

Responses and Review Form for SEMI Draft Document #4683I Line Item Revision to SEMI S2-0715, Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment. Delayed Revisions Related to Chemical Exposure

Line Item 1 – Delayed Revisions Related to Chemical Exposure Criteria

Tallies at Close of Voting

Voting Return Data		Acceptance Rate Data	
<i>Voting Interest Returns</i>	54	<i>Voting Interest Accept Votes (VIAccept)</i>	34
<i>Total Voting Interests</i>	89	<i>Interest Reject Votes (IReject)</i>	2
<i>Voting Interest Return %</i>	60.67%	<i>Approval % [VIAccept / (VIAccept + IReject)]</i>	94.44%
<i>Other Returns (Intercommittee, etc.)</i>	19	<i># of Interest Rejects that Need to be not found Valid for</i>	
		<i>Final Approval % >= 90%</i>	0
<i>Total Votes</i>	104		
<i>Total Votes with Comments</i>	2		
<i>Total Reject Votes</i>	2		

Rejects/Negatives

Summary: 4 Total Items Submitted

<i>Company: Submitter</i>	<i>ID</i>	<i>Negs</i>	<i>Disp</i>	<i>Company: Submitter</i>	<i>ID</i>	<i>Negs</i>	<i>Disp</i>
Applied Materials: Ed Karl	AMAT	3		ASML: Bert Planting	ASML	1	

Details:

NOTICE: SEMI Staff must receive copies of ALL withdrawals of negative votes.

Table 1 Negatives from < AMAT: Ed Karl >

W = <i>Withdrawn</i> , NR = <i>Not Related</i> , NP = <i>Not Persuasive</i> , RP = <i>Related and Persuasive</i> , NS = <i>Not Significant</i> , S = <i>Significant</i>					
#	Ref.	Negative <i>including Justification</i>	TF Finding <i>and Reason</i>	Motion <i>and Reason in Committee:</i>	Final
AMA T-1	23.5.2	<p>Negative</p> <p>Section 23.5.2 attempts to define (or explain) "Laboratories" as an "accredited industrial hygiene laboratory"; however, the only use of the word of the word "laboratories" in SEMI S2 pertains to Accredited Testing Laboratories. In fact, neither the Chemical Section (Section 23) nor the ballot uses the word "Laboratories" (plural). Lastly, although the term used in 23.5.2 is "Laboratories" (plural), the definition refers only to "An accredited industrial hygiene laboratory" (singular).</p> <p>Proposed Solution: The term "Laboratories" should be replaced with "Accredited Industrial Hygiene Laboratory". Alternatively, delete this section as the term "accredited industrial hygiene laboratory" is a sufficient distinction from "accredited testing laboratory".</p>	<p>(Select 1)</p> <p><input type="checkbox"/> Not related</p> <p><input type="checkbox"/> Not persuasive (assumes related)</p> <p><input checked="" type="checkbox"/> Related & persuasive</p> <p>Reason: R&P For 8 Opposed 0</p>	<p><input type="checkbox"/> Withdrawn by Subm. (Date: __)</p> <p>Move to find this negative: (select 1)</p> <p><input type="checkbox"/> Not related (requires reason, follow)</p> <p><input type="checkbox"/> Committee new business</p> <p><input type="checkbox"/> Assigned to: _____</p> <p><input type="checkbox"/> Not persuasive (requires reason)</p> <p><input checked="" type="checkbox"/> Related & persuasive (ballot fails)</p> <p>Reason:</p> <p>By/2nd: John Visty/Ed Karl Disc: Vote: 10-0. Motion passed</p> <p>Significance finding/method: (select 1)</p> <p><input type="checkbox"/> Not significant by agreement</p> <p><input type="checkbox"/> Not significant by motion</p> <p><input type="checkbox"/> Significant by % of NP vote (>10%)</p> <p><input type="checkbox"/> Significant by agreement</p> <p><input type="checkbox"/> Significant by motion</p> <p>By/2nd: Disc: Vote: #-#-#. Motion passed failed</p>	

W = Withdrawn, NR = Not Related, NP = Not Persuasive, RP = Related and Persuasive, NS = Not Significant, S = Significant

#	Ref.	Negative <u>including Justification</u>	TF Finding <u>and Reason</u>	Motion <u>and Reason</u> in Committee:	Final
AMA T-2	23.5.1.1 third bullet	<p>Negative</p> <p>S2 Chemical Task Force introduced the term "accredited laboratory"; however, "accredited laboratory" is not used nor defined in SEMI S2. Using "accredited laboratory" could easily be confused with "accredited testing laboratory" (which the S2 Chemical Task Force tries so hard to differentiate in Section 23.5.2.</p> <p>Proposed Solution: Replace "accredited laboratory" with "accredited industrial hygiene laboratory" as the term "accredited industrial hygiene laboratory" is being used over and over again in Section 23.</p>	<p>(Select 1)</p> <p><input type="checkbox"/> Not related</p> <p><input type="checkbox"/> Not persuasive (assumes related)</p> <p><input type="checkbox"/> Related & persuasive</p> <p>Reason:</p>	<p><input type="checkbox"/> Withdrawn by Subm. (Date: <input type="text"/>)</p> <p>Move to find this negative: (select 1)</p> <p><input type="checkbox"/> Not related (requires reason, follow) <input type="checkbox"/> Committee new business <input type="checkbox"/> Assigned to: <input type="text"/></p> <p><input type="checkbox"/> Not persuasive (requires reason)</p> <p><input type="checkbox"/> Related & persuasive (ballot fails)</p> <p>Reason:</p> <p>By/2nd: Disc: Vote: #-#-#. Motion passed failed</p> <p>Significance finding/method: (select 1)</p> <p><input type="checkbox"/> Not significant by agreement <input type="checkbox"/> Not significant by motion <input type="checkbox"/> Significant by % of NP vote (>10%) <input type="checkbox"/> Significant by agreement <input type="checkbox"/> Significant by motion</p> <p>By/2nd: Disc: Vote: #-#-#. Motion passed failed</p>	

W = Withdrawn, NR = Not Related, NP = Not Persuasive, RP = Related and Persuasive, NS = Not Significant, S = Significant

#	Ref.	Negative <u>including Justification</u>	TF Finding <u>and Reason</u>	Motion <u>and Reason</u> in Committee:	Final
AMA T-3	23.5.1.1, third "Note xxx"	<p>Negative</p> <p>S2 Chemical Task Force introduced the term "accredited laboratory"; however, "accredited laboratory" is not used nor defined in SEMI S2. Using "accredited laboratory" could easily be confused with "accredited testing laboratory" (which the S2 Chemical Task Force tries so hard to differentiate in Section 23.5.2.</p> <p>Proposed Solution:</p> <p>Replace "accredited laboratory" with "accredited industrial hygiene laboratory" as the term "accredited industrial hygiene laboratory" is being used over and over again in Section 23.</p>	<p>(Select 1)</p> <p><input type="checkbox"/> Not related</p> <p><input type="checkbox"/> Not persuasive (assumes related)</p> <p><input type="checkbox"/> Related & persuasive</p> <p>Reason:</p>	<p><u>Withdrawn by Subm.</u> (Date: <u> </u>)</p> <p>Move to find this negative: (select 1)</p> <p><input type="checkbox"/> Not related (requires reason, follow) <input type="checkbox"/> Committee new business <input type="checkbox"/> Assigned to: <u> </u></p> <p><input type="checkbox"/> Not persuasive (requires reason)</p> <p><input type="checkbox"/> Related & persuasive (ballot fails)</p> <p>Reason:</p> <p>By/2nd: Disc: Vote: #-#-#. Motion passed failed</p> <p>Significance finding/method: (select 1)</p> <p><input type="checkbox"/> Not significant by agreement <input type="checkbox"/> Not significant by motion <input type="checkbox"/> Significant by % of NP vote (>10%) <input type="checkbox"/> Significant by agreement <input type="checkbox"/> Significant by motion</p> <p>By/2nd: Disc: Vote: #-#-#. Motion passed failed</p>	

Final disposition of this reject:

☐ Valid (includes at least one significant negative)

☐ Not Valid (all negatives withdrawn, found not related, or found not significant)

Table 2 Negatives from < ASML: Bert Planting>

W = Withdrawn, NR = <i>Not Related</i> , NP = <i>Not Persuasive</i> , RP = <i>Related and Persuasive</i> , NS = <i>Not Significant</i> , S = <i>Significant</i>					
#	Ref.	Negative <i>including Justification</i>	TF Finding <i>and Reason</i>	Motion <i>and Reason</i> in Committee:	Final
ASM L-1	23.5.2	Why an accredited laboratory. SEMI is not requiring this for electrical conformance etc. I think use of an approved method is sufficient	(Select 1) <input type="checkbox"/> Not related <input checked="" type="checkbox"/> Not persuasive (assumes related) <input type="checkbox"/> Related & persuasive Reason: NP: Use of an accredited industrial hygiene laboratory is needed to insure validity of the reported data. Laboratories have specialty areas including environmental, hazardous waste, biological, medical, rug, etc. All use different methods / analytical and must prove their proficiency through accreditation.	<input type="checkbox"/> Withdrawn by Subm. (Date: __) Move to find this negative: (select 1) <input type="checkbox"/> Not related (requires reason, follow) <input type="checkbox"/> Committee new business <input type="checkbox"/> Assigned to: _____ <input type="checkbox"/> Not persuasive (requires reason) <input type="checkbox"/> Related & persuasive (ballot fails) Reason: By/2nd: Disc: Vote: #-#-#. Motion passed failed Significance finding/method: (select 1) <input type="checkbox"/> Not significant by agreement <input type="checkbox"/> Not significant by motion <input type="checkbox"/> Significant by % of NP vote (>10%) <input type="checkbox"/> Significant by agreement <input type="checkbox"/> Significant by motion By/2nd: Disc: Vote: #-#-#. Motion passed failed	
Final disposition of this reject: <input type="checkbox"/> Valid (includes at least one significant negative) <input type="checkbox"/> Not Valid (all negatives withdrawn, found not related, or found not significant)					

Comments

Summary: 2 Total Items Submitted

<i>Company: Submitter</i>	<i>ID</i>	<i>#</i>	<i>Company: Submitter</i>	<i>ID</i>	<i>#</i>
SCREEN Semiconductor Solutions: Ryosuke Imamiya	SCREEN	2	Lam Research: Sean Larsen	LMRC	1

Details:

NOTICE: Items from “Reject” votes that are clearly marked by the voter as comments can be reviewed here.

<i>#</i>	<i>Ref.</i>	<i>Comment</i>	<i>TF Response</i>	<i>Committee Action:</i>
SCREEN-1		<p>Abstain with comment</p> <p>I suggest adding some safety criteria or information of nanomaterials in the Chemical Exposure.</p> <p>At IHTESH2016 KOBE, there was a session of the Safety & Health (nanomaterials). TSIA presented “Nanoparticle Assessment in the Workplaces of Semiconductor Factory” at the session. They have measured obvious nanoparticle emission during a periodic maintenance of a PH3 Implanter</p> <p>They referred the NIOSH’s limits in the OSHA Fact Sheet. https://www.osha.gov/Publications/OSHA_FS-3634.pdf</p>	<p>Hazards from nanomaterials should be incorporated into section 23. The TF should discuss and determine the best strategy to proceed.</p>	<p>(Select one)</p> <p><input type="checkbox"/> No further action</p> <p><input checked="" type="checkbox"/> Refer to TF for further review</p> <p><input type="checkbox"/> New Business</p> <p><input type="checkbox"/> Editorial Change: #__ in ECs below</p> <p><input type="checkbox"/> Other:</p> <p>(Select one)</p> <p><input type="checkbox"/> Committee agrees (no motion nec.)</p> <p><input type="checkbox"/> Motion to act as indicated above:</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p>
LMRC1	23.5.1.1 3 rd note	<p>Accept with COMMENT</p> <p>Suggest adding a reference to the Laboratories paragraph in the note as the accredited laboratory hasn’t been discussed yet.</p> <p>Suggestion / Justification</p> <p>Insert “(see ¶ 23.5.2)” between “. . . . Contact the accredited laboratory” and “to determine . . .”. Likely also insert “industrial hygiene” between “accredited” and “laboratory”.</p>		<p>(Select one)</p> <p><input type="checkbox"/> No further action</p> <p><input type="checkbox"/> Refer to TF for further review</p> <p><input type="checkbox"/> New Business</p> <p><input type="checkbox"/> Editorial Change: #__ in ECs below</p> <p><input type="checkbox"/> Other:</p> <p>(Select one)</p> <p><input type="checkbox"/> Committee agrees (no motion nec.)</p> <p><input type="checkbox"/> Motion to act as indicated above:</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p>

Summary of Editorial Changes

NOTICE: TF leaders have the option of addressing editorial changes prior to addressing negatives, if they believe that their editorial changes will render some or all of the submitted negatives non-persuasive.

NOTICE: It is only necessary to approve each editorial change separately if someone objects to one or more of the suggested changes.

#	Ref.	Before	After	Object? (Y/N)	Motion to Approve: (if necessary)
					By/2nd: Disc: Vote: #-#-#. Motion passed failed
					By/2nd: Disc: Vote: #-#-#. Motion passed failed

Move to approve **all** editorial changes as shown above:

By/2nd:

Disc:

Vote: #-#-#. **Motion passed failed**

Forwarding Motions

<i>Documents Passing Review</i>	<i>Documents Failing Review</i>
<p>Safety Check</p> <p>Move to find that this document:</p> <p><input type="checkbox"/> Is NOT a safety document: when all safety-related information is removed, the document is still technically sound and complete.</p> <p><input type="checkbox"/> IS a safety document: when all safety-related information is removed, the document is not technically sound and complete.</p> <p><input type="checkbox"/> The Safety Checklist (Regulations 13.3) for this document is complete and has accompanied the document through the balloting process.</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p> <p>Intellectual Property Check</p> <p>The meeting chair asked those present in person or by electronic link, if they were aware of any patented or copyrighted material in the Standard or Guideline. (Note: Such material might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this ballot.)</p> <p><input type="checkbox"/> No patented or copyrighted material is known to exist in the Standard or Guideline. (no motion needed)</p> <p><input type="checkbox"/> Patented or copyrighted material is known to exist in the Standard or Guideline but release for such material has been obtained or presented to the committee. (no motion needed)</p> <p><input type="checkbox"/> Patented or copyrighted material is known to exist in the Standard or Guideline but release for some of the material(s) has NOT been obtained or presented to the committee. The committee moves to:</p> <p><input type="checkbox"/> Ask the ISC for special permission to publish the standard without release</p> <p><input type="checkbox"/> Quit the activity</p> <p><input type="checkbox"/> Wait for the release of the patented or copyrighted material.</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p> <p>Final Action</p> <p>Move to:</p> <p><input type="checkbox"/> Pass this document as balloted and forward to the A&R for procedural review.</p> <p><input type="checkbox"/> Pass this document with editorial changes and forward to the A&R for procedural review.</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p>	<p>Followup Activity Authorization</p> <p>Move to:</p> <p><input type="checkbox"/> Return ballot to the originating task force for rework</p> <p><input type="checkbox"/> and authorize a follow-up ballot</p> <p><input type="checkbox"/> Transfer ballot to the (name) task force for rework</p> <p><input type="checkbox"/> and authorize a follow-up ballot</p> <p><input type="checkbox"/> Discontinue work on ballot.</p> <p><i>By/2nd:</i></p> <p><i>Disc:</i></p> <p><i>Vote: #-#-#. Motion passed failed</i></p>