North America Information & Control Committee
Meeting Summary and Minutes

North America Standards Spring 2015 Meetings
01 April 2015, 0800 – 1630 Pacific Time
SEMI Headquarters in San Jose, California

Committee Announcements
Next Committee Meeting
NA Standards Meetings at SEMICON West 2015
Wednesday, July 15, 2015; 0800 – 1630 Pacific Time
San Francisco Marriott Marquis Hotel in San Francisco, California

Table 1 Meeting Attendees
*Italics* indicate virtual participants

**Co-Chairs:** Jack Ghiselli (Ghiselli Consulting), Lance Rist (RistTex), Brian Rubow (Cimetrix)

**SEMI Staff:** Paul Trio

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Materials</td>
<td>Flores</td>
<td>Robert</td>
<td>Ghiselli Consulting</td>
<td>Ghiselli</td>
<td>Jack</td>
</tr>
<tr>
<td>Applied Materials</td>
<td>Park</td>
<td>Song</td>
<td>Hitachi Kokusai</td>
<td>Matsuda</td>
<td>Mitsuhiro</td>
</tr>
<tr>
<td>Cimetrix</td>
<td>Rubow</td>
<td>Brian</td>
<td>PEER Group</td>
<td>Webster</td>
<td>James</td>
</tr>
<tr>
<td>Consultant</td>
<td>Crispieri</td>
<td>Gino</td>
<td>University of Michigan</td>
<td>Moyne</td>
<td>James</td>
</tr>
<tr>
<td>Doople</td>
<td>Kim</td>
<td>Hyungsu</td>
<td>Windtree Technologies</td>
<td>Kim</td>
<td>Won Tae</td>
</tr>
<tr>
<td>Edwards</td>
<td>Czerniak</td>
<td>Michael</td>
<td>SEMI</td>
<td>Trio</td>
<td>Paul</td>
</tr>
</tbody>
</table>

Table 2 Leadership Changes

<table>
<thead>
<tr>
<th>Group</th>
<th>Previous Leader</th>
<th>New Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


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.

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5274D</strong></td>
<td>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 E54-0413, Sensor/Actuator Network Standard</td>
<td>Failed, to be reballoted</td>
</tr>
<tr>
<td><strong>5618A</strong></td>
<td>New Standard: Specification for Preservation of Recipe Integrity (PRI)</td>
<td>Failed, to be reballoted</td>
</tr>
<tr>
<td><strong>5677</strong></td>
<td>Line Item Revisions to SEMI E164-0414, Specification for EDA Common Metadata</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td><strong>5762</strong></td>
<td>Line Item Revisions to SEMI E132.1, Specification for Soap Binding for Equipment Client Authentication and Authorization (ECA)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td><strong>5821</strong></td>
<td>New Standard: Specification for Subsystem Energy Savings Mode Communication (SESMC)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td><strong>5824</strong></td>
<td>Line Item Revisions to SEMI E172-0115, Specification for SECS Equipment Data Dictionary (SEDD)</td>
<td>Passed as balloted</td>
</tr>
</tbody>
</table>

Table 4 Authorized Activities

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5844</td>
<td>SNARF</td>
<td>Sensor Bus TF</td>
<td>Line Item Revision to SEMI E54 Primary Standard and Subordinate Standards to correct nonconforming titles</td>
</tr>
<tr>
<td>5872</td>
<td>SNARF</td>
<td>GEM300 TF</td>
<td>Line Item Revisions to SEMI E172, Specification for SECS Equipment Data Dictionary (SEDD)</td>
</tr>
</tbody>
</table>

Table 5 Authorized Ballots

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5844</td>
<td>Cycle 5, 2015</td>
<td>Sensor Bus TF</td>
<td>Line Item Revision to SEMI E54 Primary Standard and Subordinate Standards to correct nonconforming titles</td>
</tr>
<tr>
<td>5618B</td>
<td>Cycle 5, 2015</td>
<td>GEM300 TF</td>
<td>New Standard: Specification for Preservation of Recipe Integrity (PRI)</td>
</tr>
</tbody>
</table>

Note: SNARFs and TFOFs are available for review on the SEMI Web site at: http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF
Table 6 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015Apr #01</td>
<td>Paul Trio</td>
<td>Request SEMI Standards Publications to move processing of the Document 5620A proof (New Standard: Specification for SECS-H Message Notation (SMN)) higher on the priority list.</td>
</tr>
<tr>
<td>2015Apr #02</td>
<td>Paul Trio</td>
<td>Confirm with James Moyne the schedule for the Sensor Bus TF meeting at SEMICON West 2015. Determine whether it needs to be scheduled such that participants from Europe are able to attend.</td>
</tr>
</tbody>
</table>

Table 7 Previous Meeting Actions Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013Jul #05</td>
<td>Paul Trio</td>
<td>Consult with the ISC Regulations Subcommittee on what should be done to SEMI E30 in light of the existing SML copyright issue.</td>
<td>Open</td>
</tr>
<tr>
<td>2012Oct #02</td>
<td>Paul Trio</td>
<td>Draft SNARF and ballot proposal for E30 revision (reorganization of introductory sections) and send to GEM300 TF leaders for review.</td>
<td>Open</td>
</tr>
</tbody>
</table>

1 Welcome, Reminders, and Introductions

Jack Ghiselli, committee co-chair, called the meeting to order at 8:15 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 November 5 in conjunction with the NA Standards Fall 2014 meetings.

Motion: Accept the minutes of the previous meeting as written.
By / 2nd: Gino Crispieri (Consultant) / Brian Rubow (Cimetrix)
Discussion: None
Vote: 6-0 in favor. Motion passed.

Attachment: 02, NA I&CC Fall 2014 meeting (November 5) minutes
3 Liaison Reports

3.1 SEMI Staff Report

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

- 2015 Global Calendar of Events
  - SEMICON Southeast Asia (April 22-24, Penang, Malaysia)
  - Advanced Semiconductor Manufacturing Conference [ASMC] (May 3-6, Saratoga Springs, New York)
  - Intersolar Europe (June 10-12, Munich Germany)
  - SEMICON Russia (June 17-18, Moscow)
  - SEMICON West (July 14-16, San Francisco, California)
  - SEMICON Taiwan (September 2-4, Taipei)
  - European MEMS Summit (September 17-18, Milan, Italy)
  - Strategic Materials Conference [SMC] (September 22-23, Mountain View, California)
  - SEMICON Europa (October 6-8, Dresden, Germany)
  - SEMICON Japan (December 16-18, Tokyo)

- NA Standards Spring 2015 Meetings (March 29 to April 2)
  - Committees meeting at SEMI Headquarters (San Jose)
    - 3DS-IC | EHS | Facilities & Gases | HB-LED | Information & Control | Liquid Chemicals | MEMS/NEMS | Metrics | PV Materials
  - SEMI thanks Intel (Santa Clara) for hosting the Physical Interfaces & Carriers (PIC) committee and task force meetings.
  - SEMI thanks KLA-Tencor (Milpitas) for hosting the Silicon Wafer committee and task force meetings.

- Upcoming North America Meetings (2015)
  - 2015:
    - NA Compound Semiconductor Materials TC Chapter Meeting (May 20 in conjunction with CS MANTECH, Scottsdale, Arizona)
    - NA Standards Meetings at SEMICON West 2015 (July 13-16, San Francisco, California)
    - NA Standards Fall 2015 Meetings (November 2-5, San Jose, California)
  - 2016:
    - NA Standards Spring 2016 Meetings (April 4-7, San Jose, California)

- Technical Ballot Critical Dates for NA Standards meetings at SEMICON West 2015
  - Cycle 4: due April 10 / Voting Period: April 21 – May 21
  - Cycle 5: due May 8 / Voting Period: May 22 – June 22
• Standards Publications Report

<table>
<thead>
<tr>
<th>Cycle</th>
<th>New</th>
<th>Revised</th>
<th>Reapproved</th>
<th>Withdrawn</th>
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</thead>
<tbody>
<tr>
<td>November 2014</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>December 2014</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>January 2015</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>February 2015</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

- Total in portfolio – 928 (includes 110 Inactive Standards)

• New Requirements/Process Reminders for TC Chapter Meetings
  - Standards Document Development Project Period
    - Project period shall not exceed 3 years (Regs 8.3.2)
      - SNARF approval to TC Chapter approval
    - If document development activity is found to be continuing, but cannot completed with the project period, TC Chapter may grant one-year extension at a time, as many times as necessary.
  - SNARF Review Period
    - A submitted SNARF for a new, or for a major revision to an existing, Standard or Safety Guideline is made available to all members of a TC Chapter’s parent global technical committee for two weeks for their review and comment. (Regs 8.2.1)
      - If the SNARF is submitted at a TC Chapter meeting, the committee can review and approve, but the SNARF will need to be distributed for two weeks and then approved via GCS.
  - New SNARF & TFOF forms [embedded in Staff Report, see Attachment 03 of these minutes]
  - Procedures for Correcting Nonconforming Titles of Published Standards Document (PM Appendix 4)
    - Some Standards qualify for a special procedure where a line item change can be used to correct the titles. Otherwise, the corrective action will likely require a major revision.
  - Table of Content (TOC)
    - No section of a Standard or Safety Guideline may contain a list of section numbers and titles (e.g., similar to a Table of Contents).
    - Table of content can be approved editorially during Reapproval
  - Assignment of Draft Document Numbers
    - Upon successful publication of a Document, or termination of work on it by the TF, Standards staff retires the Document number and its associated SNARF, and they are not to be used for further Document development activity.
    - For a Document with Line Item(s) that passed while others failed, the same SNARF may be used to reballot only those failed Line Item(s).
    - A new SNARF is required to introduce new Line Item(s).
  - SNARF
    - SNARFs may be submitted and approved for new, revised, reapproved, or reinstated Documents that have been approved by the TC Chapter, but not yet published (i.e., no new Publication Date Code exists yet). (PM NOTE 8)
  - Minority Report (MR)
    - The motion passes if a simple majority of the total GCS voting membership (i.e., not just those who return votes) approve the motion (Regs 9.9)
• Latest Approvals/Next Revisions
  o Follow-up revisions of Regulations and Procedure Manual were published on 27 March, 2015 for use in NA Spring Standard meetings.

• Regulations/PM Ballot Revisions

<table>
<thead>
<tr>
<th>Group #</th>
<th>Title</th>
<th>Regs</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clarification on Standards Document Development Project Period</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2</td>
<td>GCS Voting Period for Minority Reports</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>3</td>
<td>Improvement on Minority Report Handling for Shorter Time to Publication</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>4</td>
<td>TC Membership Requirement</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>Ballot Adjudication Process Improvement</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>6</td>
<td>Revision to Procedural Review</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>7</td>
<td>Clarification of TC Chapter Review and Adjudication Term</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>8</td>
<td>Clarification of Procedure Guide to Procedure Manual</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>9</td>
<td>Miscellaneous Changes of Regulations</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>10</td>
<td>Add New Requirements Related to Notices</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>11</td>
<td>Add New Guidance Related to Note</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>12</td>
<td>Clarification on SNARF and TFOF submitter</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>13</td>
<td>Clarification on SNARF approval procedures for New Standards/Safety Guidelines and major revision of existing Standards/Safety Guidelines</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>14</td>
<td>Update Appendix 4 Related to Correction of Nonconforming Titles</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>15</td>
<td>Clarifications of Procedures Related to Table of Contents</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>16</td>
<td>Clarifications on Use of Shall, Must, and Should</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>17</td>
<td>Miscellaneous Changes to Procedure Manual</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Indicates follow-up from Oct-Nov 2014 Regs ballot

• Ballot Adjudication Process Improvement (Group 5)
  o Problem
    ▪ Publications of Documents can be delayed by the need to go through another cycle of Letter Ballot issuance and adjudication at a TC Chapter meeting to make any technical change.
  o Proposed Solution
    ▪ Allow TC Chapter to make technical changes on balloted Standard Document during its adjudication under certain conditions. Conduct a Ratification Ballot in order to ensure global consensus on supporting the technical changes made by the TC Chapter.
  o NOTE: This Group was originally proposed as Group 10 in the previous Regulations Ballot to ISC and failed.
    ▪ Taking suggestion of ISC at its SEMICON Japan 2014 meeting in December, the scope of the Ratification Ballot is now limited to technical changes made by TC Chapter during adjudication of a Letter Ballot.
- GCS Voting Period for Minority Report (Group 2)
  - Problem
    - Voting period for Minority Report is too short to solicit sufficient votes from GCS voting members.
  - Proposed Solution
    - To let GCS member have 2 weeks voting period, which is same length as the Minority Report submission window.
  - NOTE: This problem was raised by the NARSC at its Fall 2014 meeting at which the ISC Ballot on Regulations change was discussed. Following-up on this problem by additional changes in the Regulations was suggested by the Regulations SC Chair at the time.

- Improvement on Minority Report Handling for Shorter Time to Publication (Group 3)
  - Problem
    - Despite the rare occurrence of MR submission, every Document approved by the TC Chapter has to wait at least a month before it qualifies for A&R procedural review, which in turn results in a longer time to publish.
  - Proposed Solution
    - Expedite the process by allowing A&R procedural review to be commenced as soon as record of ballot review made available.
    - If an MR is submitted on a Document, Publication will be on hold until responsible parties reach conclusion on the MR. If the Document is returned to the TF for rework based on consideration of the MR, A&R approval is nullified.
  - NOTE: This problem was raised by JARSC at its SEMICON Japan 2014 meeting. ISC members expressed their support on improvement toward faster publication.

Attachment: 03, SEMI Standards Staff Report
3.2 Japan Information & Control Committee

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

- Leadership and Structure Change
  - PCL TF was merged into GEM300 TF
    - PCL TF’s activity and members are transferred to GEM 300 TF
  - GEM300 TF
    - TFOF is modified to cover PCL TF activity
    - Yuko Toyoshima (Hitachi High-Technologies) is newly appointed as the co-leader
      - Yoshihisa Takasaki (SCREEN Semiconductor Solutions) remained.
  - PCL TF
    - The co-leaders, Terry Asakawa (Tokyo Electron) and Yuko Toyoshima (Hitachi High-Technologies), stepped down.

- Document Review Summary
  - Cycle 7 (Japan Standards Winter 2014 Meetings)

<table>
<thead>
<tr>
<th>Document #</th>
<th>Description</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5730</td>
<td>Line Item Revision to SEMI E170-0714, Specification for Production Recipe Cache (PRC)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 1</td>
<td>Improve Convention</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 2</td>
<td>Delete section 9 (Section 8 in E170-0714), and add a section for ‘Conceptual Description’</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 3</td>
<td>Add explicit expressions to the protection requirements of ‘Recipe Queue Space’ and ‘Recipe Execution Space’</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 4</td>
<td>Add Cache Management Rules</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 5</td>
<td>Add automatic Clear PRC function by equipment upon host communication establishment</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 6</td>
<td>Adjust access (R/W) definitions of attributes and variables</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 7</td>
<td>Improvement of wordings and explanations</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5731</td>
<td>Revision to add a New Subordinate Standard: Specification for SECS-II Protocol for Production Recipe Cache to SEMI E170-0714, Specification for Production Recipe Cache (PRC)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5735</td>
<td>Line Item Revision to SEMI E171-0914, Specification for Predictive Carrier Logistics (PCL)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 1</td>
<td>Elimination of PEC while preserving Carrier Flow management capability</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 2</td>
<td>Improvement of convention on optional expressions and state report clarifications</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 3</td>
<td>Add explanations to Appendix</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 4</td>
<td>Rename prediction related mnemonics and add explanations as needed</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 5</td>
<td>Improve / correct wordings and add explanations as needed</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 6</td>
<td>Add internal buffer scenarios</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5778</td>
<td>Revision to add a New Subordinate Standard for Specification for SECS-II Protocol for SEMI E171-0914, Specification for Predictive Carrier Logistics</td>
<td>Passed with editorial changes</td>
</tr>
<tr>
<td>5779</td>
<td>Line Item Revision to SEMI E169-0414, Guide for Equipment Information System Security</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>LI 1</td>
<td>Correct expressions in the sections 7.3.5.7.1 and 9.2.4.2.1.</td>
<td>Passed as balloted</td>
</tr>
</tbody>
</table>
• Approved SNARFs (Japan Standards Winter 2014 Meetings)

<table>
<thead>
<tr>
<th>Document #</th>
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</tr>
</thead>
<tbody>
<tr>
<td>5828</td>
<td>Line Item Revision to SEMI E170-mmyy, Specification for Production Recipe Cache (PRC) (Doc. 5730) and SEMI E170.1-mmyy, Specification for SECS –II Protocol for Production Recipe Cache (Doc.5731)</td>
<td>GEM300 TF</td>
</tr>
<tr>
<td>5829</td>
<td>Line Item Revision to SEMI E171-mmyy, Specification for Predictive Carrier Logistics (PCL) (Doc. 5735) and SEMI E171.1-mmyy, Specification for SECS-II Protocol for Predictive Carrier Logistics (Doc. 5778)</td>
<td>GEM300 TF</td>
</tr>
</tbody>
</table>

• Ongoing ballots to be reviewed at the Japan Standards Spring 2015 (Cycle 3, 2015)

<table>
<thead>
<tr>
<th>Document #</th>
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<th>SC / TF / WG</th>
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<tbody>
<tr>
<td>5828</td>
<td>Line Item Revision to SEMI E170-mmyy, Specification for Production Recipe Cache (PRC) (Doc. 5730) and SEMI E170.1-mmyy, Specification for SECS –II Protocol for Production Recipe Cache (Doc.5731)</td>
<td>EISS TF</td>
</tr>
</tbody>
</table>

• Upcoming ballots (Cycle 4 or 5, 2015)

<table>
<thead>
<tr>
<th>Document #</th>
<th>Description</th>
<th>SC / TF / WG</th>
</tr>
</thead>
<tbody>
<tr>
<td>5601</td>
<td>New Standard: Specification for Wafer Object Model</td>
<td>GEM300 TF</td>
</tr>
<tr>
<td>5829</td>
<td>Line Item Revision to SEMI E171-mmyy, Specification for Predictive Carrier Logistics (PCL) (Doc. 5735) and SEMI E171.1-mmyy, Specification for SECS-II Protocol for Predictive Carrier Logistics (Doc. 5778)</td>
<td>GEM300 TF</td>
</tr>
</tbody>
</table>

• Equipment Information System Security (EISS) TF
    - Including one line Item
    - Line Item 1 passed as balloted at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014, and also passed at A&R in Feb., 2015.

• Fiducial Mark Interoperability TF
  - Ballot document #5752 (submitted Cycle 7-2014)
    - Revision of SEMI T7-0303 (Reapproved 0709), Specification for Back Surface Marking of Double-Side Polished Wafers with a Two-Dimensional Matrix Code Symbol
    - TF is assigned to prepare TF recommendation for adjudication by Traceability GCS
    - Passed with editorial changes at Japan TC Chapter meeting of Traceability Global TC on Dec. 5 in conjunction with SEMICON Japan 2014 and also passed at A&R in Feb., 2015.
  - TF is assigned to following ballot of #5752
    - Revisit T7 purpose and scope
    - Modify Figure 3 to align with M1
    - M20 coordinate system
  - To be discussed following items related to Information & Control
    - Fiducial Mark Reading Condition Report
• GEM300 TF
  o Approved the revised TFOF of GEM300 TF for merging PCL TF into GEM300 TF
    ▪ The charter of this task force is:
      1) to maintain and improve the following SEMI equipment automation software standards:
  o #5601: Specification for Wafer Object Model (WOMS)
    ▪ Introduce Wafer Object and its behavior.
    ▪ Ballot 5601A to be balloted for Cycle 4 or Cycle 5.
  o #5730: Line Item Revision to SEMI E170-0714, Specification for Production Recipe Cache (PRC)
    ▪ All seven (7) line items passed as ballotted at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014, and also passed at A&R in Feb., 2015. Published as SEMI E170-0215.
  o #5731: Revision to add a New Subordinate Standard for Specification for SECS-II Protocol for Production Recipe Cache to SEMI E170-0714, Specification for Production Recipe Cache (PRC)
    ▪ Passed as ballotted at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014, and also passed at A&R in Feb., 2015. Published as SEMI E170-1-0215.
  o #5828: Line Item Revision to SEMI E170-0215, Specification for Production Recipe Cache (PRC)
    (Doc. 5730) and SEMI E170.1-0215, Specification for SECS –II Protocol for Production Recipe Cache (PRC) (Doc.5731)
    ▪ SNARF was approved at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014.
    ▪ The document is now balloted for Cycle 3 and to be adjudicated at the Japan TC Chapter Meetings on April 23.
  o #5829: Line Item Revision to SEMI E171-nmmy, Specification for Predictive Carrier Logistics (PCL) (Doc. 5735) and SEMI E171.1-nmmy, Specification for SECS-II Protocol for Predictive Carrier Logistics (PCL) (Doc. 5778)
    ▪ SNARF was approved at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014.
    ▪ Ballot to be submitted for Cycle 4 or Cycle 5.
• Japan I&CC Maintenance
  o #5615: Revision to SEMI E98, Provisional Specification for Object-Based Equipment Model and SEMI E98.1, Provisional Specification for SECS-II Protocol for The Object-Based Equipment Model
    ▪ To remove “provisional”.
    ▪ Work in progress and ballot submission to be decided.
  o The activity of revision to SEMI E99 and SEMI E99.1 to be assigned to Japan I&CC Maintenance Task Force for reviewing the documents and the preparation of a SNARF
  o The activity of SEMI E107-1102 (Reapproved 0710), Specification of Electric Failure Link Data Format for Yield Management System
    ▪ Hideaki Ogihara (Reno Sub-Systems) was assigned to this activity.
• Predictive Carrier Logistics (PCL) TF
  o This task force was merged into GEM300 TF, which was approved at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014
  o #5735: Line Item Revision to SEMI E171-0914, Specification for Predictive Carrier Logistics (PCL)
    ▪ All six (6) line items passed as balloted at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014, and also passed at A&R in Feb., 2015.
  o #5778: Revision to add a New Subordinate Standard for Specification for SECS-II Protocol for SEMI E171-0914, Specification for Predictive Carrier Logistics (PCL)
    ▪ Passed with editorial changes at the Japan TC Chapter meeting on Dec. 5, 2014 in conjunction with SEMICON Japan 2014, and also passed at A&R in Feb., 2015.

• Sensor Bus TF
  o No activity

• Next meeting: April 23 for the Japan Spring 2015 Meetings (SEMI Japan Office; Tokyo, Japan)
• Japan I&CC Meeting Schedule
• Staff Contact: Chie Yanagisawa (cyanagisawa@semi.org)

Attachment: 04, Japan I&C Liaison Report

3.3 Korea Information & Control Committee

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

• Next meeting:
  o June 12, 2015 @ SEMI Korea, Seoul, Korea
  o October 16, 2015 @ KSIA, Gyeonggi-do, Sungnam-si

• Major Updates
  o Reviewed Ballot
    ▪ None
  o Authorized Ballot (Cycle 5 or 6)
    ▪ 5832 (New Standard, Specification for Generic Counter Model)
    ▪ 5833 (New Standard, Specification for Maintenance Program Model)
  o Authorized new activity
    ▪ SNARF 5832 (New Standard, Specification for Generic Counter Model)
    ▪ SNARF 5833 (New Standard, Specification for Maintenance Program Model)

• GEM300 TF
  o 3 Activities currently holding due to SML Notation copyright issue
    ▪ 4946 (E87 revision, Add carrier ready to unload prediction feature)
    ▪ 5738 (E87.1 Revision)
    ▪ 5320 (E116 and E116.1 revision)
  o 5832 (New Standard, Specification for Generic Counter Model)
    ▪ Scope:
      1) New SEMI-Standard for counter object and counter service.
2) Provide count method
   - Count Method for Digital Signal
   - Count Method for Analog Signal
   - Count Method for Event Signal
3) Provide how to use counter object
   - Counter Object Model
   - State Machines
   - Attributes
   - 5833 (New Standard, Specification for Maintenance Program Model)
     - In scope
       - Definitions and limitations to control the maintenance program those related parameters, commands and state model etc.
       - To define an interface from host to equipment to control the maintenance program.
       - Terminology, State Model, Commands, and Data parameters
     - Not in scope
       - The time of sending a maintenance program command should be decided by host which is based on maintenance correlated variables. However, these variables are not included in this scope.
   - DDA TF
     - STEP EDA at SEMICON Korea 2015
     - 1st Standards program with EDA topic in Korea
     - 89 attendees
       - # attendees by company type: Device Maker (35), Equipment Supplier (37), Solution Provider (16)
       - # companies represented: Device Maker (3), Equipment Supplier (7), Solution Provider (2)

Attachment: 05, Korea I&C Liaison Report

3.4 Europe Equipment Automation Committee (Information & Control, Metrics, Physical Interfaces & Carriers)

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

- Next meeting:
  - SEMICON Europa 2015 (Dresden, Germany)
- Two documents to go inactive
  - SEMI E54.14-0309, Specification for Sensor/Actuator Network Communications for PROFINET
  - SEMI E54.8-0309, Specification for Sensor/Actuator Network Communications for PROFIBUS-DP
- In early June, 2014 the PV Automation TC and the ERSC validated a motion to make the following transformation. This has been validated by the ISC:
  - PV Automation TC → Automation Technology TC
- Automation Technology
  - New Chairman: Christian Hoffmann (PEER Group)
- Staff Contact: Andrea Busch (abusch@semi.org)

Attachment: 06, Europe I&C Liaison Report
3.5 Taiwan Information & Control Committee

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

- This committee has been inactive for more than 3 years
- In late 2014, the committee chair, Mr. Robert Chien, suggested to re-engage committee members and discuss how to re-start the operation of the committee with a new structure
- A forward plan review meeting was held on 11/28/2014 and concluded to kick off renewed committee activities in 2015 with a simplified three-TF structure:

- Completed a joint F2F committee meeting with key members from Taiwan and Japan I&C committee on 2/3/2015

- Next meeting: May 25, 2015 (tentative) at SEMI Taiwan
- Staff Contact: Andrea Busch (abusch@semi.org)

Attachment: 07, Taiwan I&C Liaison Report
4 E30/SML Copyright Update

Paul Trio read the following statement from SEMI Legal Counsel:

*On February 25, 2015, SEMI filed a complaint for declaratory relief against the PEER Group Inc. (”PEER”) arising from PEER’s assertion of a copyright and trademark in SML and its request for attribution and other license restrictions. We are seeking a judicial determination and order declaring that any member of the public, including SEMI, has the right in the United States to copy the expression embodied in SML, to create and exploit derivative works incorporating SML, and to use “SML” without infringing any right of PEER under copyright or trademark law. [SEMI expects that it will take some time before the Court resolves the complaint, and in the meantime, all committee activity related to SML and SML notation is being postponed].*

5 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 1 and 2, 2015 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.

5.1 Cycle 1, 2015 Ballot

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5274D</td>
<td>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 E54-0413, Sensor/Actuator Network Standard</td>
<td>Failed, to be reballoted</td>
</tr>
</tbody>
</table>

5.2 Cycle 2, 2015 Ballots

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5618A</td>
<td>New Standard: Specification for Preservation of Recipe Integrity (PRI)</td>
<td>Failed, to be reballoted</td>
</tr>
<tr>
<td>5677</td>
<td>Line Item Revisions to SEMI E164-0414, Specification for EDA Common Metadata</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>E164 Complementary Files &amp; Various Materials Corrections</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5762</td>
<td>Line Item Revisions to SEMI E132.1, Specification for Soap Binding for Equipment Client Authentication and Authorization (ECA)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>E132.1 Session Group Name</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>5821</td>
<td>New Standard: Specification for Subsystem Energy Savings Mode Communication (SESMC)</td>
<td>Failed, to be reballoted</td>
</tr>
<tr>
<td>5824</td>
<td>Line Item Revisions to SEMI E172-0115, Specification for SECS Equipment Data Dictionary (SEDD)</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>Editorial Updates and Minor Corrections</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 2</td>
<td>SEDD Schema Restriction Resolution</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 3</td>
<td>Terminology Adjustment</td>
<td>Passed as balloted</td>
</tr>
<tr>
<td>Line Item 4</td>
<td>Source Field Length Adjustment</td>
<td>Passed as balloted</td>
</tr>
</tbody>
</table>

Attachment: 08, Ballot Review for Doc. 5274D
09, Ballot Review for Doc. 5618A
10, Ballot Review for Doc. 5677
11, Ballot Review for Doc. 5762
12, Ballot Review for Doc. 5821
13, Ballot Review for Doc. 5824
6 Task Force Reports

6.1 Diagnostic Data Acquisition (DDA) Task Force
Brian Rubow reported for the DDA Task Force. The key items were as follows:

- **Attendance:** 7 in person, 2 remote
- **New Task Force Business**
  - Monitoring industry inputs
  - No ballot plans for near future
- **Future Plans**
  - New issues
    - Task force plans to continue collecting issues from users in the industry
  - Next meetings
  - No future meetings planned until SEMICON West.
- **DDA TF Google Site**
  - [https://sites.google.com/a/semi.org/ddatf/](https://sites.google.com/a/semi.org/ddatf/)
  - Available materials: minutes, ballot drafts, issues tracking spreadsheets, other working materials

**Attachment:** 14, Diagnostic Data Acquisition Task Force Report

6.2 Energy Saving Equipment Communication Task Force
Gino Crispieri reported for the Energy Saving Equipment Communication Task Force. The key items were as follows:

- **Attendance:** 11 in person, 3 remote
- **New TF Business**
  - Task force will work with S23 Global task force to agree on definitions related to energy conservation related terms (e.g.; Sleep Levels, Subsystem Idle mode, subsystem sleep mode, etc.)
  - Continue development with software communication protocol
- **Ballot Plans (for Cycle 5, 2015)**

**Attachment:** 15, Energy Saving Equipment Communication Task Force Report

6.3 GEM300 Task Force
Brian Rubow reported for the GEM300 Task Force. The key items were as follows:

- **Attendance:** 11 in person, 2 remote
- **New SNARF**
  - (#5872) Line Item Revisions to SEMI E172, Specification for SECS Equipment Data Dictionary (SEDD)
    - **Rationale:**
      - During ballot review of SEMI Document #5619A at the Fall 2014 Standards Meetings, some potential enhancements and additions to the document were identified and discussed. The higher priority items were included in ballot 5824. This document will propose the remaining additional enhancements.
• In addition, other potential enhancements had been identified by the GEM 300 TF in the past. These will also be considered for inclusion in this proposal.

• All these potential enhancements are listed in the Scope section.

  **Scope:**

  • This activity will result in changes to the specification resulting from the approval of SEMI Document #5619A. Those changes are based on potential revisions to the SEDD Specification identified previously by the GEM 300 TF and those raised by voters during balloting of 5619A and 5824.

  • The list of potential revisions follows. The GEM 300 Task Force will determine which of these is included in the final ballot.

    o Addition of a section in the SEDD that describes the default/pre-defined collection event report definitions.
      - These collection event report definitions sometimes serve as guidance to the user of suggested data to be collected for each collection event.

    o Addition of a section in the SEDD that documents the available commands that can be accepted by the production equipment (including remote commands).

    o Addition of a section in the SEDD that documents the SECS messages supported by the production equipment. This includes the structure of the messages so that it will document which of the possible alternate message structures is supported. The description of the message could describe the support message features (e.g. remote commands supported by S2,F41).

    o Include documentation of the supported standards compliance tables showing what features are supported by the equipment.

    o Leverage the 5620 SMN schema and remove the excerpts from that schema from the 5619A specification.

    o For variables with multiple units, create a single structure with the unit, default value, minimum value, and maximum value. All variables with multiple units to include a list of these structures.

**Motion:** Approve new SNARF for line item revisions to SEMI E172.

**By / 2nd:** Brian Rubow (Cimetrix) / Mitsuhiro Matsuda (Hitachi Kokusai)

**Discussion:** The resulting ballot will not be ready for SEMICON West adjudication.

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

• **Discontinued 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 # 5454]

  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 [SNARF # 5508]

**Motion:** Approve to discontinue SNARF #5454 and #5508 document development activities.

**By / 2nd:** Jack Ghiselli (Ghiselli Consulting) / Mitsuhiro Matsuda (Hitachi Kokusai)

**Discussion:** None

**Vote:** 8-0 in favor. Motion passed.
Action Item: 2015Apr #01, Paul Trio to request SEMI Standards Publications to move processing of the Document 5620A proof (New Standard: Specification for SECS-II Message Notation (SMN)) higher on the priority list.

Attachment: 16, GEM300 Task Force Report

6.4 Sensor Bus Task Force

James Moyne reported for the Sensor Bus Task Force. The key items were as follows:

- Attendance: 3
- Document under development

The 5274 SNARF was originally approved in July 12, 2011. Per Regulations section 8.3.2, the Standard Document Development Project Period shall not exceed three years. Therefore, development of Document 5274 would have to be completed by July 12, 2014. The EXCEPTION for Regulations section 8.3.2 enables the TC Chapter to grant a one-year extension at a time if Document development activity is found to be continuing.

Motion: Find development of Document 5274 as continuing [July, 12 2014 to July 12, 2015].

By / 2nd: Brian Rubow (Cimetrix) / Mitsuhiro Matsuda (Hitachi Kokusai)

Discussion: None

Vote: 8-0 in favor. Motion passed.

It was noted that per the motion above, development of Document 5274 has been extended to July 12, 2015. However, since Document 5274E will be balloted and then reviewed at SEMICON West 2015 on July 15 (which is 3 days after the one-year extension period per the previous motion), the committee approved a subsequent motion to ensure SNARF 5274 does not get discontinued.

Motion: Find development of Document 5274 as continuing [July, 12 2015 to July 12, 2016].

By / 2nd: Brian Rubow (Cimetrix) / Mitsuhiro Matsuda (Hitachi Kokusai)

Discussion: None

Vote: 8-0 in favor. Motion passed.

- New SNARF
  - (#5844) Line Item Revision to SEMI E54 Primary Standard and Subordinate Standards to correct nonconforming titles
    - Rationale: In December 2014, SEMI instituted procedures in the SEMI Standards Procedure Guide for “correcting nonconforming titles of published standards documents” (see Appendix 4). E54 and E54 subordinate standards (E54.XX) are cited in Table A4-1 as having nonconforming title terms. The table provides replacement term allowances.
    - Scope:
      - Titles of E54 and all subordinate standards of E54 (E54.XX) will be examined to determine non-conformance per SEMI Standard Procedure Guide. Edits to the titles will be proposed per recommended replacement terms in the Procedure Guide. The edits may be proposed as separated line items per title, as one line item, or as groupings.
      - This activity will result in one or more line item ballots impacting E54 and zero or more E54.XX subordinate standards.
Ballot Plans (for Cycle 5, 2015):
  o 5274E (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 E54-0413, Sensor/Actuator Network Standard)

Action Item: 2015Apr #02, Paul Trio to confirm with James Moyne the schedule for the Sensor Bus TF meeting at SEMICON West 2015. Determine whether it needs to be scheduled such that participants from Europe are able to attend.

Attachment: 17, Sensor Bus Task Force Report

7 Proposed Meeting Schedule for the NA Standards Spring 2015 Meetings

SEMICON West 2015 Meetings
July 13-16, 2015
San Francisco Marriott Marquis Hotel
780 Mission Street
San Francisco, California 94103
U.S.A.

The tentative schedule is provided below:

- Monday, July 13
  o I&C Leadership (1:00 PM to 2:00 PM)
  o Diagnostic Data Acquisition [DDA] TF (2:00 PM to 4:00 PM)
- Tuesday, July 14
  o Energy Saving Equipment Communication [ESEC] TF (8:00 AM to 12:00 Noon)
  o GEM300 TF (1:00 PM to 5:00 PM)
  o Sensor Bus TF (1:00 PM to 3:00 PM)
  o Process Control System [PCS] TF (3:00 PM to 5:00 PM)
  o I&C GCS (5:00 PM to 6:00 PM)
- Wednesday, July 15
  o I&C Committee (8:00 AM to 4:30 PM)

8 Old Business

8.1 Status update on action items generated from the previous meetings:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014Nov #01</td>
<td>Mitsuhiko Matsuda</td>
<td>Provide updated Japan I&amp;C liaison report that will include information on E99/carrier ID activity.</td>
<td>Completed. Closed.</td>
</tr>
<tr>
<td>2013Jul #05</td>
<td>Paul Trio</td>
<td>Consult with the ISC Regulations Subcommittee on what should be done to SEMI E30 in light of the existing SML copyright issue.</td>
<td>Open</td>
</tr>
<tr>
<td>2012Oct #02</td>
<td>Paul Trio</td>
<td>Draft SNARF and ballot proposal for E30 revision (reorganization of introductory sections) and send to GEM300 TF leaders for review.</td>
<td>Open</td>
</tr>
</tbody>
</table>
9 New Business

9.1 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 / 2nd: Jack Ghiselli (Ghiselli Consulting) / Mitsuhiro Matsuda (Hitachi-Kokusai)
Discussion: None
Vote: 8-0 in favor. Motion passed.

10 Action Item Review

10.1 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.

10.2 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.

11 Adjournment
Having no further business, a motion was made to adjourn the NA I&C Committee meeting on April 1 in conjunction with the NA Standards Spring 2015 Meetings. Adjournment was at 11:15 AM.

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

Minutes approved by:
<table>
<thead>
<tr>
<th>Name</th>
<th>Chair Status</th>
<th>Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack Ghiselli (Ghiselli Consulting), Co-chair</td>
<td>May 29, 2015</td>
<td></td>
</tr>
<tr>
<td>Brian Rubow (Cimetrix), Co-chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lance Rist (RistTex), Co-chair</td>
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<td>1</td>
<td>SEMI Standards Required Meeting Elements</td>
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<tr>
<td>2</td>
<td>NA I&amp;C Fall 2014 (November 5) meeting minutes</td>
<td>11</td>
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<tr>
<td>3</td>
<td>SEMI Standards Staff Report</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Japan I&amp;C Liaison Report</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Korea I&amp;C Liaison Report</td>
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<tr>
<td>6</td>
<td>Europe I&amp;C Liaison Report</td>
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<td>Taiwan I&amp;C Liaison Report</td>
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<td>Ballot Review for Doc. 5274D</td>
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<tr>
<td>9</td>
<td>Ballot Review for Doc. 5618A</td>
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</tr>
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</table>

#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.