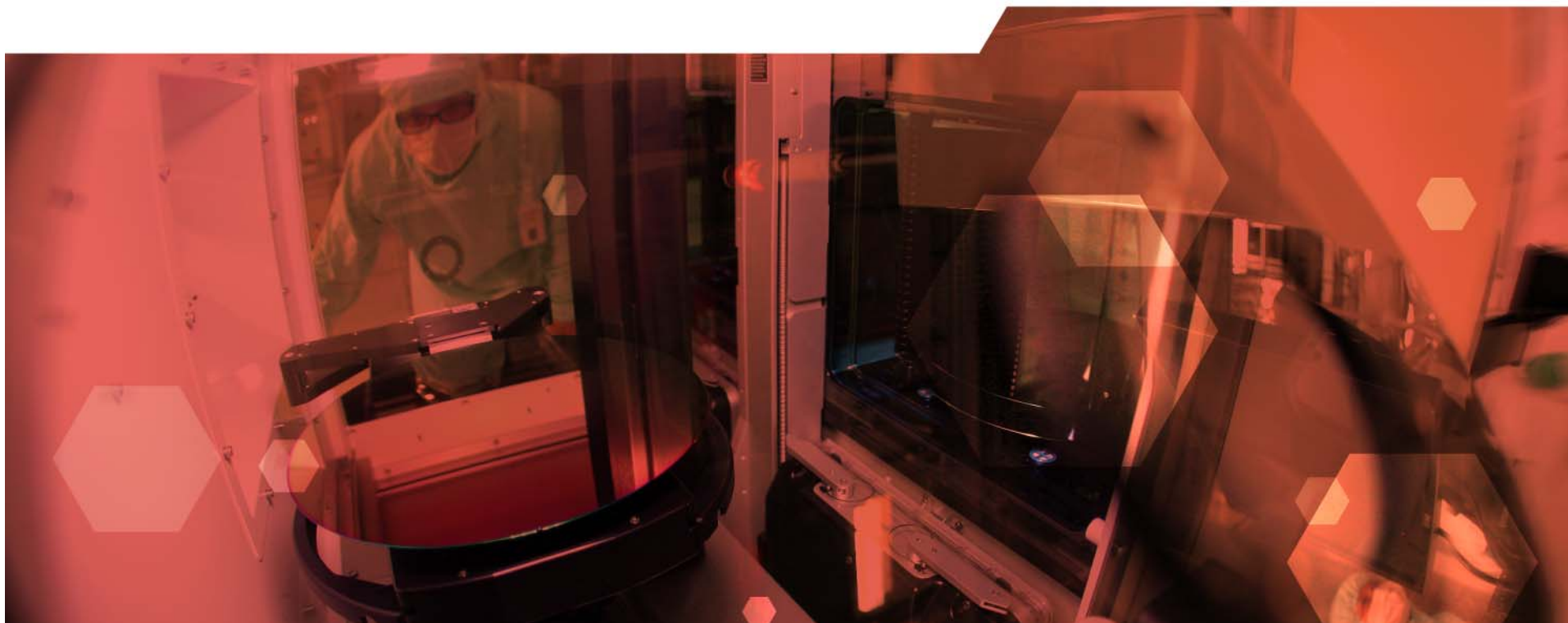


North America TC Chapter Facilities & Gases Joint Global Technical Committee

Liaison Report

July 2019

v1



Meeting Information

Facilities & Gases meet jointly

- Last meeting
 - Tuesday, July 9, 2019 SEMI Standards SEMICON West Meetings
 - Moscone Center, San Francisco, CA
- Next meeting
 - Tuesday, April 2, 2019 at the SEMI Standards NA Spring Meetings
 - SEMI Headquarters, Milpitas, CA

<http://www.semi.org/en/standards-events>

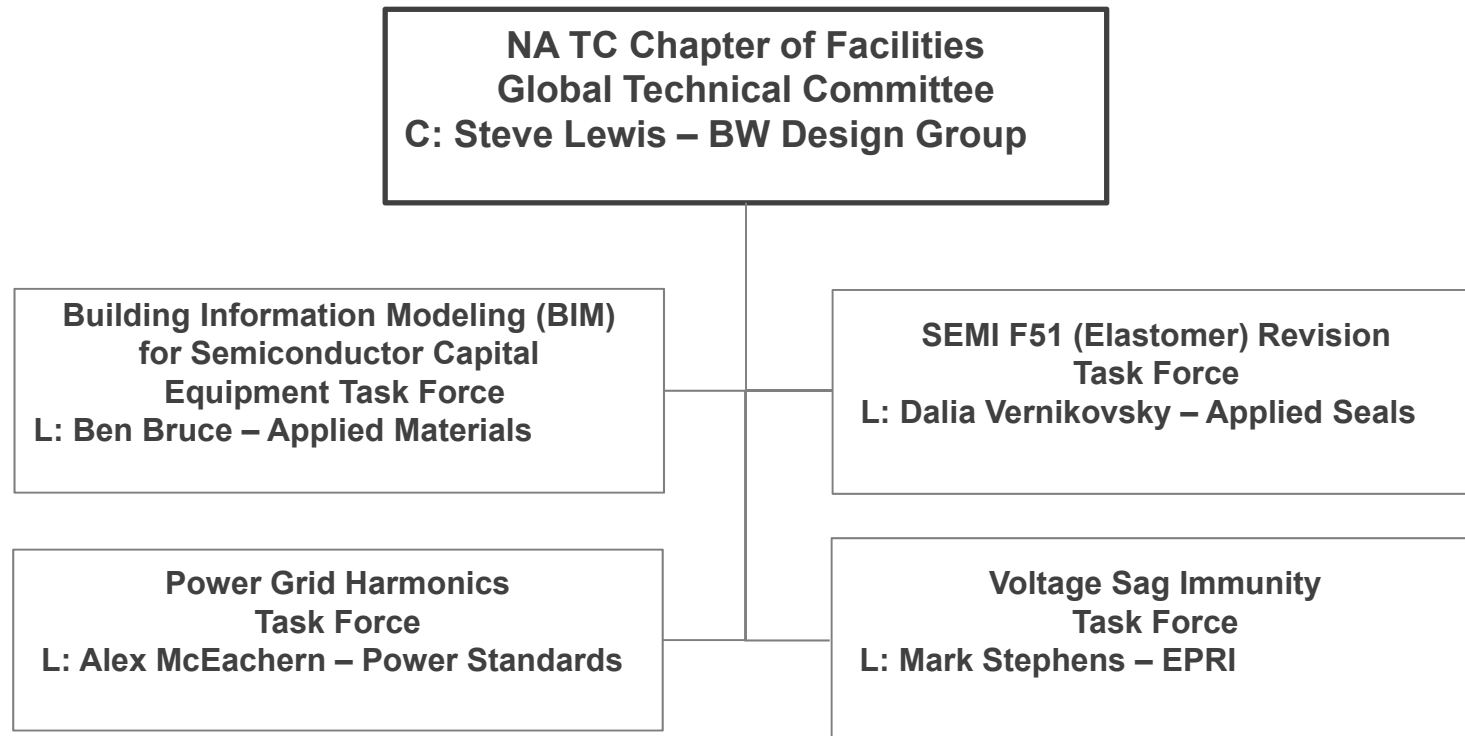
North America TC Chapter Facilities Global Technical Committee

Facilities Co-chair



Steve Lewis – BW Design Group

Facilities Organization Chart



Facilities

Task Force Highlights

- Voltage Sag Immunity TF
 - Reviewed Task 1 and Findings to Date
 - Reviewed Task 2 and Available PQ Data Sources
 - Discussed Task 3 Tool Sets for Voltage Sag Testing
 - This TF meets via Web & teleconference. Please contact TF Leader Mark Stephens, EPRI at MStephens@epri.com to be added to the task force.
 - To see previous TF meeting minutes, please visit connected@semi for this TF.
- These task forces did not meet at SEMICON West 2019
 - Power Grid Harmonics TF
 - SEMI F51 (Elastomeric Sealing) Revision TF
 - Building Information Modeling (BIM) for Semiconductor Capital Equipment TF

Five-Year Review

Designation	Standard Title	Action By	Assigned to
SEMI E76-0299 (Reapproved 0913)	Guide for 300 mm Process Equipment Points of Connection to Facility Services	West 2018	Facilities NA TC Chapter
SEMI F50-0200 (Reapproved 1213)	Guide for Electric Utility Voltage Sag Performance for Semiconductor Factories	Fall 2018	Facilities NA TC Chapter
SEMI F49-0200 (Reapproved 1213)	Guide for Semiconductor Factory Systems Voltage Sag Immunity	Fall 2018	Facilities NA TC Chapter
SEMI E70-1213	Guide for Tool Accommodation Process	Fall 2018	Facilities NA TC Chapter
SEMI E6-0914	Guide for Semiconductor Equipment Installation Documentation	Fall 2019	Facilities NA TC Chapter

North America TC Chapter Gases Global Technical Committee

Gases Co-chair



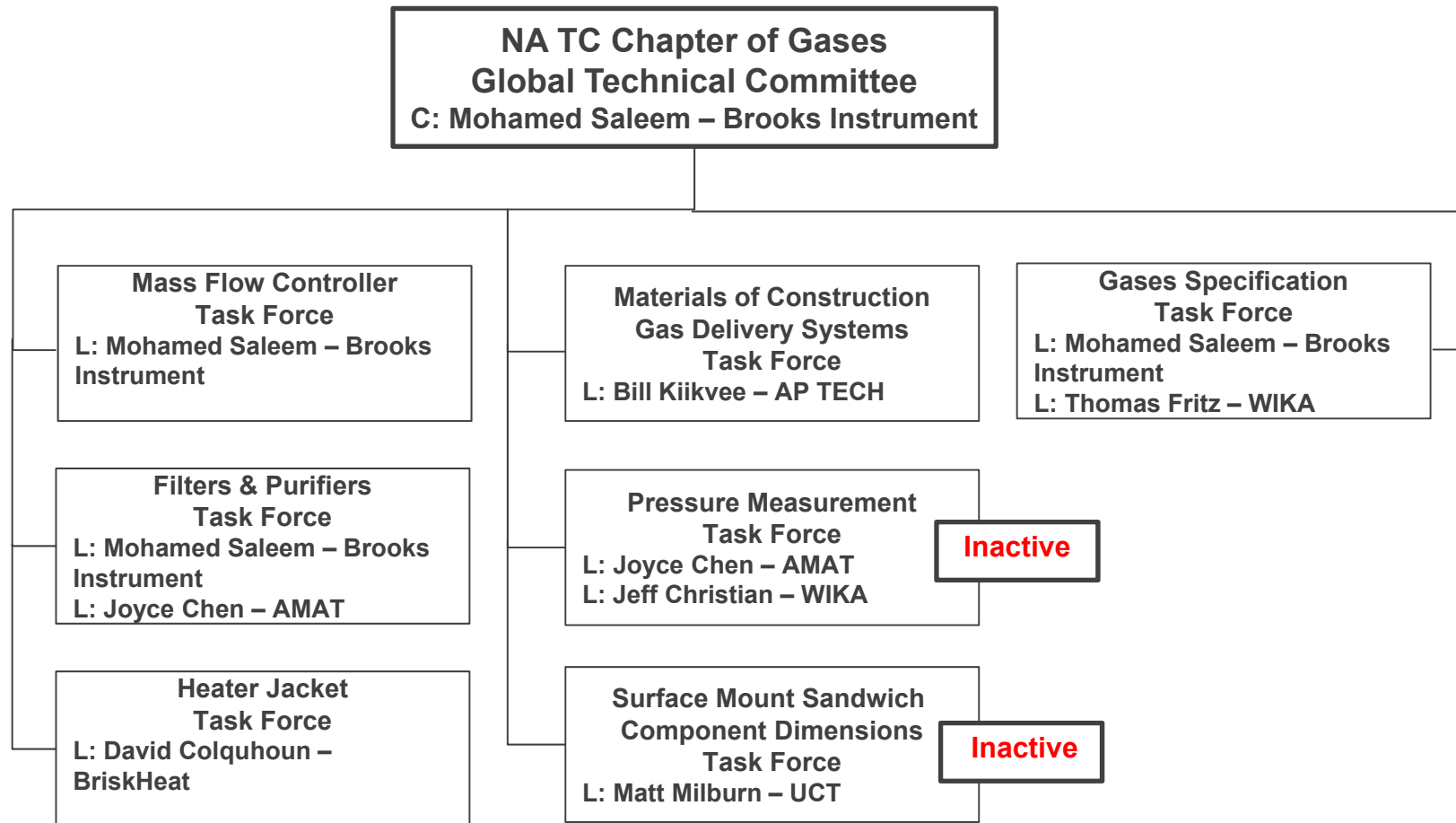
Mohamed Saleem – Brooks Instrument

Leadership Changes

<i>TF/SC/CFG/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
Mass Flow Controller TF	Erica Kitano/Fujikin (stepped down)	Open

Gases

Organization Chart



Ballot Results

Doc #	Document Title	TC Chapter Action
R6340C	Revision to SEMI F53-0600 (Reapproved 0412), Test Method for Evaluating the Electromagnetic Susceptibility of Thermal Mass Flow Controllers, with title change to Test Method for Evaluating the Electromagnetic Susceptibility of Mass Flow Controllers	Passed , submitted to ISC A&R for approval
6512	Reapproval of SEMI E12-1213, Guide for Standardized Pressure, Temperature, Density, and Flow Units Used in Mass Flow Meters and Mass Flow Controllers	Failed

#1: **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2: **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Authorized Ballots (1/2)

Doc #	When	TF	Document Title/Details
6290C	Cycle 6 or 7- 2019	Filters & Purifiers TF	New Standard: Test Method for the Determination of Organic Contaminants Present on Wetted Surfaces of Ultra High Purity Chemical Delivery Systems and Components
6291C	Cycle 6 or 7- 2019	Filters & Purifiers TF	New Standard: Test Method for the Determination of Metallic Elements Present on Wetted Surfaces of Ultra High Purity Chemical Delivery Systems and Components
6394	Cycle 6 or 7- 2019	Materials of Construction of Gas Delivery Systems TF	Line Item Revision to SEMI F74-1103 (Reapproved 0710), Test Method for the Performance and Evaluation of Metal Seal Designs for Use in Gas Delivery Systems
6441A	Cycle 6 or 7- 2019	Filters & Purifiers TF	Revision to add a New Subordinate Standard, Test Method for Determination of Particle Contribution of Gas Delivery System and its Components through Dynamic (Pulse) Testing, to SEMI F70-0611 (Reapproved 0517), Test Method for Determination of Particle Contribution of Gas Delivery System
6457	Cycle 6 or 7- 2019	Filters & Purifiers TF	Revision to SEMI F38-0699, Test Method for Efficiency Qualification of Point-of-Use Gas Filters

Authorized Ballots (2/2)

Doc #	When	TF	Document Title/Details
6477	Cycle 6 or 7- 2019	Filters & Purifiers TF	Revision to SEMI F112-0613 Test Method for Determination of Moisture Dry Down Characteristics of Surface Mounted and Conventional Gas Delivery Systems by Cavity Ring Down Spectroscopy (CRDS)
6492A	Cycle 6 or 7- 2019	Gases Specification TF	Line Item Revision to SEMI C3.32-0614, Specification for Chlorine (Cl ₂), 99.996% Quality
6493A	Cycle 6 or 7- 2019	Gases Specification TF	Line Item Revision to SEMI C3.37-0614, Specification for Hexafluoroethane (C ₂ F ₆), 99.97% Quality
6510	Cycle 6 or 7- 2019	Materials of Construction of Gas Delivery Systems TF	Line Item to SEMI F32-0211, Test Method for Determining of Flow Coefficient for High Purity Shutoff Valves

Abolished SNARF(s)

Doc #	TF	Title/Details
6512	Mass Flow Controller TF	Reapproval of SEMI E12-1213, Guide for Standardized Pressure, Temperature, Density, and Flow Units Used in Mass Flow Meters and Mass Flow Controllers – <i>Reapproval ballot failed Committee review, new SNARF to be issued to reflect change in scope.</i>

Gases

Task Force Highlights [1/3]

- Materials of Construction of Gas Delivery Systems TF
 - New activity
 - Presentation by Swagelok on testing at Subatmospheric conditions.
 - TF agreed to look at Subatmospheric Testing as a subordinate document to SEMI F32, Test Method for Determining of Flow Coefficient for High Purity Shutoff Valves.
 - Round Robin Testing will be done by Swagelok, AP Tech, and Parker to confirm proposed vacuum testing.
 - SNARF to be submitted before NA Fall Meetings 2019.
 - Discussion to revise SEMI E49.6 and E49.8.
- Filter and Purifiers TF
 - Activity from SCIS
 - Reviewed previous documents from Spring Meetings and asked the TC Chapter to reballot in Cycle 7-2019 (see slide 26-27) for authorized ballots

Gases

Task Force Highlights [2/3]

- Mass Flow Controller (MFC) TF
 - Ballot for SEMI E12 failed; return to the TF for rework
 - **Update** on discussion on EtherCAT MFC Physical Requirements
 - » ETG is ok with SEMI Standards taking over the task of documenting the physical requirements of EtherCAT MFCs;
 - Objective is to move this scope of work from ETG to SEMI Standards completely so that specifications won't exist in two different places.
 - ETG would like to receive everyone's consensus at the ETG meeting officially before SEMI Standards proceeds with this task.
 - » SNARF to be submitted at a later date, after discussing at ETG meeting in May 2019.
- Gases Specifications TF
 - MR were submitted for Doc 6492 and 6493
 - 6492A and 6493A versions are reballoted in Cycle 7-2019
 - No upcoming Five-Year documents
 - **This TF will not meet at NA Fall Meetings 2019.**

Gases

Task Force Highlights [3/3]

- Heater Jacket TF
 - SEMI F109-0212, Guide for Heater Systems Requirements
 - Failed Reapproval Ballot at NA Spring 2017 Meetings
 - TF has decided to issue a SNARF for Replacement ballot of SEMI 109; new Standard will combining Design and Material Selection for Heater Jackets.
 - **Requesting:**
 - **New co-leader**, and
 - Input regarding test method(s) for particle testing of heaters used for chemical delivery plumbing and components.
 - There are two different conditions that are being considered for test method development:
 - » Particle generation during installation
 - » Particle generation during heat-up and stabilization.

Gases 5-Year Review [1/2]

Designation #	Standard Title	Action By	Assigned to
SEMI F43-0308 (Reapproved 0613)	Test Method for Determination of Particle Contribution by Point-of-Use Gas Purifiers and Gas Filters	Spring 2018	Filters & Purifiers TF
SEMI F59-0302 (Reapproved 0613)	Test Method for Determination of Filter or Gas System Flow Pressure Drop Curves	Spring 2018	Filters & Purifiers TF
SEMI F67-1101 (Reapproved 0713)	Test Method for Determining Inert Gas Purifier Capacity	West 2018	Filters & Purifiers TF
SEMI F68-1101 (Reapproved 0713)	Test Method for Determining Purifier Efficiency	West 2018	Filters & Purifiers TF
SEMI C14-95 (Reapproved 0913)	Test Method for Particle Shedding Performance of 25 cm Gas Filter Cartridges	West 2018	Filters & Purifiers TF
SEMI F36-0299 (Reapproved 0913)	Guide for Dimensions and Connections of Gas Distribution Components	West 2018	Filters & Purifiers TF

Gases 5-Year Review [2/2]

Designation #	Standard Title	Action By	Assigned to
SEMI F72-0214	Test Method for Auger Electron Spectroscopy (AES) Evaluation of Oxide Layer of Wetted Surfaces of Passivated 316L Stainless Steel Components	Fall 2018/ Spring 2019	Materials TF
SEMI F79-0914	Guide for Gas Compatibility with Silicon Used in Gas Distribution Components	Fall 2019	Materials TF
SEMI F105-0914	Guide for Metallic Material Compatibility in Gas Distribution Systems	Fall 2019	Materials TF
SEMI F60-1214	Test Method for ESCA Evaluation of Surface Composition of Wetted Surfaces of Passivated 316L Stainless Steel Components	Fall 2019	Materials TF
SEMI F73-1214	Test Method for Scanning Electron Microscopy (SEM) Evaluation of Wetted Surface Condition of Stainless Steel Components	Fall 2019	Materials TF

Thank you!

For more information or to participate in any
Facilities & Gases NA activities, please contact:

Laura Nguyen
SEMI Headquarters
lnguyen@semi.org

Back-Up

Next Meeting Schedule [Tentative]

- SEMI Standards SEMICON West 2019 Meetings, July 8-11, 2019
 - NEW LOCATION: Moscone Center
- **Monday, July 8**
 - TBD Power Grid Harmonics TF
 - TBD Building Information Modeling (BIM) for Semiconductor Capital Equipment TF
 - TBD Voltage Sag Immunity TF
- **Tuesday, July 9**
 - 09:00-12:00 Facilities & Gases Joint NA TC Chapter Meeting

<http://www.semi.org/en/standards-events>

Next Meeting Schedule [Tentative]

- SEMI Standards SEMICON West 2019 Meetings, July 9-11
 - NEW LOCATION: Moscone Center
- **Monday, July 8**
 - 09:00-10:00 Materials of Construction of Gas Delivery Systems TF
 - 10:00-11:00 Filters and Purifiers TF
 - 11:00-12:00 Mass Flow Controller TF
 - 13:00-14:00 Heater Jacket TF
- **Tuesday, July 9**
 - 09:00-10:00 Facilities & Gases Joint NA TC Chapter Meeting

<http://www.semi.org/en/standards-events>

Building Information Modeling (BIM) for Semiconductor Capital Equipment TF

- **Task Force did not meet**
- **Prior report from West 2016**
 - A 3-D model will work with multiple different software applications and needs to reflect true dimensions of the semiconductor fabrication tool with its location and interface point.
 - Drafting Doc. 5155, New Standard, Guide for Facilities Data Package for Semiconductor Equipment Installation
 - Approved for ballot Cycle 5
 - Failed Committee Review, sent back to TF for re-work
 - No TF report received, but TC Chapter approved that this activity is continuing.
 - Prior minutes posted on:
<https://sites.google.com/a/semi.org/bim-tf/>

Building Information Modeling (BIM) for Semiconductor Capital Equipment TF From Spring 16

- The TF is assisting the PI&C committee to update SEMI E72, Specification and Guide for 300 mm Equipment Footprint, Height, and Weight
 - SEMI E72 is long overdue for 5-year review
 - Future plans and activities to update SEMI E72:
 - » Implementing Building Information Modeling (BIM) for equipment modeling and floor plans
 - » Future joint TF between the NA PIC TC Chapter and NA Facilities TC Chapter – Doc. 5817 is being revised by NA PIC TF
 - Approved for ballot in Cycle 5
 - » Address issues such as variations in fab layout, factory, ceiling height, moving weight, and ergonomics for the equipment
 - » Standardization of definitions, concepts, and interfaces with input from suppliers, vendors and end users
 - » Revise SEMI E6 (Semiconductor Equipment Installation) and SEMI E52 (Facilities Services) at the same time

Outline

- Meeting Information
- Announcement
- Leadership / Leadership Changes
- Committee Structure Changes
- Organization Chart
- Ballot Results
- Activities Approved via GCS
- Authorized Activities / Other Activities
- Authorized Ballots
- Abolished SNARFs
- Inactive Status
- Task Force Highlights
- Open SNARFs
- Requests
- Five-Year Review
- Staff Contact

Optional

Announcements

Committee Structure Changes

<i>Previous TF/SC/CFG Name</i>	<i>New TF/SC/CFG Name or Status Change</i>

Requests from <Region> Chapter to <Region> Chapter