

North America Metrics TC Chapter Meeting Summary and Minutes

N.A. Standards Fall 2013 Meetings
Wednesday, October 30, 2013
2:00 PM – 6:00 PM PDST
SEMI Headquarters in San Jose, California

Next N.A. TC Chapter Meeting

The next meeting of the North America (N.A.) Chapter of the Metrics Global Technical Committee (TC Chapter) is scheduled in conjunction with the N.A. Standards Fall 2013 Meetings on October 30, 2013 at SEMI Headquarters in San Jose, California. The meeting details and the latest schedule will be updated at:
<http://www.semi.org/node/47781>

Table 1 Meeting Attendees

Cochairs: David L. Bouldin (Fab Consulting), Mark Frankfurth (Cymer)

SEMI Staff: Michael Tran

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Consultant	Busing	David	SEMATECH	Ferrell	Jackie
<i>Fab Consulting</i>	<i>Bouldin</i>	<i>David</i>	Tokyo Electron	Mashiro	Supika
Industry Consultant	Rist	Lance	TSMC	Huang	Jeremy
Intel	Cohran	Mark			
<i>Intel</i>	<i>Steven</i>	<i>Meyer</i>	SEMI Japan	Kanno	Hirofumi
Cymer	Frankfurth	Mark	SEMI N.A.	Tran	Michael

Note: *Italics indicates virtual participants.*

Table 2 Leadership Changes

None.

Table 3 Ballot Results

#	<i>Details</i>	<i>Committee Action</i>
5645	Revision to SEMI E149-0708, Guide for Equipment Supplier-Provided Documentation for the Acquisition and Use of Manufacturing Equipment	Passed as balloted with editorial changes
5646	Revision to SEMI E150-1107, Guide for Equipment Training Best Practices	Passed as balloted with editorial changes
5592	New Standard: Specification for Product Time Measurement	Passed as balloted with editorial changes
5627	Revision to Add a New Subordinate Standard: Specification for Product Time Measurement in GEM 300 Production Equipment to SEMI Draft Document 5592, New Standard: Specification for Product Time Measurement	Passed as balloted with editorial changes

Table 4 Authorized Activities

#	<i>Type</i>	<i>TF</i>	<i>Details</i>
5682	SNARF	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement <i>Note: Document 5682 will be submitted for ballot after Document 5592 is published.</i>
5683	SNARF	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement in GEM 300 Production Equipment <i>Note: Document 5683 will be submitted for ballot after Document 5627 is published.</i>

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

#	When	TF	Details
5682	Cycle 1 or 2, 2014	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement <i>Note: Document 5682 will be submitted for ballot after Document 5592 is published.</i>
5683	Cycle 1 or 2, 2014	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement in GEM 300 Production Equipment <i>Note: Document 5683 will be submitted for ballot after Document 5627 is published.</i>
5340	Cycle 2, 2014	Equipment RAMP Metrics TF	Revision to SEMI E10-0312, Specification for Definition and Measurement of Equipment Reliability, Availability, and Maintainability (RAM) and Utilization
5341	Cycle 2, 2014	Equipment RAMP Metrics TF	Revision to SEMI E79-1106, Specification for Definition and Measurement of Equipment Productivity and for Reconciliation with SEMI E10-0312

Table 6 New Action Items

Item #	Assigned to	Details
2013Oct#01	Jackie Ferrell	To obtain the copyright release letter for SEMATECH Document ID #: 96103186A-TF, <i>Guidelines for Manufacturing Equipment Reference Manuals</i>
2013Oct#02	Michael Tran	Coordinate schedule for the next Wait Time Waste TF meetings during the NA Standards Spring 2014 Meetings

Table 7 Previous Meeting Actions Items

Item #	Assigned to	Details	Status
2013Jul#01	Michael Tran	Draft an email for the GCS to approve the revised Metrics charter.	CLOSED.
2013Jul#02	Michael Tran	Schedule the next WTW TF meeting time for three hours and parallel the DDA TF of the I&C committee.	CLOSED.
2013Jul#03	Michael Tran	Schedule the meeting time of the EMC TF to be at 4:00 PM PST on Mon., 10/28.	CLOSED.
2013Jul#04	Michael Tran	Schedule the meeting time of the ESD TF to be at 1:00 PM PST on Tues., 10/29.	CLOSED.

1 Welcome, Reminders, and Introductions

1.1 Mark Frankfurth (Cymer) called the meeting to order at 2:05 PM PST. The meeting reminders on program membership requirements, 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 did not review the previous meeting minutes. The meeting minutes from SEMICON West 2013 will be reviewed with the Fall 2013 meeting minutes at the next NA Metrics committee meeting during the NA Standards Spring 2014 Meetings.

3 Liaison Reports

3.1 Europe Metrics TC Chapter

3.1.1 There was no report received.

- SEMI Europe contact, Yann Guillou, yguillou@semi.org

3.2 Japan Metrics TC Chapter

3.2.1 There was no report received.

- SEMI Japan contact, Hirofumi Kanno, hkanno@semi.org

3.3 Technical Editors Board

3.3.1 David Bouldin (Fab Consulting) reported for the Technical Editors Board. There is no new version of the *SEMI Standards Style Manual*. The board is gathering inputs for future revisions of the *Style Manual* next year. If anyone has any issues, comments or feedback please let Shannon Austin (saustin@semi.org) of SEMI Standards Publications know.

3.4 Technical Architects Board

3.4.1 Jackie Ferrell (SEMATECH) reported for the Technical Architects Board. There have been no activities in the board and there was no report given.

3.5 Electromagnetic Compatibility (EMC) / Electrostatic Discharge Association (ESDA) Liaison Report

3.5.1 Mark Frankyuth (Cymer) reported for the ESDA. The key items were as follows:

- EMC/ESD Industry ActivitiesThe Charged Device Model (CDM) document is almost completed.
- Recently completed:
 - IEEE EMC 2013 Symposium in Denver, CO -
 - ESD 2013 Symposium in Las Vegas, NV -
- Future:
 - ESD Symposium (Factory Level) in Penang (Nov 2013)
 - Taiwan ESD Symposium in Hsinchu (Nov 2013)
 - IEEE EMC 2014 Symposium in Raleigh, NC – (Aug 4-8, 2014)
 - ESD 2014 Symposium in Tucson, AZ – (Sep 7-12, 2014)
- European EMC Directive Recast
 - Legislative activity (Recast and NLF) continues
 - Last activity noted in late 2012
 - Scheduled for a Parliament reading October 2013

3.6 SEMI N.A. Standards Staff Report

- SEMI Major Events in 2013
 - Completed:
 - SEMICON Europa in conjunction with Plastic Electronics Exhibition 2013
 - October 8-10, 2013 in Dresden, Germany
 - Strategic Materials Conference
 - October 16-17, 2013 in Santa Clara, California
 - PV Taiwan 2013
 - October 30-November 1, 2013 in Taipei
 - SEMICON Japan
 - December 4-6, 2013 in Chiba
- SEMI Major Events in 2014
- European 3D TSV Summit
 - January 21-22, 2014 in Grenoble, France
- SEMICON Korea / LED Korea
 - February 12-14, 2014 in Seoul
- SEMICON China
 - March 18-20, 2014 in Shanghai
- SEMICON Singapore
 - April 23-25, 2014 in Marina Bay Sands
- SEMICON West
 - July 8-10, 2014 in San Francisco, California
- SEMI Standards Publications
 - Standards published from July 2013 to September 2013:
 - New Standards: 5
 - Revised Standards: 19
 - Reapproved Standards: 9
 - Withdrawn Standards: 0
 - There are a total of 892 SEMI Standards in portfolio and that includes 98 Inactive standards
- New Cycle 8 Voting Period (tentative)
 - Cycle 8, 2013
 - Ballot Submission Date: Nov 15, 2013
 - Voting Period Starts: Nov 29, 2013
 - Voting Period Ends: Dec 31, 2013
- Upcoming North America Standards Meetings in 2014
 - NA Liquid Chemicals Fall 2013 Meetings
 - November 5, 2013, SEMI HQ in San Jose

- NA Compounds Semiconductor Materials Committee Fall 2013 Meeting
 - November 15, 2013 - Teleconference & Web Meeting Only
- NA Standards Spring 2014 Meetings
 - March 31 – April 3, 2014 at SEMI HQ in San Jose, California
- Standards Usage Interview
 - Looking for details on how standards are actually used:
 - Development/Engineering
 - Procurement
 - Manufacturing
 - Interview should take less than 30 minutes – contact James Amano (jamano@semi.org)
- 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

Attachment: 02, SEMI North America Standards Staff Report (Fall 2013)

4 Ballot Review

NOTE 1: Committee adjudication on the ballots are 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 ballot document is provided under each ballot review section below.

#	Details	Committee Action
5645	Revision to SEMI E149-0708, Guide for Equipment Supplier-Provided Documentation for the Acquisition and Use of Manufacturing Equipment	Passed as balloted with editorial changes
5646	Revision to SEMI E150-1107, Guide for Equipment Training Best Practices	Passed as balloted with editorial changes
5592	New Standard: Specification for Product Time Measurement	Passed as balloted with editorial changes
5627	Revision to Add a New Subordinate Standard: Specification for Product Time Measurement in GEM 300 Production Equipment to SEMI Draft Document 5592, New Standard: Specification for Product Time Measurement	Passed as balloted with editorial changes

Motion: Document 5645 passed committee review with editorial changes and will be forwarded to the A&R SC for procedural review.

By / 2nd: Mark Cohran (Intel) / Lance Rist (Industry Consultant)

Discussion: None

Vote: 6-0 in favor. Motion passed.

Attachment: 03, Procedural Review form for Document 5645

Motion: Document 5646 passed committee review with editorial changes and will be forwarded to the A&R SC for procedural review.

By / 2nd: Mark Cohran (Intel) / David Bouldin (Fab Consulting)

Discussion: None

Vote: 6-0 in favor. Motion passed.

Attachment: 04, Procedural Review form for Document 5646

Motion: Document 5592 passed committee review with editorial changes and will be forwarded to the A&R SC for procedural review.

By / 2nd: Lance Rist (Industry Consultant) / David Bouldin (Fab Consulting)

Discussion: None

Vote: 5-0 in favor. Motion passed.

Attachment: 05, Procedural Review form for Document 5592

Motion: Document 5627 passed committee review with editorial changes and will be forwarded to the A&R SC for procedural review.

By / 2nd: Lance Rist (Industry Consultant) / Jackie Ferrell (SEMATECH)

Discussion: None

Vote: 5-0 in favor. Motion passed.

Attachment: 06, Procedural Review form for Document 5627

5 Subcommittee and Task Force Reports

5.1 *Equipment Reliability, Availability, Maintainability and Productivity (RAMP) Metrics Task Force*

5.1.1 David Busing (Consultant) reported for the Equipment RAMP Metrics TF. The TF submitted Document 5340, SEMI E10 (Equipment Reliability, Availability, and Maintainability) and Document 5341, SEMI E79 (Equipment Productivity) to the committee for ballot approval (see §7.2 of these minutes for details). The documents were approved by the TC Chapter and will be balloted for Cycle 2-2014.

5.1.2 The TF received feedback from Lam Research regarding the clarifications in SEMI E10. The TF is considering the feedback with respect to Document 5340 and 5341 going to ballot.

Attachment: 07, Equipment RAMP Metrics Task Force Report (Fall 2013)

5.2 *Equipment Training and Documentation (T&D) Task Force*

5.2.1 Mark Cohran (Intel) reported for the Equipment T&D TF. The TF reviewed the ballot results of Documents 5645 (Revision to SEMI E149) and 5646 (Revision to SEMI E150) and proposed editorial changes for the documents to the committee. Both documents passed committee review with editorial changes (see §4 of these minutes).

Attachment: 08, Equipment Training and Documentation Task Force Report (Fall 2013)

5.3 *Electromagnetic Compatibility (EMC) Task Force*

5.3.1 Mark Frankfyuth (Cymer) reported for the EMC TF. The TF discussed the following items:

- No feedback known on use of SEMI E33 or problems noted with the Guide.
- Discussed KLA-Tencor review & feedback on ASML “Current Sense-Wire” alternative test method white paper for large equipment EMC testing.

- This test method is intended to be peer-reviewed and eventually considered for incorporation E33. Did not have key participants or critical mass for review.
- Task Force still plans to learn about and consider Current Sense-Wire Test Method.
- SNARF Doc. 5596 (Facility EMC) approved - target draft for April 2014.
- EU EMC Directive Recast status inquiry.
- Korea Radio Waves Act handling of Spare Parts inquiry addressed.
- Vladimir Kraz did an excellent job on a SEMI E33 EMC article in SEMI Standards Watch.

Attachment: 09, EMC Task Force Report (Fall 2013)

5.4 *Electrostatic Discharge / Electrostatic Charge (ESD/ESC) Task Force*

5.4.1 No report was given.

5.5 *Wait Time Waste (WTW) Task Force*

5.5.1 Lance Rist (Industry Consultant) and Jackie Ferrell (SEMATECH) reported for the WTW TF. The TF reviewed the ballot results of Document 5592 (Product Time Management) and 5627 (Product Time Management in GEM 300) with the voters whom left negatives and comments. The TF was able to negotiate with the voters to withdraw most of their negatives and comments. Any unresolved negatives and comments will be resolved with follow up ballots to documents 5592 and 5627 in Cycle 1 or 2, 2014 (see § 7.1 and 7.2 for more details).

5.5.2 The TF also made a motion that Document 5592, *New Standard: Specification for Product Time Measurement* and Document 5627, *Revision to Add a New Subordinate Standard: Specification for Product Time Measurement in GEM 300 Production Equipment to SEMI Draft Document 5592, New Standard: Specification for Product Time Measurement* reproduces certain portions of the SEMATECH Document ID #: 96103186A-TF, *Guidelines for Manufacturing Equipment Reference Manuals* and that the reproduction is justified.

Motion: The WTW TF moved that Documents 5592 and 5627 reproduces certain portions of the SEMATECH Document ID #: 96103186A-TF, *Guidelines for Manufacturing Equipment Reference Manuals* and that this reproduction is justified.

By / 2nd: Lance Rist (Industry Consultant) / Jackie Ferrell (SEMATECH)

Discussion: None

Vote: 5-0 in favor. Motion passed.

Attachment: 10, Wait Time Waste Task Force Report (Fall 2013)

6 Old Business

6.1 *5-Year Review Update*

6.1.1 The TC Chapter looked at Documents needed for five-year review:

Document #	Document Title	Status
SEMI E79-1106	Specification for Definition And Measurement of Equipment Productivity	Ballot submitted in Cycle 2-2014. See §§ 5.1, and 7.2 of these minutes for details.
SEMI E149-0708	Guide for Equipment Supplier-Provided Documentation for the Acquisition and Use of Manufacturing Equipment	Document passed committee review with editorial changes. See §4 of these minutes for details.
SEMI E150-1107	Guide for Equipment Training Best Practices	Document passed committee review with editorial changes. See §4 of these minutes for details.

7 New Business

7.1 New Activities

7.1.1 The following SNARFs was submitted to the TC Chapter for approval:

#	Type	TF	Details
5682	SNARF	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement <i>Note: Document 5682 will be submitted for ballot after Document 5592 is published.</i>
5683	SNARF	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement in GEM 300 Production Equipment <i>Note: Document 5683 will be submitted for ballot after Document 5627 is published.</i>

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

Motion: To approve SNARF #5682.
By / 2nd: Lance Rist (Industry Consultant) / Jeremy Huang (TSMC)
Discussion: None
Vote: 5-0 in favor. Motion passed.

Motion: To approve SNARF #5683.
By / 2nd: Lance Rist (Industry Consultant) / Jeremy Huang (TSMC)
Discussion: None
Vote: 5-0 in favor. Motion passed.

7.2 New Ballots Submission

7.2.1 The following Documents were submitted for Letter Ballot to the TC Chapter for approval:

#	When	TF	Details
5682	Cycle 1 or 2, 2014	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement <i>Note: Document 5682 will be submitted for ballot after Document 5592 is published.</i>
5683	Cycle 1 or 2, 2014	Wait Time Waste TF	Revision to SEMI EXXX, Specification for Product Time Measurement in GEM 300 Production Equipment <i>Note: Document 5683 will be submitted for ballot after Document 5627 is published.</i>

#	When	TF	Details
5340	Cycle 2, 2014	Equipment RAMP Metrics TF	Revision to SEMI E10-0312, Specification for Definition and Measurement of Equipment Reliability, Availability, and Maintainability (RAM) and Utilization
5341	Cycle 2, 2014	Equipment RAMP Metrics TF	Revision to SEMI E79-1106, Specification for Definition and Measurement of Equipment Productivity and for Reconciliation with SEMI E10-0312

Motion: To approve the ballot submissions of Documents 5682 and 5683 for Cycle 1 or 2-2014.

By / 2nd: Lance Rist (Industry Consultant) / David Bouldin (Fab Consulting)

Discussion: None

Vote: 5-0 in favor. Motion passed.

Motion: To approve the ballot submission of Document 5340 for Cycle 2-2014.

By / 2nd: David Bouldin (Fab Consulting) / Lance Rist (Industry Consultant)

Discussion: None

Vote: 3-0 in favor. Motion passed.

Motion: To approve the ballot submission of Document 5341 for Cycle 2-2014.

By / 2nd: David Bouldin (Fab Consulting) / Lance Rist (Industry Consultant)

Discussion: None

Vote: 3-0 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. Metrics standards meetings are tentatively scheduled for March 31 – April 2, 2014 at SEMI Headquarters in San Jose, California in conjunction with the NA Standards Spring 2014 Meetings. Exact meeting date and details will be announced when finalized and available at <http://www.semi.org/node/47781>

Tentative Schedule

*Monday, March 31**

-Wait Time Waste TF (1:00 PM - 4:00 PM)

*Tuesday, April 1**

- Equipment T&D TF (9:00 AM – 12:00 PM Noon)
- EMC TF (1:00 PM – 3:00 PM)
- ESD/ESC TF (3:00 PM – 5:00 PM)

Wednesday, April 2*

- Equipment RAMP Metrics TF (9:00 AM – 12:00 PM Noon)
- N.A. Metrics TC Chapter (2:00 PM – 6:00 PM)

*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/47781>

9.2 Having no further business, a motion was made to adjourn the N.A. Metrics TC Chapter meeting on October 30, 2013 in conjunction with the N.A. Standards Fall 2013 Meetings at SEMI Headquarters in San Jose, California. The meeting adjourned at 5:11 PM.

Respectfully submitted by:

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

Minutes approved by:

David Bouldin (Fab Consulting), Cochair	
Mark Frankfurth (Cymer), Cochair	

Table 8 Index of Available Attachments #1

#	Title	#	Title
01	SEMI Standards Required Meeting Elements	06	Procedural Review form for Document 5627
02	SEMI North America Standards Staff Report (Fall 2013)	07	Equipment RAMP Metrics Task Force Report (Fall 2013)
03	Procedural Review form for Document 5645	08	Equipment Training and Documentation Task Force Report (Fall 2013)
04	Procedural Review form for Document 5646	09	EMC Task Force Report (Fall 2013)
05	Procedural Review form for Document 5592	10	Wait Time Waste Task Force Report (Fall 2013)

#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.