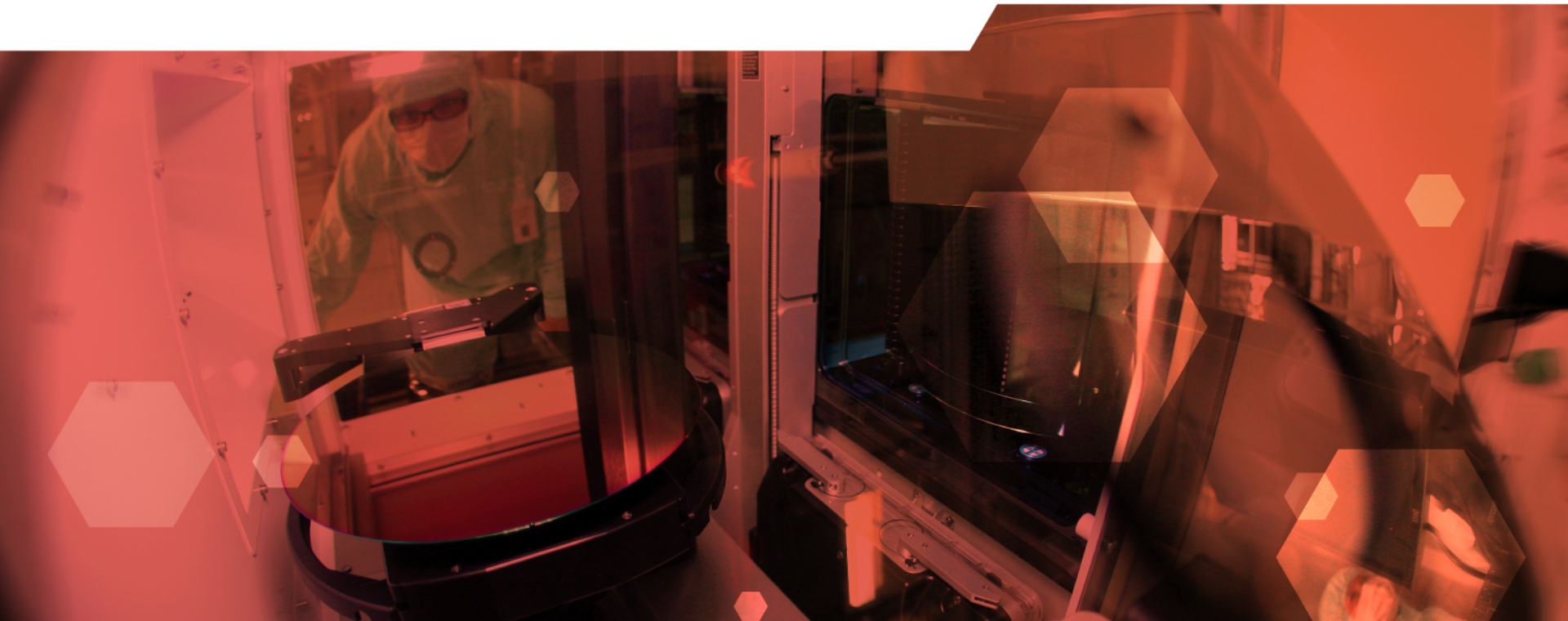


North America Environmental, Health, and Safety (EHS) TC Chapter Liaison Report

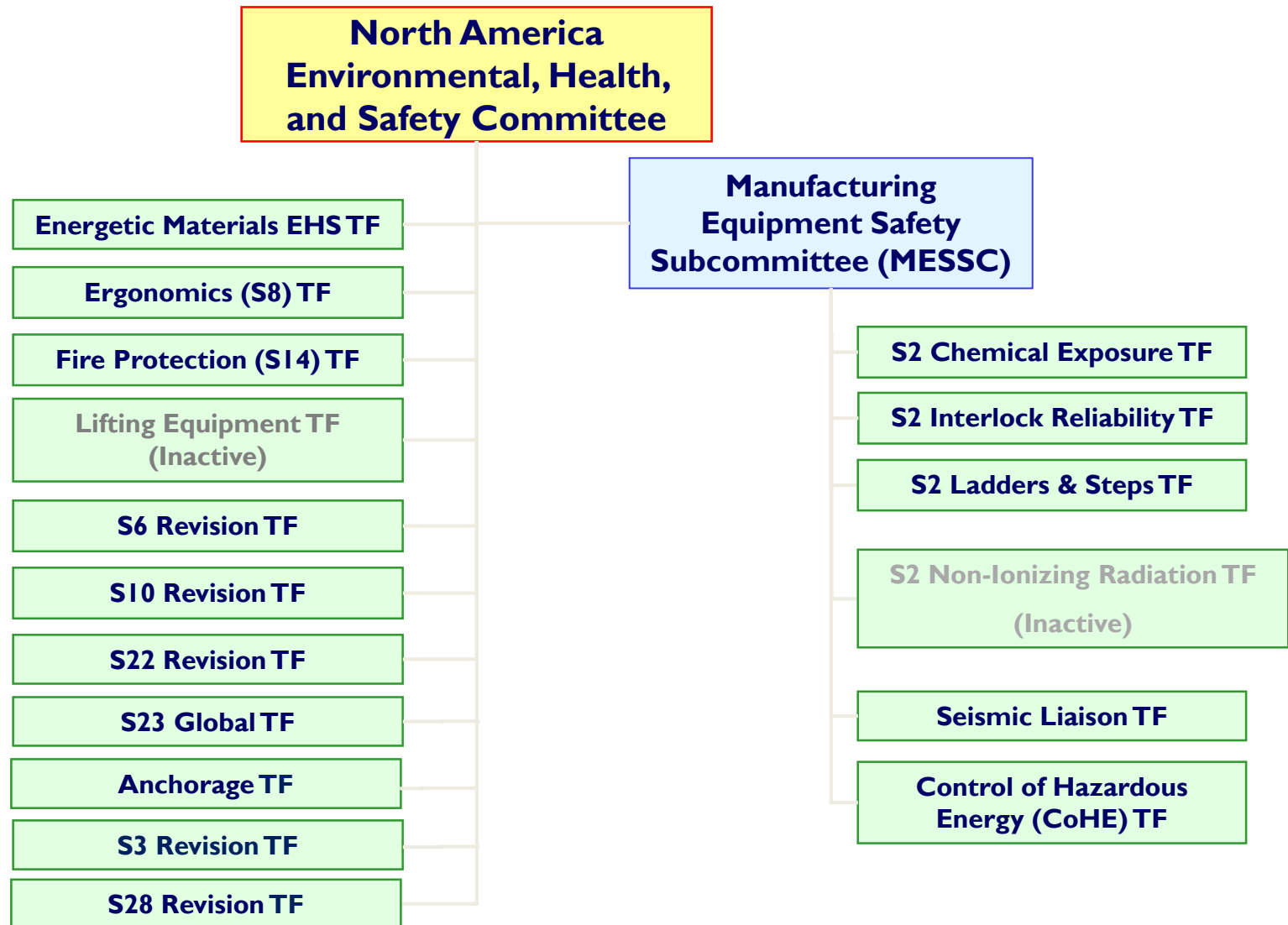
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Meeting Information

- Last Meeting:
 - Nov 9, 2017
 - NA Standards Fall Meetings
 - SEMI HQ, Milpitas, California
- Next Meeting:
 - April 12, 2018
 - NA Standards Spring Meetings
 - SEMI HQ, Milpitas, California

Organization Chart



Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
S3 Revision TF	Mark Fessler (ASM)	Glenn Holbrook (ASM)

New SNARFs

#	<i>SC/TF/WG</i>	<i>Details</i>
6309	Ergonomics TF	Line Item Revision to S8-0915, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment
6310	S28 Revision TF	Reapproval of SEMI S28-1011, Safety Guideline for Robots and Load Ports Intended for Use in Semiconductor Manufacturing Equipment

Ballot Review Summary

Doc #	Description	TC Action
5761B	New Standard: Safety Guideline for Use of Energetic Materials in Semiconductor R&D and Manufacturing Processes	Failed and returned to TF for reballot
6204	Line Item Revisions to SEMI S6-0707E With Title Change To: Environmental, Health, and Safety Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment	
LI1	Title change to align with procedure manual	Passed as balloted
LI2	Add Table of Contents and remove list of sections from scope section	Passed with editorial changes
LI3	Update retroactive clause to refer to more versions than S6-93 and align with S2 revision	Passed with technical changes. Ratification Ballot issued in cycle 9-17
LI4	Clean up some references to other documents	Passed as balloted

Ballots Authorized

#	When	TF	Details
R6204	Cycle 9-17	S6 Revision TF	Ratification Ballot - Line Item Revisions to SEMI S6-0707E Environmental, Health, and Safety Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment
6309	Cycle 1 or 2 -18	Ergonomics TF	Line Item Revision to S8-0915, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment
5761C	Cycle 1 or 2 -18	Energetic Materials TF	New Standard: Safety Guideline for Use of Energetic Materials in Semiconductor R&D and Manufacturing Processes
6310	Cycle 9-17	S28 Revision TF	Reapproval of SEMI S28-1011 Safety Guideline for Robots and Load Ports Intended for Use in Semiconductor Manufacturing Equipment
5969A	Cycle 1 or 2 -18	Fire Protection TF	Line Item Revisions to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment (pertaining to Fire)

Manufacturing Equipment Safety Subcommittee (MESSC)

- MESSC still needs another co-chair:
- Single fault failures in S2
 - The statement is in 6.5, Philosophy so it is not assessable
 - Does not cover other, multi-point scenarios
 - Should be in normative section of S2
- “Should” means “Shall?”
 - Non-consistent wording, and Notes or Notices that attempt to say the same thing throughout “S” documents. MESSC recommends that Committee ask Staff to identify the inconsistencies and propose consistent wording
- From ICRC: S2 and Machinery Directive alignment
 - No MESSC objections to a proto-TF and TFOF to start work on AUX031 and alignment issues if sufficient interest develops for participation

S2 Chemical Exposure TF

- Ongoing
 - Doc. 6171, Line Item Revision to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment.
 - chemical exposure improvements
 - Doc. 5624, Line Item Revision to SEMI S2, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment.
 - Changes related to representative sampling

S3 (Heating Systems) Revision TF

- Drafting doc. 6209, Revision of S3 with title change, Safety Guideline for Process Liquid Heating Systems
- TF has been discussing scoping, currently intended to be:
 - Heating of chemicals obtained as solids, liquids, gases, or combinations thereof
 - Chemicals used as liquids, gases, or combinations thereof
 - Chemicals used directly for processing and for such purposes as in situ chamber cleaning and seasoning
 - Heating to maintain the temperature of piping and other components to manage the risks resulting from condensation
 - Heating upstream of, of, and downstream of process chambers.
 - Other improvements that might be found appropriate for EHS Committee consideration

S6 (Exhaust Ventilation) Revision TF

- Have been on-going discussions related to various improvements
 - Lots of discussion related to gas detection
 - No progress made to proposed definition changes
 - No progress made related to worst case leak
- Gas Detection
 - UL2075 will be reviewed to see if any progress towards demonstrating criteria for performance and reliability

S8 Ergonomics TF

- Drafting doc. 5996 Improvements to SEMI-S8 Appendix 1 SESC:
 - Multi-person lifts (team lifting)
 - One-handed handling
 - Torque and Push/Pull knobs/lever handles
 - Update/Clarification of conformance statement in Section 3.5 of SEMI S8
 - Expansion of Display section for modern technology (HD Displays) and User interface (GUI)
 - Considerations pertaining to an Aging workforce
 - Considerations for people with special needs or disabilities
 - Product loading criteria for non-wafers cassettes, including single reticle containers (request from Shanghai Microelectronics Equip.)
- New SNARF 6309, Line Item Revision to S8-0915, Safety Guideline for Ergonomics Engineering of Semiconductor Manufacturing Equipment
 - To address comment received on ballot R5917

S10 (Risk Assessment) Revision TF

- Drafting Ballot 6049A: **Line-Item Revision to SEMI S10-0815E Safety Guideline for Risk Assessment and Risk Evaluation Process**
 - Line item 1
 - Update Risk ranking appendix in current SEMI S10 document
 - Severity tables: Injury, Equipment/Facility and Environmental risk
 - Line item 2
 - New RI6 on how to do a risk assessment

S22 (Electrical Design) Revision TF

- Straw pole on what efforts to start with
 - Alignment of S2 and S22
 - Move criteria out of S2 and into S22 (not necessarily aligning first)
 - Improve definition of when interlocks are needed (fix 11.10)
 - Address design differences between electrical versus non-electrical interlocks
 - Different Types of Interlocks – reactive versus blocking
 - 13849-1 and how it relates to S2/S22 interlocks
 - Alignment with Other SEMI interlock requirements as documented in S3, S6, S28, S18, S14
- Will work on ballot to submit after Fall meetings

S28 Revision TF

- No plan to expand scope
- Doc. 6310, Reapproval of SEMI S28-1011 Safety Guideline for Robots and Load Ports Intended for Use in Semiconductor Manufacturing Equipment
 - Ballot issued in cycle 9-17 for review at NA Spring 2018

Anchorage TF

- A line item ballot to S2 related to section 18.8.5.3 and its exception with a goal of clarifying the criterion is planned.
 - TF had one teleconference, no issue found.
- SNARF will be issued to GCS for approval.
- Draft will be distributed to GCS for ballot authorization prior to NA Spring meeting 2018.

Control of Hazardous Energy (CoHE) TF

- SEMI Draft Document #5957 draft rewrite of SEMI S2 Section 17
- New Section 17 Breakdown:
 - **17.1 General (included flowchart)**
 - **17.2 Design Criteria For The Isolation of Hazardous Energies**
 - **17.3 Design Requirements For The De-Energizing (or Restraining) Of Hazardous Energies**
 - **17.4 Design Requirements for Verification of De-Energization Of Hazardous Energies**
 - **17.5 Special Considerations For Non-Electrical Hazardous Energies**
 - **17.6 Requirements For Installation and Maintenance Manuals**
 - **17.7 Alternate Methods Requirements For The Control of Hazardous Energy**
- Plus updated to SEMI S2 Definitions Section 5
- Will plan to continue to work on draft for further discussion until Spring Meetings (April 2018)

Energetic Materials EHS TF

- Ballot 5761B, New Standard: Environmental, Safety and Health Guideline for Use of Energetic Materials in Semiconductor R&D and Manufacturing Processes
 - Failed TC Chapter review
 - Will rework and reballot for review at NA Spring 2018

Fire Protection TF

- Ballot Development
 - 5969, Line Item Revision to SEMI S14-1016: Safety Guidelines for Fire Risk Assessment and Mitigation for Semiconductor Manufacturing Equipment
 - Failed, returned to TF for rework and plan to reballot for review at NA Spring 2018.
 - 5969: Line Item Revisions to SEMI S2-0715
 - LI 1: Addition of criteria to determine which method of assessing fire risk is to be used.
 - Plan to reballot for review at NA Spring 2018.

NA Seismic Liaison TF

- 2 change proposals for changes to DR information in S2 (scheduled to 'move' in July 2018) were sent following 'West to main JP task force, 2 more were under development
- Continued working on last item ('negligible force' issue), made some progress, will call telecon's to complete. Targeting completion prior to Spring meetings.
- Hoping timing will work so that Japan TF can put out ballot to modify DR before July 2018.

Thank You!

For more information or participate in
any NA EHS activities, please contact
Kevin Nguyen at SEMI
(knguyen@semi.org)