEMI C65-0308 With Title Change To: Guide for Trimethylsilane (3MS), 99.995% Quality
 - Doc. 5657A, Revision to SEMI C66-0308 With Title Change To: Guide for Trimethylaluminium (TMAI), 99.5% Quality
 - Doc. 5658A, New Standard: Guide for Pentakis (Dimethylamino) Tantalum (PDMAT)
 - Tentative for balloting in 2015:
 - Doc. 5325, New Standard: Dimethyl Dimethoxy Silane (DMDMOS)
 - Doc. 5491, New Standard: Guide for Titanium Tetrachloride (TiCl₄)
 - 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. 5495, New Standard: Guide for Cyclo Hexanone
- SEMI Europe Contact: Andrea Busch, abusch@semi.org

Discussion: None.

Attachment: 03, Europe Gases & Liquid Chemicals TC Chapter Report (Fall 2014)

3.2 Japan Gases & Facilities TC Chapter

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

- Last Meeting
 - July 4, 2014 during Japan Summer Meetings 2014 at SEMI Japan, Tokyo, Japan
- Next Meeting
 - December 2, 2014 in conjunction with SEMICON Japan 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)*
 - Pending publication
- No new activities in these Task Forces:
 - F1 Revision TF
 - Gas Panel Test Method TF
 - Five Year Review TF
- Standardization of live Gas Flow Rate Study Group (SG)
 - The SG shared and discussed the result of the survey about calibration of Live Gas Flow Rate which was made to Mass Flow Manufacturers in April 2014.
 - The SG decided to re-survey focusing on the item which could be candidates to be standardized.
 - The SG started to resurvey about calibration of Live Gas Flow Rate to Mass Flow Manufacturers, focusing on the item which could be candidates to be standardized.
 - Companies such as Hirai and MKSJ were invited to discuss latest calibration capability as an action. AIST and others will be involved at next meeting.

Discussion: Bill Kikvee had a question about the leak rate limits specifications in SEMI F1 as proposed by Japan Gas Panel Task Force. Mohamed Saleem said they are not a requirement anymore and it's upon agreement between the user and suppliers.

Attachment: 04, Japan Facilities TC Chapter Report (Fall 2014)

3.3 North America Standards Staff Report

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

- Remaining SEMI Global Events in 2014
 - International Technology Partners Conference (ITPC)
 - November 9-12 in Big Island, Hawaii
 - Collaborative Alliance for Semiconductor Test (CAST) Workshop: Implementing Next Generation Data Logging
 - November 12-13 in San Jose, California
 - SEMI South America Semiconductor Strategy Summit
 - November 18-20 in Buenos Aires, Argentina
 - SEMICON Japan

- December 3-5 in Tokyo
- Early SEMI Global Events in 2015
 - Industry Strategy Symposium
 - January 11-14 in Half Moon Bay, California
 - European 3D TSV Summit
 - January 19-21 in Grenoble, France
 - SEMICON Korea and LED Korea
 - February 4-6 in Seoul
 - ISS Europe
 - February 22-24 in Amsterdam, Netherlands
 - SEMICON China and FPD China
 - March 17-19 in Shanghai
 - LED Taiwan
 - March 25-28 in Taipei
- SEMI Standards Publications Stats
 - July 2014 – October 2014
 - New Standards: 8
 - Revised Standards: 29
 - Reapproved Standards: 2
 - Withdrawn Standards: 2
 - Total SEMI Standards in portfolio: 917
 - Includes 108 Inactive Standards
- Upcoming NA Standards Meetings in 2015
 - NA Standards Spring 2015 Meetings
 - (Tentative) March 30 – April 2 at SEMI HQ in San Jose, California
 - NA Compound Semiconductor Materials TC Chapter Meeting at CS MANTECH 2015
 - (Tentative) May 20 in Scottsdale, Arizona
 - NA Standards Meetings at SEMICON West 2015
 - (Tentative) July 13-16 in San Francisco, California
- SEMI NA Standards staff contact: Michael Tran, mtran@semi.org

Discussion: None.

Attachment: 05, N.A. Standards Staff Report (Fall 2014)

4 Ballot Review

NOTE 1: TC Chapter 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 TC Chapter motion below.

Document #	Document Title	TC Chapter Action
5671A	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality	Failed TC Chapter review and returned to the TF for rework
5673A	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality	Failed TC Chapter review and returned to the TF for rework

Motion: Document 5671A failed TC Chapter review and will be returned to the TF for rework.

By / 2nd: Jeff Christian (WIKA) / Joyce Chen (Ultra Clean Technology)

Discussion: None.

Vote: Unanimous in favor. Motion passed.

Attachment: 06, Ballot Review Summary for Document #5671A

Motion: Document 5673A failed TC Chapter review and will be returned to the TF for rework.

By / 2nd: Mark Ripkowski (CONSCI) / Jeff Christian (WIKA)

Discussion: None.

Vote: 13-0 in favor. Motion passed.

Attachment: 07, Ballot Review Summary for Document #5673A

5 Gases Task Force Reports

5.1 Heater Jacket TF

5.1.1 Michael Tran reported for the Heater Jacket TF. David Colquhoun (Briskheat), the TF leader, said he is still interested in continuing the Heater Jacket activities, but is currently busy with his job. The TC Chapter said David Colquhoun needs to take a more active role as the TF leader. Matt Milburn said he has some potential contacts for the TF.

Action Item: 2014Nov#01, Mohamed Saleem to follow up with David Colquhoun regarding the Heater Jacket TF activities.

5.2 Mass Flow Controller (MFC) TF

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

- Update on Document 5722A (Thermal Mass Flow Controllers) to correct an equation typo :
 - There were questions about how to define ‘drift, long term’ and ‘drift, short term’ in the document:
 - Mohamed Saleem (Fujikin) said ‘drift’ is a change in output. He will revise the drift definitions for a single test.
 - Matt Milburn said there was no purpose to have the drift definitions as it is not used in any of the calculations in the document.
 - Bill Kiikvee (AP TECH) said as a customer how would he use drift? It is interesting for the customer to know drift as it is a characteristic of the MFC.
 - Douglas Barth (Pall) said he would define short term drift as an error of the instrument under test.
 - Document 5722A was approved for letter ballot in Cycle 1 or 2, 2015

- The TF also sent SEMI E77 (MFC Using Surrogate Gases) and SEMI E80 (Attitude Sensitivity of MFC) for reapproval letter ballots in Cycle 1 or 2, 2015

Attachment: 08, MFC TF Report (Fall 2014)

5.3 Pressure Measurement TF

5.3.1 Joyce Chen (UCT) and Jeff Christian (WIKA) reported for the Task Force.

– Update for Document 3440, *New Standard: Test Method For Pressure Transducers In Gas Delivery Systems*

– The TF discussed the following for the document:

- Transducer accuracy and variance in the manufacture’s methodology
- Emerging and new technologies to include: ASIC, MEMS, ether-cat, etc.
- Simplify the document through the incorporation of IEC 61298-2:2008 (Process measurement and control devices)
- Create a SEMI “stand-alone” document
- Define transducer and/or instrumentation selection based on its point in the application

5.3.2 Joyce said the previous draft of document 3440 was pretty old. Jeff said the previous draft was also confusing with so many formulas. The TF will only take formulas that they will need for the next draft of document 3440.

Attachment: 09, Pressure Measurement TF Report (Fall 2014)

5.4 Surface Mount Sandwich Component Dimensions TF

5.4.1 Matt Milburn (UCT) reported for the Task Force. Of note:

- Update on Document 5595, *New Standard: Guide for the Development of Dimensional Standards for “Sandwich” Surface Mount Components*
 - The TF is making good progress and all is left is the space for the sandwich component
 - There were still concerns about the dimensions
 - The TF provided a final draft of Document 5595 at the N.A. Standards Fall 2014 Meetings and ballot it afterwards in Cycle 2, 2015

5.5 Filter and Purifiers TF

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

- Update on Document 5244B, *Revision to SEMI F21, Classification of Airborne Molecular Contaminant Levels in Clean Environments*
 - Entegris still working on updating the document. Pall offered to help. The TF Leader will send the draft document to Pall and together attempt to modify it for ballot.
- Update on Document 5667, *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)*
 - Pall and Entegris provided input to modify the document to make it applicable to any moisture analyzer. Numerous changes were made to reflect this. UCT helped to modify the figure. Document

will be balloted in Cycle 2, 2015. Pall presented a technology update on MEMS-based moisture drydown method.

- TF voted to send the following documents for reapproval ballots:
 - Doc. 5815, SEMI F28 (Measuring Particle Generation from Process Panels)
 - Doc. 5816, SEMI F30 (Purifier Performance Testing for Trace Gas).

Attachment: 10, Filter and Purifiers TF Report (Fall 2014)

5.6 *Materials of Construction Gas Delivery Systems TF*

- Tim Volin (Parker Hannifin) reported for the Task Force. Of note:
 - The TF reviewed the following documents and will be reballoted in Cycle 8, 2014 and Cycle 2, 2015:
 - Document 5714A, Revision of SEMI F19-0304, Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
 - Document 5715A, Revision of SEMI F77-0703 (Reapproved 0310), Test Method for Electrochemical Critical Pitting Temperature Testing of Alloy Surfaces Used in Corrosive Gas Systems
 - The TF need volunteers to preform reviews for the following documents:
 - SEMI F6, Guide For Secondary Containment Of Hazardous Gas Piping Systems
 - SEMI F13, Guide For Gas Source Control Equipment
 - SEMI F14, Guide For The Design Of Gas Source Equipment Enclosures

Action Item: 2014Nov#02, Michael Tran, Tim Volin and Bill Kiikvee to work together to fix a figure in Document 5715A.

Action Item: 2014Nov#03, Matt Milburn to follow up with a contact from Air Product to help revise SEMI F16, F13, and F14.

Attachment: 11, Materials of Construction Gas Delivery Systems TF Report (Fall 2014)

5.7 *Gas Specifications TF*

5.7.1 Mark Ripkowski reported for the Gas Specifications TF. Of note:

- The TF is revising the following documents that failed committee review:
 - The TF reviewed earlier failed documents and will reballot them in Cycle 1 or 2, 2015:
 - Doc. 5671B, Revision of SEMI C3.12-1109, Specification for Ammonia (NH₃) in Cylinders, 99.998% Quality
 - Doc. 5673B, Revision of SEMI C3.34-1109, Specification for Disilane (Si₂H₆) in Cylinders, 97% Quality
 - Doc. 5721A, Revision to SEMI C71-0611, with title changes to Specification for Boron Trichloride (BCl₃)

Attachment: 12, Gas Specifications TF Report (Fall 2014)

6 Old Business

6.1 5-Year Review Update

6.2 The TC Chapter reviewed the list of documents due for five year reviews and assigned reviewers. Please see the attachment for the list.

Attachment: 13, Gases Documents Due for Five Year Review List (Fall 2014)

7 New Business

7.1 New SNARFs (Standards New Activity Report Forms)

7.1.1 Listing of documents approved by the TC Chapter for letter ballot.

#	Type	SC/TF/WG	Details
5811	SNARF	Gas Specifications TF	Reapproval of SEMI C3.35-1109E - Specification for Hydrogen Chloride (HCl), 99.997% Quality
5812	SNARF	Gas Specifications TF	Reapproval of SEMI C3.6-0710 - Specification for Phosphine (PH ₃) in Cylinders, 99.98% Quality
5813	SNARF	Mass Flow TF	Reapproval of SEMI E77-1104 (Reapproved 0710) - Test Method for Calculation of Conversion Factors for a Mass Flow Controller Using Surrogate Gases
5814	SNARF	Mass Flow TF	Reapproval of SEMI E80-0299 (Reapproved 0710) - Test Method for Determining Attitude Sensitivity of Mass Flow Controllers (Mounting Position)
5815	SNARF	Filters and Purifiers TF	Reapproval of SEMI F28-1103 (Reapproved 0710) - Test Method for Measuring Particle Generation from Process Panels
5816	SNARF	Filters and Purifiers TF	Reapproval of SEMI F30-0710 - Start-Up and Verification of Purifier Performance Testing for Trace Gas Impurities and Particles at an Installation Site

- Motion:** To approve the SNARF # 5811.
By / 2nd: Mark Ripkowski (CONSCI) / Bill Kiikvee (AP TECH)
Discussion: None.
Vote: Unanimous in favor. Motion passed.
- Motion:** To approve the SNARF # 5812.
By / 2nd: Mark Ripkowski (CONSCI) / Bill Kiikvee (AP TECH)
Discussion: None.
Vote: Unanimous in favor. Motion passed.
- Motion:** To approve the SNARF # 5813.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.
- Motion:** To approve the SNARF # 5814.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the SNARF # 5815.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the SNARF # 5816.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

7.2 New Ballots Authorizations

7.2.1 Listing of documents approved by the TC Chapter for letter ballot.

#	When	SC/TF/WG	Details
5671B	Cycle 1 or 2, 2015	Gas Specifications TF	Revision of SEMI C3.12-1109, Specification for Ammonia (NH ₃) in Cylinders, 99.998% Quality
5673B	Cycle 1 or 2, 2015	Gas Specifications TF	Revision of SEMI C3.34-1109, Specification for Disilane (Si ₂ H ₆) in Cylinders, 97% Quality
5721A	Cycle 1 or 2, 2015	Gas Specifications TF	Revision to SEMI C71-0611, Specification and Guide for Boron Trichloride (BCl ₃) with title change to: Specification for Boron Trichloride (BCl ₃)
5811	Cycle 1 or 2, 2015	Gas Specifications TF	Reapproval of SEMI C3.35-1109E - Specification for Hydrogen Chloride (HCl), 99.997% Quality
5812	Cycle 1 or 2, 2015	Gas Specifications TF	Reapproval of SEMI C3.6-0710 - Specification for Phosphine (PH ₃) in Cylinders, 99.98% Quality
5722A	Cycle 1 or 2, 2015	Mass Flow TF	Line item revision to SEMI E56-0314, Test Method for Determining Accuracy, Linearity, Repeatability, Short-Term Reproducibility, Hysteresis, and Deadband of Thermal Mass Flow Controllers
5813	Cycle 1 or 2, 2015	Mass Flow TF	Reapproval of SEMI E77-1104 (Reapproved 0710) - Test Method for Calculation of Conversion Factors for a Mass Flow Controller Using Surrogate Gases
5814	Cycle 1 or 2, 2015	Mass Flow TF	Reapproval of SEMI E80-0299 (Reapproved 0710) - Test Method for Determining Attitude Sensitivity of Mass Flow Controllers (Mounting Position)
5595	Cycle 1 or 2, 2015	Surface Mount Sandwich Component Dimensions TF	New Standard: Guide for the Development of Dimensional Standards for "Sandwich" Surface Mount Components
5667	Cycle 1 or 2, 2015	Filters and Purifiers TF	New Standard: Test Method for Determination of Moisture Dry-Down Characteristics of Gas Delivery Components
5815	Cycle 1 or 2, 2015	Filters and Purifiers TF	Reapproval of SEMI F28-1103 (Reapproved 0710) - Test Method for Measuring Particle Generation from Process Panels
5816	Cycle 1 or 2, 2015	Filters and Purifiers TF	Reapproval of SEMI F30-0710 - Start-Up and Verification of Purifier Performance Testing for Trace Gas Impurities and Particles at an Installation Site
5714A	Cycle 8, 2014	Materials of Construction of Gas Delivery Systems TF	Revision of SEMI F19-0304 (Reapproved 0310), Specification for the Surface Condition of the Wetted Surfaces of Stainless Steel Components
5715A	Cycle 1 or 2, 2015	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 the letter ballot of Document 5671B in Cycle 1 or 2, 2015.
By / 2nd: Jeff Christian (WIKA) / Joyce Chen (Ultra Clean Technology)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5673B in Cycle 1 or 2, 2015.
By / 2nd: Mark Ripkowski (CONSCI) / Jeff Christian (WIKA)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5721A in Cycle 1 or 2, 2015.
By / 2nd: Mark Ripkowski (CONSCI) / Joyce Chen (Ultra Clean Technology)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5811 in Cycle 1 or 2, 2015.
By / 2nd: Mark Ripkowski (CONSCI) / Bill Kiikvee (AP TECH)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5812 in Cycle 1 or 2, 2015.
By / 2nd: Mark Ripkowski (CONSCI) / Bill Kiikvee (AP TECH)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5722A in Cycle 1 or 2, 2015.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5813 in Cycle 1 or 2, 2015.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5814 in Cycle 1 or 2, 2015.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5595 in Cycle 1 or 2, 2015.
By / 2nd: Matt Milburn (Ultra Clean Technology) / Mohamed Saleem (Fujikin)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5667 in Cycle 1 or 2, 2015.
By / 2nd: Mohamed Saleem (Fujikin)/ Douglas Barth (Pall)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5815 in Cycle 1 or 2, 2015.
By / 2nd: Mohamed Saleem (Fujikin) / Tim Volin (Parker Hannifin)
Discussion: None.

Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5816 in Cycle 1 or 2, 2015.

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

Discussion: None.

Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5714A in Cycle 8, 2015.

By / 2nd: Bill Kiikvee (AP TECH) / Jeff Christian (WIKA)

Discussion: None.

Vote: Unanimous in favor. Motion passed.

Motion: To approve the letter ballot of Document 5715A in Cycle 1 or 2, 2015.

By / 2nd: Mohamed Saleem (Fujikin) / Joyce Chen (Ultra Clean Technology)

Discussion: None.

Vote: Unanimous in favor. Motion passed.

8 Action Item Review

8.1 *Open Action Items*

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

8.2 *New Action Items*

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

9 Next Meeting and Adjournment

9.1 The next N.A. Gases standards meetings are tentatively scheduled for March 30-31, 2015 at SEMI Headquarters in San Jose, California in conjunction with the N.A. Standards Spring 2015 meetings. Exact meeting date and details will be announced when finalized and available at: <http://www.semi.org/node/54226>

Tentative Schedule:

Monday, March 30*

- 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)

Tuesday, March 31*

- N.A. Facilities & Gases TC Chapters (9:00 to 12:00)

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

9.2 Having no further business, the N.A. Gases TC Chapter meeting on November 03, 2014 held at SEMI Headquarters in San Jose, California was adjourned at 11:33 AM.

Motion: To adjourn the N.A. Gases TC Chapter meeting on November 03, 2014 held at SEMI Headquarters in San Jose, California.
By / 2nd: Bill Kiikvee (AP TECH) / Douglas Barth (Pall)
Discussion: None.
Vote: Unanimous in favor. Motion passed.

Respectfully submitted by:

Michael Tran
 Senior Standards Engineer
 SEMI North America
 Phone: 1-408-943-7019
 Email: mtran@semi.org

Minutes approved by:

Tim Volin (Parker Hannifin), Gases Co-chair	
Mohamed Saleem (Fujikin), Gases Co-chair	<i>MS</i> March 07, 2015

Table 8 Index of Available Attachments #1

#	Title	#	Title
01	SEMI Standards Required Meeting Elements	08	MFC TF Report (Fall 2014)
02	N.A. Facilities and Gases TC Chapters Meeting Minutes (West 2014)	09	Pressure Measurement TF Report (Fall 2014)
03	Europe Gases & Liquid Chemicals TC Chapter Report (Fall 2014)	10	Filter and Purifiers TF Report (Fall 2014)
04	Japan Facilities TC Chapter Report (Fall 2014)	11	Materials of Construction Gas Delivery Systems TF Report (Fall 2014)
05	N.A. Standards Staff Report (Fall 2014)	12	Gas Specifications TF Report (Fall 2014)
06	Ballot Review Summary for Document #5671A	13	Gases Documents Due for Five Year Review List (Fall 2014)
07	Ballot Review Summary for Document #5673A		

#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.