

## North America Liquid Chemicals Technical Committee Chapter Meeting Summary and Minutes

N.A. Standards Meetings at SEMICON West 2014  
Tuesday, July 08 2014, 2:00 PM – 5:00 PM PDT  
San Francisco Marriott Marquis Hotel in San Francisco, California

### Next N.A. Liquid Chemicals TC Chapter Meeting

The next N.A. Liquid Chemicals TC Chapter meeting is tentatively scheduled for November 4, 2014 at SEMI Headquarters in San Jose, California in conjunction with the N.A. Standards Fall 2014 meetings. See § 9 of these minutes for full tentative schedule of all N.A. Liquid Chemicals Standards Meetings. Exact meeting date and details will be announced when finalized and available at <http://www.semi.org/en/node/50511>.

### Table 1 Meeting Attendees

*Italics indicate virtual participants*

**Co-Chairs:** Frank Parker (ICL), Frank Flowers (PeroxyChem)

**SEMI Staff:** Michael Tran

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Air Liquide	Libman	Slava	Mega Fluid Systems	Murai	Koh
Engineering Machinery Inc.	Pedersen	Jim	PeroxyChem	Flowers	Frank
Fluid Measurement Technology	Blackford	David	Solvay	Terracina	Vincent
ICL	Parker	Frank			
Intel	Hadder	Don			
KMG Chemicals	Salehi	Asaad	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>
5621	New Standard: Test Method for Determining the Quality of Ion Exchanged Resin Used in Polish Applications of Ultrapure Water System	<b>Failed</b> TC Chapter review and will be returned to the TF for rework.
5675	New Standard: Test Method for Determining Roughness Of Polymer Surfaces Used In Ultrapure Water and Liquid Chemical Distribution Systems By Contact Profilometry	<b>Failed</b> TC Chapter review and will be returned to the TF for rework.
5708	Reapproval of SEMI C10-1109, Guide for Determination of Method Detection Limits	<b>Passed</b> TC Chapter review as balloted. Superclean.
5709	Reapproval of SEMI C64-0308, SEMI Statistical Guidelines for Ship to Control	<b>Passed</b> TC Chapter review as balloted. Superclean.
5710	Reapproval of SEMI F48-0600 (Reapproved 0709), Test Method for Determining Trace Metals in Polymer Materials	<b>Passed</b> TC Chapter review as balloted. Superclean.

**Table 4 Authorized Activities**

There were no new authorized activities.

**Table 5 Authorized Ballots**

Listing of documents approved by the TC Chapter for letter balloting.

#	When	SC/TF/WG	Details
5621A	Cycle 5 or 6, 2014	Resin IX TF	New Standard: Test Method for Determining the Quality of Ion Exchanged Resin Used in Polish Applications of Ultrapure Water System
5675A	Cycle 5 or 6, 2014	Determining Roughness of Polymer Surfaces TF	New Standard: Test Method for Determining Roughness Of Polymer Surfaces Used In Ultrapure Water and Liquid Chemical Distribution Systems By Contact Profilometry
5528	Cycle 5 or 6, 2014	SEMI F31, F39 & F41 Revision TF	Revision to SEMI F39-0699, Guideline for Chemical Blending Systems with title change to: Guide for Chemical Blending Systems
5641	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C31-0708, Specification for Methanol
5642A	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C35-0708, Specifications and Guideline for Nitric Acid with title change to: Specification and Guide for Nitric Acid
4957A	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C41-0705, Specifications and Guidelines for 2-Propanol, with title change to: Specifications for 2-Propanol
---	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C27-0708, Specifications and Guidelines for Hydrochloric Acid, with title change to Specifications and Guide for Hydrochloric Acid <i>SNARF for this document is not approved yet.</i>

**Table 6 New Action Items**

Item #	Assigned to	Details
2014Jul#01	Fred Stover	To submit a SNARF for the revision of SEMI C27 and bring a draft of the revision of SEMI C27 to the N.A. Standards Fall 2014 Meetings for review.
2014Jul#02	Michael Tran	To check whether Document 5421A from Japan has been published yet due to a patent issue while SEMI is awaiting the Letter of Assurance from the patent holder.
2014Jul#03	Slava Libman and Michael Tran	To find out what is SEMI's position on the double standards issue between Document 5421A and SEMI C79 before Document 5421A is published.

**Table 7 Previous Meeting Actions Items**

Item #	Assigned to	Details	Status
2014Apr#01	Frank Flowers	Contact the Liquid-Borne Particle Counter (LPC) Task Force for interest in SEMI C77-0912.	Open
2014Apr#02	Michael Tran	Draft the UPW TF proposals in a report for Document 5421A and send to the Japan Liquid Filter TF.	CLOSED
2014Apr#03	Michael Tran	Send Slava Libman SEMI F48 (Determining Trace Metals in Polymer Materials) and SEMI F61 (Ultrapure Water System Used in Semiconductor Processing) for 5 year review.	CLOSED
2013Jul#03	Michael Tran	Send SEMI C63 (Organosilicate Precursors Used In Low K CVD Processes) to Wayne McDermott for 5 year review.	Open? Michael Tran will have to check.
2013Jul#05	Michael Tran	Distribute to the TC Chapter the list of updated 5 year review Documents.	Recurring.

## 1 Welcome, Reminders, and Introductions

1.1 Frank Parker (ICL) 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 TC Chapter reviewed the minutes of the previous meeting held during the N.A. Standards Spring 2014 Meetings.

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

**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Koh Murai (Mega Fluid Systems)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 02, N.A. Liquid Chemicals TC Chapter Meeting Minutes (Spring 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 8, 2013 at SEMICON Europa in Dresden, Germany
  - Next Meeting
    - October 7, 2014 at SEMICON Europa in Grenoble, France
- Ballot results from the Last Meeting
  - 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 from the Last Meeting
  - 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 (TiCl<sub>4</sub>)
  - 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: Dimethyl Dimethoxy Silane (DMDMOS)
- Upcoming Ballots
  - Doc. 5492, New Standard: Guide for Ethylene Glycol
  - 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 Trimethylaluminum (TMAI), 99.5% Quality
  - Doc. 5658, New Standard: Guide for Pentakis (Dimethylamino) Tantalum (PDMAT)
- SEMI Europe Contact: Andrea Busch, abusch@semi.org

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

### 3.2 Japan Liquid Chemicals TC Chapter

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

- Reorganization of Japan Liquid Chemicals TC Chapter
  - Name of the Study Group was changed
    - From: Ultrapure Water Evaluation Study Group
    - To: Ultrapure Liquid Evaluation Study Group
  - The Japan 5 year review TF was disbanded because the TF leader, Koichi Ishikawa (ACE) stepped down.
- Meeting Information
  - Last Meeting
    - June 30, 2014 at SEMI Japan in conjunction with the Japan Standards Summer 2014 Meetings in Tokyo, Japan
  - Next Meeting
    - December 03, 2014 at Tokyo Big Sight in conjunction with the Japan Standards Winter 2014 Meetings in Tokyo, Japan
- Liquid Filter (LF) Task Force
  - Ballot Review
    - Doc. 5421A, New Standard: Test Method for Particle Removal Performance of Liquid Filter Rated Below 30 nm with ICP-MS
      - Passed Japan TC chapter review with editorial changes.
      - A potentially material Disclosed Patent Application was found.
      - The Japan Liquid Chemicals TC Chapter adjudicated that the Disclosed Patent Application 2013-31835 is material to 5421A and decided to have SEMI to send a letter of Assurance to Organo which is the holder of the application.

- Liquid-Borne Particle Counter (LPC) Task Force
  - The Task Force is asking the particle manufacturers to indicate the uncertainty of the mass concentration of the test particle to add to SEMI C77-0912 (Liquid-Borne Particle Counters Between 30 nm and 100 nm).
- Ultrapure Water Evaluation Study Group
  - The purpose of this Study Group is to discuss the evaluation method for the quality of liquid chemical and ultrapure water at POP/POU of semiconductor cleaning equipment.
- Liquid Chemicals ESD Study Group
  - The purpose of this Study Group is to discuss the evaluation method of electrostatic charge generated with flow of liquid chemical or ultrapure water in di-electric component
- SEMI Japan Contact: Chie Yanagisawa, cyanagisawa@semi.org

**Discussion:** While SEMI is waiting to receive the Letter of Assurance from Organo for Document 5421A, the Ultrapure Water Filtration Efficiency TF will explore ways to raise their concerns to the NA Regional Standards Committee and SEMI about the potential double standard issue between Document 5421A and SEMI C79 (Sub-15 nm Filters Used in Ultrapure Water (UPW)). See §5.6 of these minutes for more on this discussion.

**Attachment:** 04, Japan Liquid Chemicals TC Chapter Report (West 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:

- Upcoming SEMI Global Events in 2014
  - SEMICON Taiwan
    - September 3-5, 2014 in Taipei
  - Strategic Materials Conference
    - September 30 – October 1, 2014 in Santa Clara, California\
  - SEMICON Europa Plastic Electronics
    - October 7-9, 2014 in Grenoble, France
  - SEMICON Japan
    - December 3-5, 2014 in Tokyo
- Standards Workshop at SEMICON West 2014
  - Wafer Geometry Control for Advanced Semiconductor Manufacturing
    - Important developments and future needs in wafer geometry for advanced semiconductor manufacturing.
    - Presenters from IBM, Intel as well as key equipment companies.
    - Proposals discussed during this workshop will be considered for standardization by the Advanced Wafer Geometry TF under the Silicon Wafer Committee.
- Standards Update at SEMICON West 2014
  - Semiconductor Technology Symposium (STS) Session

- Metrics Standards Activities Update
  - Topic: Challenges, Innovations and Drivers in Metrology
- 3DS-IC Standards Activities Update
  - Topic: Embracing what's NEXT – Devices & Systems for Big Data, Cloud and IoT
- TechXPOT Session
  - Facilities & Gases Standards Activities Update
    - Topic: Subcomponent Supply Chain Challenges for 10 nm and Beyond
  - Compound Semiconductor Materials Standards Activities Update
    - Topic: Disruptive Compound Semiconductor Technologies
- SEMI Standards Publications Stats
  - April 2014 – June 2014
    - New Standards: 6
    - Revised Standards: 20
    - Reapproved Standards: 4
    - Withdrawn Standards: 0
  - Total SEMI Standards in portfolio: 909
    - Includes 106 Inactive Standards
- Upcoming NA Standards Meetings
  - NA Standards Fall 2014 Meetings
    - November 3-6, 2014 in SEMI HQ in San Jose, California
  - NA Standards Spring 2015 Meetings
    - (Tentative) March 30 – April 2, 2015 SEMI HQ in San Jose, California
  - NA Standards Meetings at SEMICON West 2015
    - (Tentative) July 13-16, 2015 in San Francisco, California
- SEMI NA Standards staff contact: Michael Tran, mtran@semi.org

**Discussion:** None.

**Attachment:** 05, N.A. Standards Staff Report (West 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 review motion below.

<i>Document #</i>	<i>Document Title</i>	<i>TC Chapter Action</i>
5621	New Standard: Test Method for Determining the Quality of Ion Exchanged Resin Used in Polish Applications of Ultrapure Water System	<b>Failed</b> TC Chapter review and will be returned to the TF for rework.

<i>Document #</i>	<i>Document Title</i>	<i>TC Chapter Action</i>
5675	New Standard: Test Method for Determining Roughness Of Polymer Surfaces Used In Ultrapure Water and Liquid Chemical Distribution Systems By Contact Profilometry	<b>Failed</b> TC Chapter review and will be returned to the TF for rework.
5708	Reapproval of SEMI C10-1109, Guide for Determination of Method Detection Limits	<b>Passed</b> TC Chapter review as balloted. Superclean.
5709	Reapproval of SEMI C64-0308, SEMI Statistical Guidelines for Ship to Control	<b>Passed</b> TC Chapter review as balloted. Superclean.
5710	Reapproval of SEMI F48-0600 (Reapproved 0709), Test Method for Determining Trace Metals in Polymer Materials	<b>Passed</b> TC Chapter review as balloted. Superclean.

**Motion:** Document 5621 failed TC Chapter review and is returned to the TF for rework.

**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Chuck Dale (General Electric)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 06, Ballot Review Summary for Document #5621

**Motion:** Document 5675 failed TC Chapter review and is returned to the TF for rework.

**By / 2<sup>nd</sup>:** Chuck Dale (General Electric) / Koh Murai (Mega Fluid Systems)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 07, Ballot Review Summary for Document #5675

**Motion:** Document 5708 passed TC Chapter review as balloted and will be forwarded to the A&R SC for procedural review.

**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Chuck Dale (General Electric)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 08, A&R Procedural Review Form for Document #5708

**Motion:** Document 5709 passed TC Chapter review as balloted and will be forwarded to the A&R SC for procedural review.

**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Chuck Dale (General Electric)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 09, A&R Procedural Review Form for Document #5709

**Motion:** Document 5710 passed TC Chapter review as balloted and will be forwarded to the A&R SC for procedural review.

**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Chuck Dale (General Electric)

**Discussion:** None.

**Vote:** 9-0 in favor. Motion passed.

**Attachment:** 10, A&R Procedural Review Form for Document #5710

## 5 Subcommittee & Task Force Reports

### 5.1 Analytical Methods Task Force

5.1.1 Frank Flowers (PeroxyChem) reported for the TF. The TF reviewed documents due for five year reviews.

- The following documents due for five year review was approved by the TC Chapter for letter balloting in Cycle 5 or 6, 2014 (see §7.2 of these minutes for approval details):
  - Document 5641, Revision to SEMI C31-0708, Specification for Methanol
  - Document 5642A, Revision to SEMI C35-0708, Specifications and Guideline for Nitric Acid with title change to: Specification and Guide for Nitric Acid
  - Document 4957A, Revision to SEMI C41-0705, Specifications and Guidelines for 2-Propanol, with title change to: Specifications for 2-Propanol
- Fred Stover was not able to complete a draft for the Revision of SEMI C27 (Guide for Hydrochloric Acid) for the TF to review so it was delayed to the N.A. Standards Fall 2014 Meeting.

**Action Item:** 2014Jul#01, Fred Stover to submit a SNARF for the revision of SEMI C27 and bring a draft of the revision of SEMI C27 to the N.A. Standards Fall 2014 Meetings for review.

### 5.2 SEMI F57 (Specification for Polymer Materials and Components Used in Ultrapure Water and Liquid Chemical Distribution Systems) Revision / ITRS Alignment Task Force

5.2.1 Don Hadder (Intel) reported for the SEMI F57 Task Force. There was no TF meeting during SEMCON West 2014, but the TF continued discussing SEMI F57, the SEMI F40 revision draft and the PFA test method over bi-weekly teleconferences. Marty Burkhart (Hi Pure Tech) submitted a SNARF for a new standard on the PFA test method which was reviewed by the TC Chapter. The TC Chapter made changes to the SNARF and want to wait for Marty to review the changes before approving it because Marty was not present at the TC Chapter meeting.

**Attachment:** 11, SEMI F40 Revision Draft (7/10/2014)

**Attachment:** 12, SNARF for PFA Materials Reviewed by the N.A. Liquid Chemicals TC Chapter

### 5.3 Polymer Surface Roughness Task Force

5.3.1 Michael Tran (SEMI N.A.) reported for the Polymer Surface Roughness Task Force. The TF did not formally meet in person at SEMICON West 2014, but did review the ballot results for Document 5675 (see §4 of these minutes) over emails. The document was failed by the TC chapter because the TF agreed with a reject vote.

### 5.4 SEMI F31(Guide for Bulk Chemical Distribution Systems), F39 (Guideline for Chemical Blending Systems), F41 (Guide for Qualification of a Bulk Chemical Distribution System) Rewrite TF

5.4.1 Koh Murai (Mega Fluid Systems) reported for the Task Force. The TF reviewed the SEMI F39 revision draft (Document 5528) and it will be sent out again after the meeting for final feedback. The document is almost ready and will be ready for letter balloting in Cycle 5 or 6 (see §7.1 of these minutes). The TF will work on revising SEMI F41 after Document 5528 is completed and balloted.

**Attachment:** 13, Revision SEMI F39 Draft (7/3/14)



## 5.5 SEMI F63 (Ultrapure Water Used in Semiconductor Processing) Revision Task Force

5.5.1 Slava Libman (Air Liquide) reported for the TF. The TF is currently reviewing SEMI F63 which is due for five year review.

## 5.6 Ultrapure Water Filtration Efficiency Task Force

5.6.1 Slava Libman (Air Liquide) reported for the TF. The TF looked at the patent issues of Document 5421A (*Test Method for Particle Removal Performance of Liquid Filter Rated Below 30 nm with ICP-MS*) from Japan (see §3.2 of these minutes for details). Slava said while Document 5421A is being held from publishing until SEMI receive a Letter of Assurance from the patent holder, this is an opportunity for the TF to raise their concerns about the “double standards” issue between Document 5421A and SEMI C79 (*Sub-15 nm Filters Used in Ultrapure Water (UPW) Distribution Systems*). Slava would like to work with SEMI on this issue and see what their position on this issue is before the document is published.

**Action Item:** 2014Jul#02, Michael Tran to check whether Document 5421A from Japan has been published yet due to a patent issue while SEMI is awaiting the Letter of Assurance from the patent holder.

**Action Item:** 2014Jul#03, Slava Libman to work with SEMI on the “double standard” issue and see what their position is on the issue before Document 5421A is published.

## 5.7 Ion Exchange (IX) Resin Task Force

5.7.1 Slava Libman (Air Liquide) reported for the IX Resin TF. The TF reviewed the ballot results of Document #5621 (see § 4 of these minutes for adjudication details) and the TC Chapter failed it because the TF agreed with one of the reject votes. The TF prepared an excel sheet listing its responses to the reject votes received for Document #5621. The document will be reworked by the TF and reballoted in Cycle 5 or 6, 2014. See § 7.1 of these minutes for details.

**Attachment:** 14, IX Resin TF Responses to Reject Votes for Document 5621

## 6 Old Business

### 6.1 5-Year Review Update

6.1.1 The N.A. Liquid Chemicals TC Chapter reviewed and updated the master 5-year review documents file. Reviewers were assigned to each document that needed 5-year review and review updates for each was reported.

**Attachment:** 15, N.A. Liquid Chemicals Master 5-Year Review Summary (West 2014)

## 7 New Business

### 7.1 New Ballots Authorizations

7.1.1 The following documents were submitted for letter ballot authorization:

#	When	SC/TF/WG	Details
5621A	Cycle 5 or 6, 2014	Resin IX TF	New Standard: Test Method for Determining the Quality of Ion Exchanged Resin Used in Polish Applications of Ultrapure Water System
5675A	Cycle 5 or 6, 2014	Determining Roughness of Polymer Surfaces TF	New Standard: Test Method for Determining Roughness Of Polymer Surfaces Used In Ultrapure Water and Liquid Chemical Distribution Systems By Contact Profilometry

#	When	SC/TF/WG	Details
5528	Cycle 5 or 6, 2014	SEMI F31, F39 & F41 Revision TF	Revision to SEMI F39-0699, Guideline for Chemical Blending Systems with title change to: Guide for Chemical Blending Systems
5641	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C31-0708, Specification for Methanol
5642A	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C35-0708, Specifications and Guideline for Nitric Acid with title change to: Specification and Guide for Nitric Acid
4957A	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C41-0705, Specifications and Guidelines for 2-Propanol, with title change to: Specifications for 2-Propanol
---	Cycle 5 or 6, 2014	Analytical Methods TF	Revision to SEMI C27-0708, Specifications and Guidelines for Hydrochloric Acid, with title change to Specifications and Guide for Hydrochloric Acid <i>SNARF for this document is not approved yet.</i>

**Motion:** To approve the letter balloting of Document 5621A in Cycle 5 or 6, 2014.  
**By / 2<sup>nd</sup>:** David Blackford (Fluid Measurement Technology) / Slava Libman (Air Liquide)  
**Discussion:** None.  
**Vote:** 10-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of Document 5675A in Cycle 5 or 6, 2014.  
**By / 2<sup>nd</sup>:** Koh Murai (Mega Fluid Systems) / Jim Pedersen (Engineering Machinery Inc.)  
**Discussion:** None.  
**Vote:** 11-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of Document 5528 in Cycle 5 or 6, 2014  
**By / 2<sup>nd</sup>:** Koh Murai (Mega Fluid Systems) / Jim Pedersen (Engineering Machinery Inc.)  
**Discussion:** None.  
**Vote:** 11-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of Document 5641 in Cycle 5 or 6, 2014  
**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Koh Murai (Mega Fluid Systems)  
**Discussion:** None.  
**Vote:** 11-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of Document 5642A in Cycle 5 or 6, 2014.  
**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Koh Murai (Mega Fluid Systems)  
**Discussion:** None.  
**Vote:** 11-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of Document 4957A in Cycle 5 or 6, 2014.  
**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Koh Murai (Mega Fluid Systems)  
**Discussion:** None.  
**Vote:** 11-0 in favor. Motion passed.

**Motion:** To approve the letter balloting of the document: Revision to SEMI C27-0708 in Cycle 5 or 6, 2014.  
**By / 2<sup>nd</sup>:** Frank Parker (ICL) / Koh Murai (Mega Fluid Systems)  
**Discussion:** None.  
**Vote:** 11-0 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. Liquid Chemicals Standards Meetings are tentatively scheduled for November 3-4, 2014 at SEMI Headquarters in San Jose, California in conjunction with the N.A. Standards Fall 2014 meetings. Exact meeting dates and details will be announced when finalized and will be available at <http://www.semi.org/en/node/50511>

### Tentative Schedule:

Monday, November 3\*

- Polymer Surface Roughness TF (1:00 PM to 2:00 PM)
- SEMI IX Resin TF (2:00 PM to 3:00 PM)
- UPW Filtration TF / F63 TF (3:00 PM to 5:00 PM)

Tuesday, November 4\*

- F57 Discussion / ITRS Alignment (8:00 AM to 9:00 AM)
- F39, F31& F41 Rewrite TF (9:00 AM to 10:00 AM)
- Analytical Methods TF (10:00 AM to 12 Noon)
- N.A. Liquid Chemicals TC Chapter (2:00 PM to 5:00 PM)

\*All times are Pacific Times. 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/en/node/50511>

9.2 Having no further business, the N.A. Liquid Chemicals TC Chapter meeting on July 08, 2014 in conjunction with the N.A. Standards Meetings at SEMICON West 2014 in San Francisco, California was adjourned.

Respectfully submitted by:

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

Minutes approved by:

Frank Parker (ICL), Co-chair	September 17, 2014
Frank Flowers (PeroxyChem), Co-chair	September 16, 2014

**Table 8 Index of Available Attachments #1**

#	<i>Title</i>	#	<i>Title</i>
01	SEMI Standards Required Meeting Elements	09	A&R Procedural Review Form for Document #5709
02	N.A. Liquid Chemicals TC Chapter Meeting Minutes (Spring 2014)	10	A&R Procedural Review Form for Document #5710
03	Europe Gases & Liquid Chemicals TC Chapter Report (West 2014)	11	SEMI F40 Revision Draft (7/10/2014)
04	Japan Liquid Chemicals TC Chapter Report (West 2014)	12	SNARF for PFA Materials Reviewed by the N.A. Liquid Chemicals TC Chapter
05	N.A. Standards Staff Report (West 2014)	13	Revision SEMI F39 Draft (7/3/14)
06	Ballot Review Summary for Document #5621	14	IX Resin TF Responses to Reject Votes for Document 5621
07	Ballot Review Summary for Document #5675	15	N.A. Liquid Chemicals Master 5-Year Review Summary (West 2014)
08	A&R Procedural Review Form for Document #5708		

#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 Michael Tran at the contact information above.