NA Silicon Wafer TC Chapter Meeting Minutes

SEMICON West 2014
Tuesday, 8th July, 2014, 2:00 PM - 6:00 PM
San Francisco Marriott Marquis, San Francisco, CA

Next Committee Meeting
Tuesday, November 4, 2014, San Jose, CA in conjunction with NA Fall Standards Meetings. Check www.semi.org/standards for the latest update.

Attendees:

SEMI Staff
Kevin Nguyen – SEMI HQ

Co-chair – Dinesh Gupta (STA)

Table 1 – Meeting Attendees

Last Name	*First Name*	*Company*
Bullis	Murray	Materials & Metrology*
Goldstein	Mike	Intel
Gould	Richard	Lam Research
Haller	Kurt	KLA-Tencor
Ikota	Masami	Hitachi High Tech
Katamaha	Hisashi	SUMCO
Kawai	Naoyuki	The University of Tokyo
Lee	Kay	G450C
Lin	Pinyen	G450C
Mashiro	Supika	Tokyo Electron
Nakai	Tetsuya	SUMCO
Passek	Fritz	Siltronic
Poduje	Noel	SMS
Robles	Robb	Cognex
Sinha	Jaydeep	KLA-Tencor
Sinton	Ron	Sinton Instruments
Valley	John	Sun Edison
Wagner	Peter	Self
Yoshise	Masanori	Self

*Attended via teleconference

Table 2 – Task Force Changes

Group	*Previous Leader*	*New Leader*
Int'l Terminology Task Force	Murray Bullis (Materials & Metrology) is stepping down	TBD

Table 3 – Ballot Summary

Document #	*Document Title*	*Committee Action*
5664	Line Items Revision to SEMI M59-0211, Terminology for Silicon Technology	*See below*
	Line Item 1: Remove the definitions for 1/e lifetime (e) and primary mode lifetime (t1) from SEMI M59 and decrement paragraph numbers accordingly.	Passed as balloted

Document #	Document Title	Committee Action
	Line Item 2: Correct the definition for recombination lifetime as shown.	Passed as balloted
5687	Line Item Revision of SEMI M60-1113, Test Method for Time Dependent Dielectric Breakdown Characteristics of Amorphous SiO2 Films for Silicon Wafer Evaluation Line Item 1: Correct the sentence in Section 7 Summary of Method	Passed as balloted
5607	Line Items Revision of SEMI MF673-0305 (Reapproved 0611), Test Methods for Measuring Resistivity of Semiconductor Wafers or Sheet Resistance of Semiconductor Films with a Noncontact Eddy-Current Gauge	*See below*
	Line Item 1: To change the citation in the standard to this document and correct the precision section so that it correctly reflects the results of the interlaboratory test. These changes are shown with turquoise highlight.	Passed as balloted
	Line Item 2: Several typographical errors were observed while reviewing the text. This line item of the ballot corrects these errors. These corrections are shown with bright green highlight.	Passed as balloted
5654	Line Item Revision to SEMI M49-0613, Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 16 nm Technology Generations Line Item 1 - Modify Table 4 in order to reflect the 450 mm diameter wafers, 1.5 mm Edge Exclusion specification, for 16 nm technology node.	Passed as balloted
4844C	New Standard: Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry	Passed as balloted
5404	Withdrawal of SEMI MF657-0707E, Test Method for Measuring Warp and Total Thickness Variation on Silicon Wafers by Noncontact Scanning	Passed as balloted
5539	Revision to SEMI MF1390-0707 (Reapproved 0512) With Title Change To: Test Method for Measuring Bow and Warp on Silicon Wafers by Automated NonContact Scanning	Passed as balloted
5662	Revision of SEMI M35-1107, Guide for Developing Specifications for Silicon Wafer Surface Features Detected by Automated Inspection	Passed with editorial change
5707	Revision of SEMI M40-1109, With Title Change To: Guide for Measurement of Roughness of Planar Surfaces on Polished Wafers	Passed with editorial changes
5604	Line Item Revision to SEMI M1-0414, Specification for Polished Single Crystal Silicon Wafer and SEMI M20-0110, Practice for Establishing a Wafer Coordinate System Line Item 1 - Revise both SEMI M1 and SEMI M20 to add a notchless category of 450 mm diameter wafers	Postponed until the next earliest TC Chapter meeting, pending submission of Letter of Assurance (LOA)
5701	Line Item Revision of SEMI M1-0414, Specifications for Polished Single Crystal Silicon Wafers (Subj: To correct references to test methods for measurement of front surface chemistry) Line Item 1 - Modify §3, Table 1, Table R1-1, and R3-8.1 of SEMI M1, as needed, to remove reference to SEMI M33 and SEMI E45 and add reference to ISO 14706 and ISO 17731 in order to update and correct references to the test methods for surface chemistry	Passed as balloted

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.

Table 4 – Authorized Ballots

#	*When*	*SC/TF/WG*	*Details*
5403	Cycle 5-14	Int'l Test Methods TF	Withdrawal of SEMI MF534-0707, Test Method for Bow of Silicon Wafers
5702	Cycle 5-14	Int'l Advance Wafer Geometry TF	Line Item Revision to M68-1108, Practice for Determining Wafer Near-Edge Geometry from a Measured Height Data Array using a Curvature Metric, ZDD
5743	Cycle 7-14	Int'l Polished Wafer TF	Line Item Revision to SEMI M1-0414, Specification for Polished Single Crystal Silicon Wafer

Table 5 – Authorized Activities

#	*Type*	*SC/TF/WG*	*Details*
5403	SNARF	Int'l Test Methods TF	SNARF was revised **From:** Reapproval of SEMI MF534-0707, Test Method for Bow of Silicon Wafers **To:** Withdrawal of SEMI MF534-0707, Test Method for Bow of Silicon Wafers
5742	SNARF	Int'l Epi Wafer TF	Line Item Revision to M62-0414, Specifications For Silicon Epitaxial Wafers
5743	SNARF	Int'l Polished Wafer TF	Line Item Revision to SEMI M1-0414, Specification for Polished Single Crystal Silicon Wafer (Remove classification 1.15 wafers from SEMI M1)
5744	SNARF	Int'l Advance Wafer Geometry TF	Line Item Revision to SEMI M49-0613, Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 16 nm Technology Generations (Re: to clarify and better define exclusion windows)
5745	SNARF	Int'l Advance Wafer Geometry TF	New Standard: Guide for Wafer Dimensional Metrology Based on Areal Image Acquisition Technology
5746	SNARF	Int'l Automated Advance Surface Inspection TF	Reapproval of SEMI ME1392-1109, Guide for Angle Resolved Optical Scatter Measurements on Specular or Diffuse Surfaces

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

Table 6 – Previous Meeting Actions Items

None

Table 7 – New Actions Items

Item #	*Assigned to*	*Details*
0714-1	Kevin Nguyen (SEMI Staff)	To request Pinyen Lin (TSMC) filling out a Letter of Assurance (LOA) for ballot 5604 (450 mm notchless)

1. Call to Order

Dinesh Gupta called the meeting to order and welcomed everyone who attended. A round of self introduction was made. All SEMI standards meetings are subjected to SEMI Anti-Trust Reminder and Guidelines concerning Patentable Technology. SEMI Regulations now require all attendees to be members of SEMI standards. Membership enrollment is at www.semi.org/standardsmembership. Agenda was reviewed and proceed.

2. Review of Schedule for the Next Meeting (NA Fall Standards Meeting, Nov 3-4, 2014)

The next meeting is scheduled at the NA Fall Standards Meeting, Nov 3-4, 2014, 2014 in San Jose, CA. Check www.semi.org/standards on the calendar of entry for the latest schedule and meeting location. See attachment for tentative schedule.

Attachment – 1, Sch Si Wfr 1114 Tentative

3. Review and Approval of the Minutes from NA Spring Standards meetings, April 1, 2014 in Santa Clara, CA

The meeting minutes were reviewed. No correction was made.

Motion: Accept the minutes of the previous meeting as written.
By / 2nd: Noel Podjue (SMS)/Fritz Passek (Siltronic)
Discussion: None
Vote: 9/0 in favor. Motion passed

Attachment – 2, Minutes NA SiWfr 20140401

4. Liaison Reports

4.1. Europe Committee

Fritz Passek reported Strengths Weaknesses Opportunities Threats (SWOT) analysis from Europe TC chapter. A major strength is the international cooperation among NA and Japan task forces. Th weakness includes some topic (e.g. test methods) are not covered by the EU TF. Opportunities lists the new application for GaN on Silicon published as SEMI M84-0414. The threat emphasizes on the decline in attendance.

Attachment – 3, EU_Silicon_Wafer_Status_2014

4.2. Japan Committee

Kawai-san reported. Highlights.

- Last Meeting
  - June 12, 2014 during Japan Summer Meetings 2014 at SEMI Japan, Tokyo, Japan
- Next Meeting
  - September 11, 2014 during Japan Fall Meetings 2014 at SEMI Japan, Tokyo
- Committee Organization
  - A question was raised by Pinyen Lin on the international task force (e.g., Int'l 450 mm Wafer TF). Is this identical task force as in NA? It was responded that it is the same as NA, but it was for Japan. Noel commented that the Regulations Subc should create a new terminology to represent a regional, which is a part of the international TF, such as that of a TC Chapter for the global committee.
- JEITA Silicon Wafer Technical Committee, with which we had collaboration since 1981, was disbanded at 2013/03 and JEITA Standards will be abolished around 2015/03.
- As a joint activity with JEITA, we started to transfer selected JEITA/JEIDA standards into SEMI following SEMI standard making/revision algorithm.

Attachment – 4, 1407_JA_SiW_LiaisonR_for_SWest_R1.0

4.3. GCS report

GCS members met, but no report was given. However, Noel raises a few concerns and improvement on the ballot system.

1. John Valley's missing vote. John claimed that he voted on the 450 mm notchless ballot, but the SEMI ballot system did not record his vote. Noel asked SEMI to look into this issue.
2. Is it possible for SEMI to have a zip file listing all ballots for each committee instead of downloading each single file?
3. Summary of the vote be sent to the voter's email each time a person voted?

Kevin will look into these concerns and suggestions, but made no promise on these will be implemented in the next voting cycle.

5. Staff Report

Report was given by Kevin Nguyen. Highlights:

- 2014 Event

Event Name	*Event Details*
SEMICON West	July 8-10, 2014 San Francisco, California
SEMICON Taiwan	September 3-5, 2014 Taipei
SEMICON Europa Plastic Electronics	October 7-9, 2014 Grenoble, France
SEMICON Japan	December 3-5, 2014 Tokyo

- Wafer Geometry Control for Advanced Semiconductor Manufacturing workshop
  - Wednesday, July 9 (1:30-4:30 PM)
  - 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.
- NA Standards 2014 Meetings
  - NA Standards Fall 2014 Meetings
    - November 3-6, 2014 [SEMI HQ in San Jose, California]
- Technical Ballot Critical Dates
  - Cycle 5, 2014
    - Ballot Submission Date: July 18
    - Voting Period Starts: July 25
    - Voting Period Ends: August 25
- Total SEMI Standards in portfolio: 909
  - Includes 106 Inactive Standards

Attachment – 5, SEMI Staff Report (West 2014)

6.0 Ballot Review

6.1 Doc. #5664, Line Items Revision to SEMI M59-0211, Terminology for Silicon Technology

- Line Item 1: Remove the definitions for 1/e lifetime (e) and primary mode lifetime (t1) from SEMI M59 and decrement paragraph numbers accordingly.
- Line Item 2: Correct the definition for recombination lifetime as shown.

Both line items passed technical review as balloted and were forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 6, 5664ProceduralReview

6.2 Doc. #5687, Line Item Revision of SEMI M60-1113, Test Method for Time Dependent Dielectric Breakdown Characteristics of Amorphous SiO_2 Films for Silicon Wafer Evaluation

- Line Item 1: Correct the sentence in Section 7 Summary of Method

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 7, 5687ProceduralReview

6.3 Doc. #5607, Line Items Revision of SEMI MF673-0305 (Reapproved 0611), Test Methods for Measuring Resistivity of Semiconductor Wafers or Sheet Resistance of Semiconductor Films with a Noncontact Eddy-Current Gauge

- Line Item 1: To change the citation in the standard to this document and correct the precision section so that it correctly reflects the results of the interlaboratory test. These changes are shown with turquoise highlight.
- Line Item 2: Several typographical errors were observed while reviewing the text. This line item of the ballot corrects these errors. These corrections are shown with bright green highlight.

Both line items passed technical review as balloted and were forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 8, 5607ProceduralReview

6.4 Doc. #5654, Line Item Revision to SEMI M49-0613, Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 16 nm Technology Generations

- Line Item 1 - Modify Table 4 in order to reflect the 450 mm diameter wafers, 1.5 mm Edge Exclusion specification, for 16 nm technology.

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 9, 5654ProceduralReview

6.5 Doc. #4844C, New Standard: Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 10, 4844CProceduralReview

6.6 Doc. #5404, Withdrawal of SEMI MF657-0707E, Test Method for Measuring Warp and Total Thickness Variation on Silicon Wafers by Noncontact Scanning
Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 11, 5404ProceduralReview

6.7 Doc. #5539, Revision to SEMI MF1390-0707 (Reapproved 0512) With Title Change To: Test Method for Measuring Bow and Warp on Silicon Wafers by Automated Noncontact Scanning

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 12, 5539ProceduralReview

6.8 Doc. #5662, Revision of SEMI M35-1107, Guide for Developing Specifications for Silicon Wafer Surface Features Detected by Automated Inspection

Document passed technical review with editorial change and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 13, 5662ProceduralReview

6.9 Doc. #5707, Revision of SEMI M40-1109, With Title Change To: Guide for Measurement of Roughness of Planar Surfaces on Polished Wafers

Document passed technical review with editorial changes and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 14, 5707ProceduralReview

6.10 Doc. #5604, Line Item Revision to SEMI M1-0414, Specification for Polished Single Crystal Silicon Wafer and SEMI M20-0110, Practice for Establishing a Wafer Coordinate System

- Line Item 1 - Revise both SEMI M1 and SEMI M20 to add a notchless category of 450 mm diameter wafers

A patent application from TSMC associated with ballot 5604 was informed. See attachments for further details. The motion was to send the document to the Audits and Reviews Subc for procedural review, but it failed due to a pending Letter of Assurance (LOA), which was not submitted to SEMI at the time of this ballot adjudication.

Action Item #1 – Kevin Nguyen to email Pinyen Lin (TSMC) and request to fill out a Letter of Assurance (LOA).

When an LOA is submitted to SEMI, the remaining portions of the Audits and Reviews Form will be adjudicated at the next earliest TC Chapter meeting. See attachment below for partial ballot adjudication.

Attachment – 15, 5604ProceduralReview

Attachment – 16, 5604 patent material motions

Attachment – 17, TSMC_US2013258339A1

6.11 Doc. #5701, Line Item Revision of SEMI M1-0414, Specifications for Polished Single Crystal Silicon Wafers (Subj: To correct references to test methods for measurement of front surface chemistry)

- Line Item 1 - Modify §3, Table 1, Table R1-1, and R3-8.1 of SEMI M1, as needed, to remove reference to SEMI M33 and SEMI E45 and add reference to ISO 14706 and ISO 17731 in order to update and correct references to the test methods for surface chemistry

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 18, 5701ProceduralReview

6.12 Doc. #5666, Revision of SEMI MF928-0314, Test Methods for Edge Contour of Circular Semiconductor Wafers and Rigid Disk Substrates

Document passed technical review as balloted and was forwarded to the ISC Audits and Reviews Subcommittee for procedural review. See attachment below for detail of ballot adjudication.

Attachment – 19, 5666ProceduralReview

7.0 Task Force Reports

7.1 Int'l 450 mm Wafer TF/Mike Goldstein (Intel)

Mike Goldstein reported.

- Doc. 5604, Line Item Revision to SEMI M1-0114, Specification for Polished Single Crystal Silicon Wafer and SEMI M20-0110, Practice for Establishing a Wafer Coordinate System, was reviewed.
  - There were comments from John Valley, who claimed to submit his vote in, but were not captured by the SEMI Ballot system. These comments are good, but since they were not officially captured, so these will have to be dealt as new business.
- Edge Exclusion (EE) reduction from 2mm to 1.5mm plan was presented by K. Lee. The TF intend is to implement the 1.5 EE only for notchless wafers and generate new part # for these wafers. Concerns of the fiducial and T7 marks penetrating in the exclusion area were discussed. Blocking area patterns will be address in the Int'l Advanced Wafer Geometry TF new business.
- Change in EE will have to wait for M1 revision which includes notchless wafer introduction.

Attachment – 20, Valley SEMI Standards 2014 Ballot Cycle 4
Attachment – 21, Semicon West 2014 450mm meeting
Attachment – 22, International 450mm wafer TF meeting

7.2 Int'l Advanced Wafer Geometry TF/Noel Poduje (SMS), Jaydeep Sinha (KLA-Tencor)

- Minutes were presented by Noel. The action items from the TF were reviewed.

  - Request Murray for administrative 5 year revision of M43, M67 and M70.
    - Murray will not be able to offer any assistances since his involvement with SEMI Standards will likely be diminished.
  - Document 5702 - Line Item SEMI M68-1109 - Practice for Determining Wafer Near-Edge Geometry from a Measured Height Data Array Using a Curvature Metric, ZDD. The ballot is ready for cycle 5-2014.

Motion: To authorize doc. 5702 for cycle 5-14 ballot for review at SEMICON Europa
By / 2nd: Noel Poduje(SMS)/Jaydeep Sinha (KLA-Tencor)
Discussion: None
Vote: 11-0 in favor. Motion passed

  - Interferometric Areal Image – SNARF
    - John Valley presented a SNARF for a New Standard: Guide for Wafer Dimensional Metrology Based on Areal Image Acquisition Technology

Motion: To approve SNARF
By / 2nd: Noel Poduje(SMS)/Mike Goldstein (Intel)
Discussion: None
Vote: 14-0 in favor. Motion passed

- M49 exclusion window revisions: SNARF
  - Yoshise-san presented a SNARF for Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 16 nm Technology Generations (Re: to clarify and better define exclusion windows)

Motion: To approve SNARF
By / 2nd: Noel Poduje(SMS)/Mike Goldstein (Intel)
Discussion: None
Vote: 8-0 in favor. Motion passed

Attachment – 23, AWG West 2014 Meeting minutes finalrev1
Attachment – 24, AWG Attachments West 2014

7.3 Int'l Advanced Surface Inspection TF/Kurt Haller (KLA-Tencor)

- Kurt reported SEMI ME1392-1109, Guide for Angle Resolved Optical Scatter Measurements on Specular or Diffuse Surface, was due for 5 year review. Base on last meeting action, neither Allen or Peroots found a strong pull within the HBLED and 3D-IC communities for expanding the scope of ME1392 to non-opaque materials. The TF reaffirmed the preliminary decision to send document "as is" for reapproval.

  Motion: To approve SEMI ME1392 reapproval SNARF
  By / 2nd: Kurt Haller (KLA-Tencor)/Ron Sinton (Sinton Instruments)
  Discussion: None
  Vote: 13-0 in favor. Motion passed

- M50 and M53 are coming up for 5 year review. TF will review and report at the next meeting.
  - SEMI M50-0310 - Test Method for Determining Capture Rate and False Count Rate for Surface Scanning Inspection Systems by the Overlay Method
  - SEMI M53-0310 - Practice for Calibrating Scanning Surface Inspection Systems Using Certified Depositions of Monodispere Reference Spheres on Unpatterned Semiconductor Wafer Surfaces

  Attachment – 25, AASI_TF_SEMIWest_07_Jul__2014_Meeting minutes
  Attachment – 26, ME1392RevisionSNARF

7.4 Int'l SOI TF/Bich-Yen Nguyen (SOITEC USA)

- Dinesh Gupta reported for Bich-Yen Nguyen. The TF is looking at high resistivity for SOI for revision of M71. The next meeting is resumed at the NA Fall.

Attachment – 27, SOI TF Report_July 7, 2014

7.5 Int'l Annealed Wafer TF/Dinesh Gupta (STA)

- Dinesh Gupta reported SEMI M57-0414, Specifications for Silicon Annealed Wafers, is recently published in April 2014. No future revision is anticipated. The TF is on the standby mode until further notice.

7.6 Int'l Epitaxial Wafer TF/ Dinesh Gupta (STA)

- Dinesh reported SEMI M62-0514, Specifications for Silicon Epitaxial Wafers needs revision to include 16 nm technology node. A SNARF for revision was reviewed and presented.

Motion: To approve the SNARF for revision of M62
By / 2nd: Noel Poduje (SMS)/Mike Goldstein (Intel)
Discussion: None
Vote: 12/0 in favor. Motion passed

Attachment – 28, Min Epi TF 0714

Attachment – 29, SNARF M62 16nm 040114

7.7 Int'l Test Methods TF/Dinesh Gupta (STA)

- Dinesh reported all the ballots in cycles 2, 3 & 4 passed.
  - Doc. 5687 Revision of M60: Time Dependent Dielectric Breakdown – Super Clean
  - Doc. 4844C New Standard: Trace Metal Contamination by ICPMS – 1 Comment
  - Doc. 5404 Withdrawal of SEMI MF657: Warp & TTV – Super Clean
  - Doc. 5607 Revision of MF673: Resistivity by Eddy Current (Ln 1&2) – Super Clean
  - Doc. 5539 Rev to SEMI MF1390: Bow & Warp – 1 Comment (Taken as new business)
  - Doc. 5666 Revision to SEMI MF928: Edge Contour – 1 Neg. (Expecting it to be withdrawn)

- Old business.
  - Doc. for 5-year review – SEMI MF1617 (SIMS), MF391 (Diff. Length), MF533 (Thickness & TTV)
  - SEMI MF534 – Withdrawal. Approval of revised SNARF is also required. MF534 – Test method for Bow of Silicon Wafers describes a technique that is obsolete. Continued publication of this Standard has no value and causes confusion among suppliers and users of wafers. Bow measurement using a valid, applicable technique is now standardized in the latest revision of MF1390.

  Motion: To approve revised SNARF (Doc. 5403) from **reapproval** to **withrawal** of MF534
  By / 2nd: Noel Poduje (SMS)/Mike Goldstein (Intel)
  Discussion: None
  Vote: 14/0 in favor. Motion passed

  Motion: To issue doc. 5403 in cycle 5-14 for review at SEMICON Europa
  By / 2nd: Noel Poduje (SMS)/Mike Goldstein (Intel)
  Discussion: None
  Vote: 12/0 in favor. Motion passed

  - Doc 5703 – Recombination Lifetime Guide in Electronic Grade Silicon (New) was extensively discussed. Some changes are required in the draft.

Attachment – 30, SNARF MF534 Withdrawal
Attachment – 31, Min Test Methods Mtg 0714

7.8 Int'l Polished Wafer TF/Murray Bullis (Materials & Metrology)

- Murray reported.
  - Consideration of SNARF and draft document to eliminate wafers of classification 1.15 from SEMI M1. The SNARF was presented.

    Motion: To approve line revision of M1 SNARF
    By / 2nd: Murray Bullis (Materials & Metrology)/Mike Goldstein (Intel)
    Discussion: None
    Vote: 10/0 in favor. Motion passed

    Motion: To issue M1 revision for cycle 7-2014 for review at SEMICON Japan
    By / 2nd: Murray Bullis (Materials & Metrology)/Mike Goldstein (Intel)
    Discussion: None
    Vote: 11/0 in favor. Motion passed

Attachment – 32, SNARF M1 L I rev to remove Class 1.15

7.9 Int'l Terminology TF/Murray Bullis (Materials and Metrology)

- Murray reported that he is no longer wish to be the leader of this task force. Therefore, he is stepping down.

8.0 Old Business

None

9.0 New Business

No other new business was reported.

10.0 Action Item Reviews

Kevin Nguyen reviewed the old action items. There were two new actions items at this meeting noted in **table 7**.

11.0 Adjourn

The meeting was adjourned at 6:00 PM.

These minutes are respectfully submitted by:

Kevin Nguyen,
SEMI Int'l Standards Operation Manager
Phone: 408-943-7997
Email: knguyen@semi.org

Minutes approved by:
Noel Poduje (SMS) – Co-chair Date: July 25, 2014
Dinesh Gupta (STA) – Co-chair Date: August 4, 2014

Table 8 – Index of Attachment Summary

#	*Title*	#	*Title*
1	Sch Si Wfr 1114 Tentative	17	TSMC_US2013258339A1
2	Minutes NA SiWfr 20140401	18	5701ProceduralReview
3	EU_Silicon_Wafer_Status_2014	19	5666ProceduralReview
4	1407_JA_SiW_LiaisonR_for_SWest_R1.0	20	Valley SEMI Standards 2014 Ballot Cycle 4
5	SEMI Staff Report (West 2014)	21	Semicon West 2014 450mm meeting
6	5664ProceduralReview	22	International 450mm wafer TF meeting
7	5687ProceduralReview	23	AWG West 2014 Meeting minutes finalrev1
8	5607ProceduralReview	24	AWG Attachments West 2014
9	5654ProceduralReview	25	AASI_TF_SEMIWest_07_Jul__2014_Meeting minutes
10	4844CProceduralReview	26	ME1392RevisionSNARF
11	5404ProceduralReview	27	SOI TF Report_July 7, 2014
12	5663ProceduralReview	28	Min Epi TF 0714
13	5662ProceduralReview	29	SNARF M62 16nm 040114
14	5707ProceduralReview	30	SNARF MF534 Withdrawal
15	5604ProceduralReview	31	Min Test Methods Mtg 0714
16	5604 patent material motions	32	SNARF M1 L I rev to remove Class 1.15

#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 Kevin Nguyen at the contact information above