

Record of Line-item Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**

Global Technical Committee: **Liquid Chemicals**

TC Chapter Cochairs: **Steve Rogers (CMC Materials), Don E. Hadder (Intel), Koh Murai (Mega Fluid Systems), Laura Ledenbach (Evonik)**

Standards Staff: **Laura Nguyen**

	Scheduled in Background Statement	Actual
Date	07/11/2023-07/12/2023	07/11/2023
Location	Moscone, San Francisco, CA/USA	Moscone, San Francisco, CA/USA
Reason for Change of Date and/or Location (if changed)		

Note: See *Regulations* ¶ 9.5 Exceptions for allowable reason to change.

Document Information

I. Document Number, Title, Lists of Line Items

Document Number 6993	Document Title Line-Item Revision to SEMI F98-0521, Guide for Water Reuse in Semiconductor Industry
List of Line Items Line Item 1	Line Item Title Updating KPIs for Water Reuse Rate Calculation

Line Item 1 Adjudication

II. Tally

Voting Tally: As-cast tally after close of voting period

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.6.2.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution	=	Return Rate	
Letter Ballot	57	÷	95	=	60.0%	≥60%
Intercommittee Ballot	37					
Voting Interest Reject(s)	1		Total Voters with Rejects			1
Voting Interest Accept(s)	38					

Note: See *Regulations* § 3.2.1 for definition of Voting Interest.

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: **Guru**)

Voter Reject 1 (Voter: **Eric Sklar / Safety Guru**)

Negative 1

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		12.1.1	
Negative	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.	
		Negative: The description of "Qm" refers to "domestic water", but that term is not defined. Reason/Justification: I can't tell whether changing it from included to excluded is technically correct. For example, is "domestic" a characterization of the source of water or of its use?	
TF input (optional)			
Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection
	<input type="checkbox"/>	Withdrawal document received by Standards staff on MM/DD/YYYY.	GO TO "Final" subsection → (A)
Related	Motion and Reason (check one)	<input type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection
		<input checked="" type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)
	Reason	Searched function was used to find for "Qm" and could not find "Qm" anywhere in the document. "Qin" in section 12.1.1. (that might be misread for "Qm" is defined on page 10). Section 12.1.1 does not have "Qm".	
	Motion by/ 2 nd by	By: Gary Van Schooneveld / CT Associates, Inc Second: Koh Murai / Mega Fluid Systems, Inc.	
Discussion	None		
Result of Vote (check one)	10 Y - 0 N; Motion passed.		
	<input type="checkbox"/>	[Negative is not related.] < 2/3	GO TO "Persuasive" subsection
	<input checked="" type="checkbox"/>	2/3 ≤ [Negative is not related.]	GO TO "Final" subsection → (B)
Final	(check if applicable)	<input type="checkbox"/>	(A) Withdrawn (counted under h in disposition)
		<input checked="" type="checkbox"/>	(B) Not related (counted under i in disposition)
		<input type="checkbox"/>	(C) Related and not persuasive (significant)
		<input type="checkbox"/>	(D) Not significant (counted under j in disposition)
		<input type="checkbox"/>	(E) Related and persuasive and not addressed by technical change
	<input type="checkbox"/>	(F) Addressed by technical change (counted under k disposition)	
(check if applicable)	Comment generated. See Section V-(ii) Comment # X.		

This table is needed for each Negative.

Negative 2

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
		Note 4		
Negative	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.		
		Negative: Change "Freshwater, raw water, or city water term used" to "Fresh water" Reason/Justification: The terms "raw water" and "city water" are not used in the equation. Nor, for that matter, is "freshwater" as a single word. Furthermore, it is water, not a term, that is water		
TF input (optional)				
	Withdrawal (check one)	<input checked="" type="checkbox"/> No Negative withdrawal made by Voter.	GO TO "Related" subsection	
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/> 'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection	
Persuasive	Motion and Reason (check one)	<input type="checkbox"/> Negative is related and persuasive. (Needs >1/3 votes to pass.)		
		<input checked="" type="checkbox"/> Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)		
		Reason	Editorial in nature.	
	Motion by/ 2 nd by	By: Gary Van Schooneveld / CT Associates, Inc Second: Bob McIntosh / GF Piping Systems		
	Discussion	None		
	Result of Vote (check one)	15 Y- 0 N; Motion passed.		
<input checked="" type="checkbox"/>		$2/3 \leq [\text{Negative is related and not persuasive.}] < 90\%$	GO TO "Final" subsection → (C)	
Final	(check if applicable)	<input type="checkbox"/> (A)	Withdrawn (counted under h in disposition)	
		<input type="checkbox"/> (B)	Not related (counted under i in disposition)	
		<input checked="" type="checkbox"/> (C)	Related and not persuasive (significant)	
		<input type="checkbox"/> (D)	Not significant (counted under j in disposition)	
		<input type="checkbox"/> (E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		<input type="checkbox"/> (F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # NC-1.	

Negative 3

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		Equation 3	
Negative	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.	
		Negative: Clarify the meaning of "reclaim efficiency" in the equation. Reason/Justification: Is "reclaim efficiency" intended to be a descriptor of "R"? If so, then it should follow the "where:". If not, explain what it is.	

Withdrawal (check one)		<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection	
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection	
		<input checked="" type="checkbox"/>	$2/3 \leq$ [Negative is not related.]	GO TO "Final" subsection → (B)	
Persuasive	Motion and Reason (check one)	<input type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)		
		<input checked="" type="checkbox"/>	Negative is related and not persuasive. (Needs $\geq 2/3$ votes to pass.)		
		<input type="checkbox"/>	Reason	Editorial in nature.	
	Motion by/ 2nd by	By: Bob McIntosh / GF Piping Systems Second: Chuck Dale / Veolia Water			
	Discussion	None			
	Result of Vote (check one)	15 Y- 0 N; Motion passed.			
<input checked="" type="checkbox"/>		$2/3 \leq$ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)		
<input type="checkbox"/>		$90\% \leq$ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
Final	(check if applicable)	<input type="checkbox"/>	(A)	Withdrawn (counted under h in disposition)	
		<input type="checkbox"/>	(B)	Not related (counted under i in disposition)	
		<input checked="" type="checkbox"/>	(C)	Related and not persuasive (significant)	
		<input type="checkbox"/>	(D)	Not significant (counted under j in disposition)	
		<input type="checkbox"/>	(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		<input type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # NC-2.		

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

3	Original number (#) of Negatives	(g)	
0	Number of Negatives withdrawn	(h)	
0	Number of Negatives found not related	(i)	
0	Number of Negatives found not significant	(j)	
0	Number of Negatives addressed by technical change (Negative becomes not significant)	(k)	
Final	<input type="checkbox"/>	$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	<input checked="" type="checkbox"/>	$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. Approval Conditions Check
	<input type="checkbox"/>	Reject without a Negative	Not Valid

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (Regulations ¶ 9.4.3.3)

Note: A Negative addressed by a technical change is automatically considered to be not significant. (Regulations ¶ 9.6.1.4.5.2)

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

None

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) **NC – 1 (SG1-2)**

Comment	*TF/TC Chapter to fill in	
	<p>NOTE 4 Negative: Change "Freshwater, raw water, or city water term used" to "Fresh water" Reason/Justification: The terms "raw water" and "city water" are not used in the equation. Nor, for that matter, is "freshwater" as a single word. Furthermore, it is water, not a term, that is water</p>	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
	<input checked="" type="checkbox"/>	Editorial change
Options for editorial change (check one)	<input type="checkbox"/>	<p>Case 1: No vote in this section:</p> <p>To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.</p>
	<input checked="" type="checkbox"/>	<p>Case 2: Voted in this section:</p> <p>Original section number and at least one full sentence are required in "FROM" and "TO" fields.</p>
Editorial Changes	1	<p>FROM: Section/Paragraph Note 4</p> <p>NOTE 4: Freshwater, raw water, or city water term used in this equation is the make-up water to the industrial facility that comes from the watershed that may include purified reclaim water from the source external to the semiconductor facility, thus considering any water that belongs to the watershed equally valuable.</p>
		<p>TO: Section/Paragraph Note 4 (A space was added between "fresh" and "water")</p> <p>NOTE 4: Fresh water, raw water, or city water term used in this equation is the make-up water to the industrial facility that comes from the watershed that may include purified reclaim water from the source external to the semiconductor facility, thus considering any water that belongs to the watershed equally valuable.</p>
		<p>Justification (If necessary) Editorial in nature to keep consistency throughout the document. "Fresh water" is spelled as two words throughout the document.</p>
Motion	To approve above editorial change(s)	
Motion by/2 nd by	By: Paul Kerr / Intel Corporation Second: Koh Murai / Mega Fluid Systems, Inc.	
Discussion	None	
Vote	13 Y-0 N; Motion passed.	

This table is needed for each Comment created by handling Negative.

Comment (Created by Handling Negative) **NC – 2 (SC1-3)**

Comment	*TF/TC Chapter to fill in	
	<p>Equation 3 <i>Negative: Clarify the meaning of "reclaim efficiency" in the equation. Reason/Justification: Is "reclaim efficiency" intended to be a descriptor of "R"? If so, then it should follow the "where:". If not, explain what it is.</i></p>	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
	<input checked="" type="checkbox"/>	Editorial change
	Options for editorial change (check one)	<input type="checkbox"/> Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.
		<input checked="" type="checkbox"/> Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.
Editorial Changes	1	FROM: Section/Paragraph Equation 3 $R = \frac{Q_D - Q_{IN}}{TACO} \times 100\%, \text{---reclaim efficiency} \quad (3)$ <p>where: $TACO = Q_D + Q_{MAH} - Q_{EVAP} - Q_{MBDF}$.</p>
		TO: Section/Paragraph Equation 3 $R = \frac{Q_D - Q_{IN}}{TACO} \times 100\%, \text{---reclaim efficiency} \quad (3)$ <p>where: <u>R = reclaim efficiency</u> $TACO = Q_D + Q_{MAH} - Q_{EVAP} - Q_{MBDF}$.</p>
		Justification (If necessary) Editorial in nature to follow Style Manual for Equations #6-5 (6) Define equation terms following the equation.
Motion	To approve above editorial change(s)	
Motion by/2 nd by	By: Paul Kerr / Intel Corporation Second: Koh Murai / Mega Fluid Systems, Inc.	
Discussion	None	
Vote	13 Y-0 N; Motion passed.	

VI. Editorial Changes Other than Those Voted on in § V
None

VII. Approval Conditions Check

VII. - (i). Approval Rate

APPROVAL CONDITION 1: All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (*Regulations ¶ 9.6.2.1.2*)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations ¶ 9.6.2.1.3*)

Note: If both approval conditions are not satisfied, the Document fails.

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	38	/	39	=	97.4%		≥90%	

VII. – (ii) Approval Level (check one)

Note: See *Regulations § 9.6.2* for further information.

Globally Approved (No Ratification Ballot needed):

Line Item 1 meets the Letter Ballot approval conditions for the global technical committee.

Need a Ratification Ballot:

Line Item 1 meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

Checks for Entire Document Including All Approved Line Items

VIII. Safety Check

Note: This Safety check applies to the entire Standard or Safety Guideline including all the approved Line Items. See § 15 of the *Regulations* for further information.

Motion	<input checked="" type="checkbox"/>	This is not a Safety Document , when all safety-related information is removed, the Document is still technically sound and complete. (<i>Regulations ¶ 8.7.1</i>)
	<input type="checkbox"/>	This is a Safety Document , when all safety-related information is removed, the Document is not technically sound and complete. (<i>Regulations ¶ 8.7.2</i>)
	<input type="checkbox"/>	Safety Checklist (<i>Regulations ¶ 15.3</i>) is complete and has been included with the Document throughout the balloting process. (<i>Regulations ¶ 15.1.2</i>)
Motion by/2 nd by		By: Koh Murai / Mega Fluid Systems, Inc. Second: Bob McIntosh / GF Piping Systems
Discussion		None
Vote		16 Y- 0 N; Motion passed

IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. Regardless of the coverage, this IP check applies to the entire Standard or Safety Guideline including all the approved Line Items*. See *Regulations § 16* for further information.

X	The TC Chapter meeting chair asked those participating, if they were aware of any patented technology that might be relevant (see <i>Regulations ¶ 16.3.1.1</i>) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see <i>Regulations ¶ 16.4.1.2</i>) in the Standard or Safety Guideline. (Also see, <i>Regulations § 8.8</i>)	
X	The question is NOT answered in affirmative (No potentially material patented technology or use/reproduction of copyrighted items/trademarks is known.)	GO TO SECTION X.

X. Action for This Document

Motion (Check all applicable items)	X	Line item(s) [1] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
Motion by/ 2nd by	By: Paul Kerr / Intel Corporation Second: Koh Murai / Mega Fluid Systems, Inc.	
Discussion	None	
Vote	14 Y- 0 N	
Final Action	X	Motion passed
		Motion failed

Note: If the use of PMPT or copyrighted item is justified by the TC Chapter, LOA or release form must be received before publication can proceed.