# semi

# North America Information & Control Committee
# Meeting Summary and Minutes

## SEMI® International Standards

**NA Standards Fall 2012 Meetings**
31 October 2012, 0800 – 1630 Pacific Time
SEMI Headquarters in San Jose, California

**Committee Announcements**
*Next Committee Meeting*
NA Standards Spring 2013 Meetings
Wednesday 3 April 2013, 0800 – 1630 Pacific Time
SEMI Headquarters in San Jose, California

**Table 1 Meeting Attendees**

*Italics* indicate virtual participants
**Co-Chairs:** David Bricker (Applied Materials), Jack Ghiselli (Ghiselli Consulting), Lance Rist (Industry Consultant)
**SEMI Staff:** Paul Trio

| Company | Last | First | Company | Last | First |
|---|---|---|---|---|---|
| AIS Automation | Mueller | Bert | PEER Group | McKenzie | Alison |
| Applied Materials | Bricker | David | SEMATECH | Chlus | Dan |
| *Applied Materials* | *Kaplan* | *Frank* | Tokyo Electron | Sakamoto | Mitch |
| Ghiselli Consulting | Ghiselli | Jack | | | |
| Industry Consultant | Rist | Lance | SEMI | Trio | Paul |
| ISMI | Crispieri | Gino | | | |

**Table 2 Leadership Changes**

| Group | Previous Leader | New Leader |
|---|---|---|
| None | | |

**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.

| Document # | Document Title | Committee Action |
|---|---|---|
| **\* \* \* Cycle 5, 2012 Voting Period \* \* \*** | | |
| 5455 | Reapproval of SEMI E37.1-0702 (Reapproved 0308), High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS) | **Passed** as balloted. Superclean |
| 5456 | Reapproval of SEMI E54.1-0708, Standard for Sensor/Actuator Network Common Device Model | **Passed** as balloted. Superclean |
| 5457 | Reapproval of SEMI E126-0708, Specification for Equipment Quality Information Parameters (EQIP) | **Passed** as balloted. Superclean |
| 5458 | Reapproval of SEMI E139.2-1108, SECS-II Protocol for Recipe and Parameter Management (RaP) | **Passed** as balloted. Superclean |

**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.

| Document # | Document Title | Committee Action |
|---|---|---|
| | **\* \* \* Cycle 6, 2012 Voting Period \* \* \*** | |
| 5177C | Line Item Revisions to SEMI E145-1111, Classification for Measurement Unit Symbols in XML | |
| Line Item 1 | Improve readability of combined unit symbols | **Passed** as balloted. |
| 5411 | New Standard: Specification for Equipment Energy Saving Mode (EESM) | **Failed**, to be reballoted |
| 5452 | Line Item Revisions to SEMI E134-0710, Specification for Data Collection Management and SEMI E134.1-0710, Specification for SOAP Binding of Data Collection Management (DCM) | |
| Line Item 1 | Editorial Changes | **Passed** as balloted. |
| Line Item 2 | Clarify conditionValue for Start Triggers and Stop Triggers | **Failed**, to be reballoted |
| Line Item 3 | Clarify InvalidExceptionRequest for an isDuplicate special case | **Failed**, to be reballoted |
| 5454 | Line Item Revision to SEMI E30-0611, Specification for Generic Equipment Model (GEM) Standard. Modifications to the definition of Alarms | |
| Line Item 1 | Modifications to the definition of Alarms | **Failed**, to be reballoted |
| 5480 | Line Item Revisions to SEMI E164-0712, Specification for EDA Common Metadata | |
| Line Item 1 | E164-0712 Conceptual Diagrams | **Passed** as balloted. Superclean |
| Line Item 2 | E164-0712 XML File Instructions | **Passed** as balloted. Superclean |
| Line Item 3 | E164-0712 Object Attributes | **Passed** as balloted. Superclean |
| Line Item 4 | E164-0712 SimpleEvent Names | **Passed** as balloted. Superclean |
| Line Item 5 | E164-0712 E94 PRJobStatus TypeDefinition | **Passed** as balloted. Superclean |
| Line Item 6 | E164-0712 Errata | **Passed** as balloted. Superclean |
| Line Item 7 | E164-0712 E94 PRJobCtrlSpec OutputRule | **Passed** as balloted. Superclean |
| Line Item 8 | E164-0712 MaterialStatus in Both SEMI E90 and SEMI E94 | **Passed** as balloted. Superclean |
| 5481 | Line Item Revision to SEMI E30-0611, Generic Model for Communications and Control of Manufacturing Equipment (GEM). Addition of New Messages | |
| Line Item 1 | Add new namelist request capabilities to section 4.2 Data Collection. Complete Section 7 SECS-II Message Subset. Complete Table 10 Section References for GEM Capabilities. Add these new capabilities to Table 11 GEM Compliance Statement under "ADDITIONAL CAPABILITIES". | **Passed** as balloted. |

**Table 4 Authorized Activities**

| # | Type | SC/TF/WG | Details |
|---|------|----------|---------|
| 5507 | SNARF | Diagnostic Data Acquisition (DDA) TF | Revisions to:<br>- SEMI E120, Specification for the Common Equipment Model (CEM),<br>- SEMI E120.1, XML Schema for the Common Equipment Model (CEM),<br>- SEMI E125, Specification for Equipment Self Description (EqSD),<br>- SEMI E125.1, Specification for SOAP Binding for Equipment Self Description (EQSD),<br>- SEMI E128, Specification for XML Message Structures,<br>- SEMI E132, Specification for Equipment Client Authentication and Authorization<br>- SEMI E132.1, Specification for SOAP Binding for Equipment Client Authentication and Authorization (ECA),<br>- SEMI E134.1, Specification for SOAP Binding of Data Collection Management (DCM),<br>- SEMI E138, XML Semiconductor Common Components<br>- SEMI E139.1, XML Schema for the RaP PDE |
| 5454 | Revised SNARF | GEM300 TF | Revisions to SEMI E30, Specification for Generic Equipment Model (GEM) Standard and SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II).<br>SNARF revisions include updates to the rationale, scope, and timeline information sections. |
| 5508 | SNARF | GEM300 TF | Revisions to:<br>- SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II)<br>- SEMI E90, Specification for Substrate Tracking<br>- SEMI E90.1, Specification for SECS-II Protocol Substrate Tracking |
| 5509 | SNARF | GEM300 TF | Revision to SEMI E94, Specification for Control Job Management |
| 5510 | SNARF | GEM300 TF | Revision to SEMI E157, Specification for Module Process Tracking |
| TBA | SNARF | GEM300 TF | Revision to SEMI E30, Generic Model for Communications and Control of Manufacturing Equipment (GEM). Reorganization of introductory sections per the SEMI Standards Style Manual<br>*SNARF to be approved via I&C Global Coordinating Subcommittee (GCS)* |
| 5511 | SNARF | NA I&C 5-Year Review | Reapproval of SEMI E54.20, Standard for Sensor/Actuator Network Communications for EtherCAT |
| 5512 | SNARF | NA I&C 5-Year Review | Reapproval of SEMI E87.1, Provisional Specification for SECS-II Protocol for Carrier Management (CMS) |

*TBA = to be assigned*
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 | SC/TF/WG | Details |
|---|------|----------|---------|
| 5452A | Cycle 2, 2013 | Diagnostic Data Acquisition (DDA) TF | Revisions to SEMI E134, Specification for Data Collection Management and SEMI E134.1, Specification for SOAP Binding of Data Collection Management (DCM) |
| 5507 | Cycle 2, 2013 | Diagnostic Data Acquisition (DDA) TF | Revisions to:<br>- SEMI E120, Specification for the Common Equipment Model (CEM),<br>- SEMI E120.1, XML Schema for the Common Equipment Model (CEM),<br>- SEMI E125, Specification for Equipment Self Description (EqSD),<br>- SEMI E125.1, Specification for SOAP Binding for Equipment Self Description (EQSD),<br>- SEMI E128, Specification for XML Message Structures,<br>- SEMI E132, Specification for Equipment Client Authentication and Authorization<br>- SEMI E132.1, Specification for SOAP Binding for Equipment Client Authentication and Authorization (ECA),<br>- SEMI E134.1, Specification for SOAP Binding of Data Collection Management (DCM),<br>- SEMI E138, XML Semiconductor Common Components<br>- SEMI E139.1, XML Schema for the RaP PDE |
| 5411A | Cycle 2, 2013 | Energy Saving Equipment Communication TF | New Standard: Specification for Equipment Energy Saving Mode (EESM) |
| 5453 | Cycle 2, 2013 (C4-13) | Energy Saving Equipment Communication TF | New Standard: Specification for SECS-II Protocol for Equipment Energy Saving Mode<br>*Note: This activity will result in a subordinate standard under the "Specification for Equipment Energy Saving Mode Capability" (SNARF #5411)* |
| 5454A | Cycle 2, 2013 | GEM300 TF | Revisions to SEMI E30, Specification for Generic Equipment Model (GEM) Standard and SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II) |
| 5508 | Cycle 2, 2013 | GEM300 TF | Revisions to:<br>- SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II)<br>- SEMI E90, Specification for Substrate Tracking<br>- SEMI E90.1, Specification for SECS-II Protocol Substrate Tracking |
| 5509 | Cycle 2, 2013 | GEM300 TF | Revision to SEMI E94, Specification for Control Job Management |
| 5510 | Cycle 2, 2013 | GEM300 TF | Revision to SEMI E157, Specification for Module Process Tracking |
| TBA | Cycle 1, 2013 (or C2-13) | GEM300 TF | Revision to SEMI E30, Generic Model for Communications and Control of Manufacturing Equipment (GEM). Reorganization of introductory sections per the SEMI Standards Style Manual<br>*Request for ballot authorizations to be approved via I&C Global Coordinating Subcommittee (GCS)* |
| 4507 | Cycle 2, 2013 | PCS TF | Revision to SEMI E133.1, Provisional Specification for XML Messaging for Process Control Systems (PCS). For fault detection enhancements |
| 5274A | Cycle 1, 2013 (or C2-13) | Sensor Bus TF | New SEMI E54 Subordinate Standard: Specification for Sensor/Actuator Network Specific Device Model for Generic Equipment add-on Sensor (ADDON) |
| 5511 | Cycle 1, 2013 (or C2-13) | NA I&C 5-Year Review, Sensor Bus TF | Reapproval of SEMI E54.20, Standard for Sensor/Actuator Network Communications for EtherCAT |

**Table 5 Authorized Ballots**

| # | When | SC/TF/WG | Details |
|---|---|---|---|
| 5512 | Cycle 1, 2013 (or C2-13) | NA I&C 5-Year Review, GEM300 TF | Reapproval of SEMI E87.1, Provisional Specification for SECS-II Protocol for Carrier Management (CMS) |

**Table 6 New Action Items**

| Item # | Assigned to | Details |
|---|---|---|
| 2012Oct #01 | Paul Trio | Contact Alison McKenzie to assist in requesting PEER Group for a copyright release letter for the use of SECS Message Language (SML) in SEMI E30. |
| 2012Oct #02 | Paul Trio | Draft SNARF and ballot proposal for E30 revision (reorganization of introductory sections) and send to GEM300 TF leaders for review. |
| 2012Oct #03 | Paul Trio | Submit E30 revision (reorganization of introductory sections) SNARF and ballot proposal to the I&C GCS for approval. |

**Table 7 Previous Meeting Actions Items**

| Item # | Assigned to | Details | Status |
|---|---|---|---|
| None | | | |

## 1 Welcome, Reminders, and Introductions

Jack Ghiselli, committee co-chair, called the meeting to order at 8:05 AM. After welcoming all attendees, a round of introductions followed. The SEMI meeting reminders on membership requirements, antitrust, patentable technology, and meeting guidelines were then presented and explained.

**Attachment:**    01, SEMI Standards Required Meeting Elements

## 2 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting held July 11 in conjunction with SEMICON West 2012.

**Motion:**    Accept the minutes of the previous meeting as written.
**By / 2nd:**    Gino Crispieri (ISMI) / Dan Chlus (SEMATECH/IBM)
**Discussion:**    None
**Vote:**    7-0 in favor. Motion passed.

**Attachment:**    02, NA I&CC SEMICON West 2012 meeting (July 11) minutes

## 3 Liaison Reports

3.1 *SEMI Staff Report*

Paul Trio (SEMI) gave the SEMI Staff Report. The key items were as follows:

- 2012 Global Calendar of Events
    - SEMICON Japan / PV Japan (December 5-7, Chiba)
- 2013 Global Calendar of Events (through July)
    - European 3D TSV Summit (January 22-23, Grenoble, France)
    - SEMICON/LED Korea (January 30 – February 1, Seoul)
    - ISS Europe 2013 [Industry Strategy Symposium] (February 24-26, Milan, Italy)

- o 7th PV Fab Manager Forum (March 10-12, Berlin, Germany)
- o SEMICON/FPD/SOLARCON China (March 19-21, Shanghai)
- o SEMICON Singapore (May 7-9, Marina Bay Sands)
- o SEMICON Russia (June 5-6, Moscow)
- o Intersolar Europe (June 19-21, Munich, Germany)
- o SEMICON West (July 9-11, San Francisco, California)
- NA Standards Fall 2012 Meetings
  - o Committees meeting at SEMI Headquarters (San Jose)
    - ▪ 3DS-IC | EHS | Facilities & Gases | HB-LED | Information & Control | Liquid Chemicals | MEMS/NEMS | Metrics | PV/PV Materials | Traceability
  - o SEMI thanks Intel (Santa Clara) for hosting the PIC and Silicon Wafer meetings
- NA Standard Spring 2013 Meetings
  - o April 1-4 at SEMI Headquarters in San Jose, California
  - o Inviting local companies willing and able to host some of the meetings to maintain one-week format
  - o Final schedule to be announced by the end of December 2012
- Technical Ballot Critical Dates for NA Spring 2013 Meetings
  - o Cycle 1: due January 3 / January 16 – February 15
  - o Cycle 2: due February 4 / February 18 – March 20
- Upcoming NA Meetings
  - o NA HB-LED Task Force Meetings @ Strategies in Light
    - ▪ February 12-14, 2013 in Santa Clara, California
  - o NA Microlithography Committee Meeting @ SPIE Advanced Lithography
    - ▪ February 24-28, 2013 in San Jose, California
  - o NA Standards Spring 2013 Meetings
    - ▪ April 1-4, 2013 in San Jose, California
- Standards Publications Report
  - o July 2012 Cycle
    - ▪ New Standards – 6, Revised Standards – 6, Reapproved Standards – 4, Withdrawn Standards – 2
  - o August 2012 Cycle
    - ▪ New Standards – 0, Revised Standards – 16, Reapproved Standards – 7, Withdrawn Standards – 0
  - o September 2012 Cycle
    - ▪ New Standards – 10, Revised Standards – 18, Reapproved Standards – 7, Withdrawn Standards – 0, Total in portfolio – 860 (includes 92 Inactive Standards)
- New Ballot Formatting Templates
  - o Updated 2010 versions to comply with Style Manual and Procedure Guide changes
  - o Templates by Document subtypes are available on the SEMI Standards web site, includes the mandatory sections for each type
- Style Manual
  - o Version 5 published in August 2011
  - o Major changes: Required sections information moved to the Procedure Guide; Notices updated
  - o The Style Manual contains terminology formatting information; the Procedure Guide contains information about writing/attributing definitions

- Compilation of Terms (COT)
    - o Updated and published after each publication cycle is completed
    - o Contains all Abbreviations, Acronyms, Definitions and Symbols listed in the terminology section of Standards and Safety Guidelines.
- Coming Soon: New Standards Ballot and Membership Systems. Key changes:
    - o User interface
    - o Log-in
        - ▪ One-time log-in per session to vote on ballots
        - ▪ Same log-in for SEMI Members
    - o Functionality
        - ▪ Retrieve and edit submitted votes for current cycle
        - ▪ Text field and attachment option for each ballot or line item
    - o Integration
        - ▪ Linked to new membership application / profile management
        - ▪ Access to other SEMI products & services

    Target deployment: Cycle 1, 2013

**Attachment:** 03, SEMI Standards Staff Report


3.2 *Japan Information & Control Committee*

Mitch Sakamoto presented the Japan I&C liaison report.  The key items were as follows:

- Approved SNARFs
    - o #5486 – New Standard: Specification for Predictive Carrier Logistics Information from Equipment to be used for Predictive Carrier Logistics Management
- Upcoming ballots to be reviewed at SEMICON Japan 2012
    - o #5423 – Revisions to E40.1 (SECS-II, Processing Management) and E5 (SECS-II) to add mapping to PPID for RecID
- Equipment Information System Security (EISS) Task Force
    - o Document #5422 (New Guide for Equipment Information System Security) under development
- Sensor Bus Task Force
    - o Document #5369 (E54.17 rev, A-Link) published as SEMI E54.17-0812
- GEM300 TF
    - o Working on #5367 (E87 line item revision, carrier management) for "Load Port Transfer Error Indication."
    - o Discussion: Issues from AMHS TF (problems when AMHS deliver a carrier and internal buffer equipment execute CarrierOut)
- New task force: Predictive Carrier Logistics (PCL) TF
    - o Charter:
        - ▪ Objective of the TF is to develop standards that support information exchange between equipment and factory system to be used for carrier logistics control based on predictive information.
    - o Scope:
        - ▪ This TF covers standards that support information exchange to be used for several types of equipment including process, metrics and transportation. What is currently proposed is;

- New Standard: Specification for Predictive Carrier Logistics Information from Equipment to be used for Predictive Carrier Logistics Management
  - o Kick-off meeting: November 15 (SEMI Japan office)
- Japan I&CC 2013 Meeting Schedule
  - o Spring in April
  - o Summer in June
  - o Fall in September
  - o Winter in December
- Next meeting: SEMICON Japan 2012 (December 7 at SEMI Japan Office, Tokyo)

**Attachment:**    04, Japan I&C Liaison Report

### 3.3 *Europe Equipment Automation Committee*

No report

### 3.4 *Korea Information & Control Committee*

Paul Trio presented the Korea I&C liaison report. The key items were as follows:

- Next meeting: November 8, 2012 at SEMI Korea (Seoul). Venue to be finalized
- Major Updates
  - o Approved activity list
    - SNARF 4946 (E87 revision) reapproved with scope update
    - SNARF 5386 (E94 revision) reapproved with scope update
  - o Authorized Ballots for Cycle 6, 2012
    - 4946 (E87 Revision, Specification for Carrier Management (CMS))
    - 5386 (E94 Revision, Specificatin for Control Job Mangement, Enhancement of Material Redirection Mode)
- GEM300 Task Force
  - o 4946 (E87 Revision)
    - Reviewed Japan GEM300 TF proposal but Korea GEM300 TF members decided to stick to original concept. The ballot approved for C6-12
  - o 5320 (E94 Revision)
    - Doc. 5320 (cycle 1) ballot failed committee review and was sent back to the TF for rework. Reballot as 5320A for C5-12 was postponed. New ballot schedule will be determined in the next committee meeting
  - o 5386 (E94 Revision)
    - Based on comments from other regions, the author revised SNARF scope to align with the draft contents. The ballot approved for C6-12 submission
- DDA Task Force
  - o No updates

**Attachment:**    05, Korea I&C Liaison Report

### 3.5 *Taiwan Information & Control Committee*

No report

## 4  Ballot Review

**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.

NOTE 1:Committee adjudication on Cycles 5 and 6 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 document is provided below the summary tables.

### 4.1  Cycle 5 Ballots

| Document # | Document Title | Committee Action |
|---|---|---|
| 5455 | Reapproval of SEMI E37.1-0702 (Reapproved 0308), High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS) | **Passed** as balloted. Superclean |
| 5456 | Reapproval of SEMI E54.1-0708, Standard for Sensor/Actuator Network Common Device Model | **Passed** as balloted. Superclean |
| 5457 | Reapproval of SEMI E126-0708, Specification for Equipment Quality Information Parameters (EQIP) | **Passed** as balloted. Superclean |
| 5458 | Reapproval of SEMI E139.2-1108, SECS-II Protocol for Recipe and Parameter Management (RaP) | **Passed** as balloted. Superclean |

### 4.2  Cycle 6 Ballots

| Document # | Document Title | Committee Action |
|---|---|---|
| 5177C | Line Item Revisions to SEMI E145-1111, Classification for Measurement Unit Symbols in XML | |
| Line Item 1 | Improve readability of combined unit symbols | **Passed** as balloted. |
| 5411 | New Standard: Specification for Equipment Energy Saving Mode (EESM) | **Failed**, to be reballoted |
| 5452 | Line Item Revisions to SEMI E134-0710, Specification for Data Collection Management and SEMI E134.1-0710, Specification for SOAP Binding of Data Collection Management (DCM) | |
| Line Item 1 | Editorial Changes | **Passed** as balloted. |
| Line Item 2 | Clarify conditionValue for Start Triggers and Stop Triggers | **Failed**, to be reballoted |
| Line Item 3 | Clarify InvalidExceptionRequest for an isDuplicate special case | **Failed**, to be reballoted |
| 5454 | Line Item Revision to SEMI E30-0611, Specification for Generic Equipment Model (GEM) Standard. Modifications to the definition of Alarms | |
| Line Item 1 | Modifications to the definition of Alarms | **Failed**, to be reballoted |
| 5480 | Line Item Revisions to SEMI E164-0712, Specification for EDA Common Metadata | |
| Line Item 1 | E164-0712 Conceptual Diagrams | **Passed** as balloted. Superclean |
| Line Item 2 | E164-0712 XML File Instructions | **Passed** as balloted. Superclean |
| Line Item 3 | E164-0712 Object Attributes | **Passed** as balloted. Superclean |
| Line Item 4 | E164-0712 SimpleEvent Names | **Passed** as balloted. Superclean |
| Line Item 5 | E164-0712 E94 PRJobStatus TypeDefinition | **Passed** as balloted. Superclean |
| Line Item 6 | E164-0712 Errata | **Passed** as balloted. Superclean |
| Line Item 7 | E164-0712 E94 PRJobCtrlSpec OutputRule | **Passed** as balloted. Superclean |

| Document # | Document Title | Committee Action |
|---|---|---|
| Line Item 8 | E164-0712 MaterialStatus in Both SEMI E90 and SEMI E94 | **Passed** as balloted. Superclean |
| 5481 | Line Item Revision to SEMI E30-0611, Generic Model for Communications and Control of Manufacturing Equipment (GEM). Addition of New Messages | |
| Line Item 1 | Add new namelist request capabilities to section 4.2 Data Collection.<br>Complete Section 7 SECS-II Message Subset.<br>Complete Table 10 Section References for GEM Capabilities.<br>Add these new capabilities to Table 11 GEM Compliance Statement under "ADDITIONAL CAPABILITIES". | **Passed** as balloted. |

Additional copyrighted material considerations related to SEMI Draft Document 5481:

Jack Ghiselli reported that SEMI E30 references "SML" (SECS Message Language), a copyrighted term believed to be currently owned by PEER Group. SEMI staff will contact and obtain a copyright release letter from PEER Group.

4.3 *Reorganization of SEMI E30 Introductory Sections*

The introductory sections of SEMI E30 are currently not arranged in the same order as most published SEMI Standards and Safety Guidelines (e.g., § 1, Purpose; § 2, Scope). The committee initially considered that rearranging these sections for consistency with other published SEMI Standards would not alter the technical content and could, therefore, be addressed as an editorial change. This reorganization, however, would affect the numbering of most section headings.

It was then brought to the committee's attention that E30 is referenced by other Standards, not only those from I&CC, but from other committees as well (e.g., PV). It was reported that some of these references actually call out a particular section number of E30.

If the committee were to approve the reorganization of these early sections in E30 as an editorial change, only very few people would be aware of this change. Therefore, in order to give proper notification as well as to provide a formal means of obtaining industry feedback, the committee decided to submit a ballot in early 2013 with intercommittee ballots issued to the appropriate committees. A SNARF for the proposed reorganization as well as authorization for Letter Ballot submission will be submitted to the I&C GCS for approval.

| *Current Order of E30 Introductory Sections* | *Common Order of Sections in Published SEMI Standards and Safety Guidelines* |
|---|---|
| **1 Introduction**<br>1.1 Revision History<br>1.2 Scope<br>1.3 Intent<br>*Figure 1,* GEM Scope<br>1.4 Overview<br>*Figure 2,* GEM Components<br>1.5 Referenced Standards and Documents<br>**2 Terminology**<br>**3 State Models**<br>3.1 State Model Methodology<br>... | **1 Purpose** [from 1.3 Intent]<br>**2 Scope** [from 1.2 Scope]<br>*Figure 1,* GEM Scope<br>2.1 Overview [from 1.4]<br>*Figure 2,* GEM Components<br>**3 Referenced Standards and Documents** [from 1.5]<br>**4 Terminology**<br>**5 State Models**<br>5.1 State Model Methodology<br>... |

**Attachment:**     06, Ballot Review for Doc. 5455

07, Ballot Review for Doc. 5456

08, Ballot Review for Doc. 5457

09, Ballot Review for Doc. 5458

10, Ballot Review for Doc. 5177C

11, Ballot Review for Doc. 5411

12, Ballot Review for Doc. 5452

13, Ballot Review for Doc. 5454

14, Ballot Review for Doc. 5480

15, Ballot Review for Doc. 5481

**Action Item:**     2012Oct #01, Paul Trio to contact Alison McKenzie to assist in requesting PEER Group for a copyright release letter for the use of SECS Message Language (SML) in SEMI E30.

**Action Item:**     2012Oct #02, Paul Trio to draft SNARF and ballot proposal for E30 revision (reorganization of introductory sections) and send to GEM300 TF leaders for review.

**Action Item:**     2012Oct #03, Paul Trio to submit E30 revision (reorganization of introductory sections) SNARF and ballot proposal (for Cycle 1 or Cycle 2, 2013) to the I&C GCS for approval.


## 5  Task Force Reports

5.1  *Diagnostic Data Acquisition (DDA) Task Force*

Brian Rubow (Cimetrix) reported for the DDA Task Force.  The key items were as follows:

- Attendance: 9 in person
- New SNARF:
    - 5507 - Revisions to:
      SEMI E120, Specification for the Common Equipment Model (CEM),
      SEMI E120.1, XML Schema for the Common Equipment Model (CEM),
      SEMI E125, Specification for Equipment Self Description (EqSD),
      SEMI E125.1, Specification for SOAP Binding for Equipment Self Description (EQSD),
      SEMI E128, Specification for XML Message Structures,
      SEMI E132, Specification for Equipment Client Authentication and Authorization
      SEMI E132.1, Specification for SOAP Binding for Equipment Client Authentication and Authorization (ECA),
      SEMI E134.1, Specification for SOAP Binding of Data Collection Management (DCM),
      SEMI E138, XML Semiconductor Common Components
      SEMI E139.1, XML Schema for the RaP PDE
        - Purpose: Members of the DDA Task Force have reported several issues in the EDA Standards that should be resolved.
          1. In E132, please set an expected response time for host-initiated SessionPing messages.
          2. In E132, define what is meant by closing a session when "communication errors" are detected.
          3. In E138, fix the error in Figure 4, correct the aggregation of Arr to PVType.

4. In E132, explicitly allow simultaneous E132 admin session & operator console access.
5. In E132, define the syntax for other standards to define privileges.
6. In E128, clarify equipmentId definition in the From/To header versus the name of the EquipmentElement in CEM
7. In E128, clarify what should the E132Header contain in the "SessionID" field during the EstablishSessionRequest/EnhancedEstablishSessionRequest.
8. In E120, clarify the definition of Module.
9. In E120, clarify how a multi-purpose module should be modeled.
10. In E120, reword the second sentence in section 8.5.4.2.2.
11. In E125.1, update the related information to use E164 compliant names.
12. In E125, modify section 10.6.3.2.1.1 text to clarify use of the top state name.
13. In E125, correct the type conflict between the .0 and .1 standards regards, SECS-ALID, SECS-SetCEID, SECS-ClearCEID, and SECS-VID.
14. In E125, remove the reference to the non-existent DefinedType class in 10.5.2.
15. In E125, clarify use the SEMIObject attributes in Tables 48 and 49.
16. In E125, prohibit two StateMachineInstances on the same node with the same StateMachineId.
17. In E125, Figure 15, it shows "0..*" for stateMachineInstance relationship which conflicts with the schema.
18. In E132.1,check references
19. In E134.1, check references
20. In E120.1, check references
21. In E139.1, check references

The ballot may include other Editorial Changes in these standards which are reported during the ballot creation.

- <u>Scope</u>: The changes in E139.1, E132, E132.1, E138, E128, E120, E125, E125.1, E134.1, and E120.1 will not affect the respective schema files.

| | |
|---|---|
| **Motion:** | Approve SNARF: *Revisions to SEMI E120, E120.1, E125, E125.1, E128, E132, E132.1, E134.1, E138, E139.1* |
| **By / 2<sup>nd</sup>:** | Brian Rubow (Cimetrix) / Gino Crispieri (ISMI) |
| **Discussion:** | None |
| **Vote:** | 8-0 in favor. Motion passed. |

- New issues
  - o A few issues related to EDA standards were reported and added to the EDA issue spreadsheet. Most of these will be address in the SNARF.
- Next meetings
  - o Task force meetings in January are likely to discuss ballots
  - o Next face-to-face meeting at the SEMI Standards Spring meetings.
- Ballot Plans:
  - o 5452 (E134.x revs) for Cycle 2, 2013
  - o 5507 (E120, E120.1, E125, E125.1, E128, E132, E132.1, E134.1, E138, E139.1 revs) for Cycle 2, 2013
- DDA TF Google Site
  - o https://sites.google.com/a/semi.org/ddatf/

o Available materials: minutes, ballot drafts, issues tracking spreadsheets, and other working materials

**Attachment:** 16, Diagnostic Data Acquisition Task Force Report


5.2 *Energy Saving Equipment Communication Task Force*

Dan Chlus (SEMATECH) reported for the Energy Saving Equipment Communication Task Force. The key items were as follows:

- Attendance: 13
- Ballot Plans
    - o 5411A for Cycle 2, 2013
    - o 5453 (*New Standard: Specification for SECS-II Protocol for Equipment Energy Saving Mode*) for Cycle 2 or Cycle 4, 2013
        - ▪ Additional Discussion: Document 5453 will result in a subordinate standard under Document 5411A. If permitted by the Regulations/Procedure Guide to submit a revision ballot (i.e., addition of a new subordinate standard: 5453) to another document 5411A (primary standard) still under development, the TF will submit for the Cycle 2 voting period. If not permitted, the TF will submit for the Cycle 4, 2013 voting period.

**Attachment:** 17, Energy Saving Equipment Communication Task Force Report


5.3 *GEM300 Task Force*

David Bricker (Applied Materials) reported for the GEM300 Task Force. The key items were as follows:

- Attendance: 9
- New SNARFs:
    - o 5508 – Revisions to:
    SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II)
    SEMI E90, Specification for Substrate Tracking
    SEMI E90.1, Specification for SECS-II Protocol Substrate Tracking
        - ▪ Rationale: The High Brightness LED (HBLED) Equipment Automation Task Force is defining how to adopt the GEM 300 standards in the HBLED industry. This work has led to the discovery of some changes needed in SEMI E90 and SEMI E5 in order to maximize the use of these existing standards. Because most HBLED production is done using process trays which allow processing material in batches, HBLED needs IDs for the batches. E90 already defines a batch location object, but does not include a batch object or batch identifiers.

        In E5, MaterialFormat needs a new process tray enumeration for use within SEMI E40 Process Job definitions.
        - ▪ Scope: Provide generalized support for multiple substrate groups such as those used in HB-LED's material management approach.


**Motion:** Approve SNARF for *Revisions to:*
*SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II),*
*SEMI E90, Specification for Substrate Tracking, and*
*SEMI E90.1, Specification for SECS-II Protocol Substrate Tracking*

**By / 2nd:** Lance Rist (Industry Consultant) / Brian Rubow (Cimetrix)

**Discussion:** None

**Vote:** 7-0 in favor. Motion passed.

- o 5509 – Revision to SEMI E94, Specification for Control Job Management

    Rationale: Table 2 of E94 shows that the "Form" of OutputRule is "Equipment dependent". The description reads as follows: "Defines the MaterialStatus (such as Good, Reject, Aborted, Monitor, etc.) based on the results of the process job." E94 section 8.4.6.1 reads, in part: "...the rule will usually take the form of a list of name value pairs. The names will be material status and the values will be measurement thresholds that correspond to the status category (such as, Good, Reject, Rework, etc.)." E94.1, Table 6, the row for ProcessingCtrlSpec shows that OutputRule has the following form:

    L,n

    1. L,2

        1. 51 (U1) MaterialStatus1

        2. (Any format) OutputRuleValue1

    ...

    n. L,2

        1. 51 (U1) MaterialStatusn

        2. (Any format) OutputRuleValuen

    E94 Table 2 is not clear and needs to be adjusted to match E94 section 8.4.6.1 and E94.1 Table 6. This change will also align E94 with E164. Ballot 5480 modified E164 to indicate that an OutputRule entry has both a material status and a value.

    - Scope: Modify the entry for OutputRule in Table 2 and section 8.4.6.1 of E94 such that it is in alignment with E94.1 Table 6. The ballot may also modify other sections that pertain to OutputRule.

| | |
|---|---|
| **Motion:** | Approve SNARF for *Revision to SEMI E94, Specification for Control Job Management* |
| **By / 2nd:** | Lance Rist (Industry Consultant) / Brian Rubow (Cimetrix) |
| **Discussion:** | None |
| **Vote:** | 8-0 in favor. Motion passed. |

- o 5510 – Revision to SEMI E157, Specification for Module Process Tracking

    - Rationale: Implementation of the Module Process Tracking Standard (SEMI E157) helps device makers and users of equipment data collect information from specific process program (Module Recipe Execution) steps. When adopted, this standard will reduce the current amount of data being collected from wafer process equipment by providing more granular data during critical processing steps. Two assessments of SEMI E157 implementations were conducted by ISMI between 2011 and 2012 to identify any issues or practices that would accelerate the adoption and successful application of the standard in the factory. Few minor issues were identified during the assessments and these will be addressed by modifying specific sections in SEMI E157 to explain how to map recipe and process program naming conventions in reference to the process module, pre- and post-processing requirements, and recipe parameter usage during event reporting. The proposed ballot plans to address these gaps and issues with modifications to the standard.

    - Scope: The ballot plans to make corrections and include more detail explanation to improve future implementations of SEMI E157. Areas that the ballot plans to address are: Mapping of recipe and process program names for the Process module state model, use of recipe parameter for reporting, pre and post processing correction, and any other sections that may be related to the listed topics.

| | |
|---|---|
| **Motion:** | Approve SNARF for *Revision to SEMI E157, Specification for Module Process Tracking* |
| **By / 2nd:** | Gino Crispieri (ISMI) / Brian Rubow (Cimetrix) |

**Discussion:** None

**Vote:** 7-0 in favor. Motion passed.

- Revised SNARFs:
    - o 5454 – Revisions to SEMI E30, Specification for Generic Equipment Model (GEM) Standard and SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II)
        - ▪ SNARF revisions include updates to the rationale, scope, and timeline information sections.
        - ▪ Rationale: Device makers need to improve response to equipment alarms and may require a mechanism to develop automated alarm reset response to categories defined in SEMI E5. Current GEM specification states that alarms codes (ALCD) are not used. Device makers believe that use of alarm categories can enhance alarm response and potentially improve factory productivity. Better definition of alarm categories, clarification of alarm definition, review of the alarm management section and reset mechanism is needed to achieve better automation response to alarms.
        - ▪ Scope: The ballot will modify the alarm management section in SEMI E30 to correct definitions, delete text that inhibits the use of alarm categories and improve overall functionality of alarm management in the needed sections. In SEMI E5, new definitions will be proposed to clarify alarm categories use and meaning. Text in both documents will be reviewed for consistency and relevance. Potential changes in functionality in SEMI E30 alarm management section to improve its use and application for factory automation. Enhancements to the appropriate sections may be added to provide means for alarm recovery.

**Motion:** Approve revised SNARF for *Revisions to SEMI E30, Specification for Generic Equipment Model (GEM) Standard and SEMI E5, SEMI Equipment Communications Standard 2 Message Content (SECS-II)*

**By / 2nd:** Gino Crispieri (ISMI) / Brian Rubow (Cimetrix)

**Discussion:** None

**Vote:** 6-0 in favor. Motion passed.

- Reorganization of SEMI E30 Introductory Sections (see section 4.3 of these minutes)
- Ballot Plans:
    - o 5508, 5509, and 5510 will be submitted for C2-13
    - o "E30 reorg" ballot will be submitted for C1 or C2 -13

**Attachment:** 18, GEM300 Task Force Report

### 5.4 *Process Control System (PCS) Task Force*

Report provided to SEMI staff. The key items were as follows:

- Attendance: 2
- Ballot Plans:
    - o 4507A (E133.1 line item revision, alignment of XML with XML style guide) for Cycle 2, 2013 voting period

**Attachment:** 19, Process Control System Task Force Report

5.5 *Sensor Bus Task Force*

Report sent to SEMI staff via email. The key items were as follows:

- Meeting Attendance: 2
- 5-Year Review:

| # | Doc Title | TF Recommendation |
|---|-----------|-------------------|
| SEMI E54.9 | Specification for Sensor/Actuator Network Communication for Modbus/TCP Over TCP/IP | Status as of Fall 2012: Open<br><br>Will submit line item revisions.<br>An update to the standard is needed to capture newer SDM mappings. |
| SEMI E54.15 | Sensor/Actuator Network Communication Specification for SafetyBUS p Model | Status as of Fall 2012: Open<br><br>TF contacted organization supporting SafetyBUS p, but no response received thus far. |
| SEMI E54.20 | Standard for Sensor/Actuator Network Communications for EtherCAT | Reapprove |

- Ballot Plans:
  - 5274A (*Revision to Add a New Subordinate Standard Specification for Sensor/Actuator Network Specific Device Model of a Generic Equipment Add-On Sensor (ADDON) to SEMI E54-0710, Sensor/Actuator Network Standard*) for Cycle 1 or 2, 2013.

5.6 *Sort Map Task Force*

No updates.

## 6 Leadership Changes

None

## 7 Old Business

7.1 Completed action items from previous meeting:

| Item # | Assigned to | Details | Status |
|--------|-------------|---------|--------|
| 2012Jul #01 | Paul Trio | Submit new SNARF for E164 revision as well as request for Cycle 6 ballot distribution to the GCS for approval. | **Done. Closed.** |
| 2012Jul #02 | James Moyne | Send Paul Trio the URL for the AEC/APC STEP. | **Closed.** |
| 2012Jul #03 | David Bricker, Eberhard Teichmann | Develop a SNARF for E30 revision to add new messages S1,F21 Data Variable Namelist Request (DVNR) and S1, F23 Collection Event Namelist Request (CENR). | **Done. Closed.** |
| | | | |
| 2012Apr #01 | Paul Trio | Post available SEMI Standards committee / task force Google Sites on the SEMI website. | **Completed. Closed.**<br>SEMI has completed its development of committee-specific |

| | | | webpages which contain links to available Google Sites |
|---|---|---|---|

## 8 New Business

### 8.1 *I&C Standards due for 5-Year Review*

Based on recommendations from the respective NA I&C task forces, reapproval ballots will be submitted for the following documents:

- 5511 – Reapproval of SEMI E54.20, Standard for Sensor/Actuator Network Communications for EtherCAT
- 5512 – Reapproval of SEMI E87.1, Provisional Specification for SECS-II Protocol for Carrier Management (CMS)

Ballot plans: 5511 and 5512 for Cycle 1 or Cycle 2, 2013.

The North America Information & Control Committee allowed the following SEMI Standard to go into Inactive status:

- SEMI E30.5, Specification for Metrology Specific Equipment Model (MSEM)

### 8.2 *New Ballot Submission Summary*

Paul Trio reviewed the TFOFs, SNARFs, and letter ballot submission information presented to the committee for approval. These can be found in the Authorized Ballots and Authorized Activities tables (Table 4 and Table 5, respectively) at the beginning of these minutes.

**Motion:** Approve all SNARFs, TFOFs, and letter ballots (as presented in tables 4 and 5 above)
**By / 2<sup>nd</sup>:** Jack Ghiselli (Ghiselli Consulting) / Gino Crispieri (ISMI)
**Discussion:** None
**Vote:** 8-0 in favor. Motion passed.

## 9 Action Item Review

### 9.1 *Open Action Items*

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

### 9.2 *New Action Items*

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

## 10 Next Meeting and Adjournment

The next meeting of the North America Information & Control committee is scheduled for Wednesday, April 3 in conjunction with the NA Standards Spring 2013 meetings. The tentative schedule is provided below:

April 1-4, 2013
SEMI Headquarters
3081 Zanker Road
San Jose, California  95134

Monday, April 1
- I&C Leadership (11:00 AM – 12:00 Noon)
- PCS (1:00 PM – 3:00 PM)
- GEM300 (1:00 PM – 5:00 PM)
- I&C GCS (5:00 PM to 6:00 PM)

Tuesday, April 2
- DDA (8:00 AM – 12:00 Noon)
- Sensor Bus (1:00 PM – 3:00 PM)
- Discussion on Japan EISS TF Activity (1:00 PM – 3:00 PM)
- Energy Saving Equipment Communication (3:00 PM – 6:00 PM)
- Sort Map (3:00 PM to 5:00 PM)

Wednesday, April 3
- I&C Committee (8:00 AM – 4:30 PM)

Having no further business, a motion was made to adjourn the NA I&C Committee meeting on October 31 in conjunction with the NA Standards Fall 2012 meetings in San Jose, California. Adjournment was at 12:10 PM.

**Respectfully submitted by:**
Paul Trio
Senior Manager, Standards Operations
SEMI North America
Phone: +1.408.943.7041
Email: ptrio@semi.org

**Minutes approved by:**

| | |
|---|---|
| David Bricker (Applied Materials), Co-chair | January 7, 2013 |
| Jack Ghiselli (Ghiselli Consulting), Co-chair | January 2, 2013 |
| Lance Rist (Industry Consultant), Co-chair | January 3, 2013 |

**Table 8 Index of Available Attachments [1]**

| # | Title | # | Title |
|---|-------|---|-------|
| 1 | SEMI Standards Required Meeting Elements | 11 | Ballot Review for Doc. 5411 |
| 2 | NA I&CC West 2012 (July 11) minutes | 12 | Ballot Review for Doc. 5452 |
| 3 | SEMI Standards Staff Report | 13 | Ballot Review for Doc. 5454 |
| 4 | Japan I&C Liaison Report | 14 | Ballot Review for Doc. 5480 |
| 5 | Korea I&C Liaison Report | 15 | Ballot Review for Doc. 5481 |
| 6 | Ballot Review for Doc. 5455 | 16 | Diagnostic Data Acquisition Task Force Report |
| 7 | Ballot Review for Doc. 5456 | 17 | Energy Saving Equipment Task Force Report |
| 8 | Ballot Review for Doc. 5457 | 18 | GEM300 Task Force Report |
| 9 | Ballot Review for Doc. 5458 | 19 | Process Control Systems Task Force Report |
| 10 | Ballot Review for Doc. 5177C | | |

[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 Paul Trio at the contact information above.