Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: North America
Global Technical Committee: PV Materials
TC Chapter Cochairs: Hugh Gotts/ Air Liquide
Standards Staff: Kevin Nguyen

	Scheduled in Background Statement	Actual
Date	07/12/2017	07/12/2017
Location	San Francisco Marriott Marquis	San Francisco Marriott Marquis
Reason for Change of Date and/or Location (if changed)		

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

I. Document Number and Title

Document Number	Document Title
6100	Reapproval of SEMI PV1-0211, Test Method for Measuring Trace Elements in Silicon Feedstock for Silicon Solar Cells by High Mass Resolution Glow Discharge Mass Spectrometry

II. Tally

Standards staff to fill in.

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* ¶ 9.7.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	51	÷	83	=	61.4%	≥60%
Intercommittee Ballot	27					
Voting Interest Reject(s)	1			Total Voters with Rejects		1
Voting Interest Accept(s)	25					

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

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III. Rejects

Voting Interest Reject 1 (Voting Interest Name: Wacker)
Voter Reject 1 (Voter: Dornberger, Erich (Wacker))
Negative 1

<table>
<tr><td rowspan="4">Negative</td><td rowspan="2">Referenced Section/ Paragraph</td><td colspan="4">*TF/TC Chapter to fill in, including text in the ballot if necessary.</td></tr>
<tr><td colspan="4">a) Proposed detection limits of 1000 to 1E6 pg/g are too high and hence irrelevant for Polysilicon.</td></tr>
<tr><td rowspan="2">Negative Text</td><td colspan="4">*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td colspan="2">TF input (optional)</td><td colspan="4"></td></tr>
<tr><td colspan="2" rowspan="2">Withdrawal (check one)</td><td>x</td><td colspan="2">No Negative withdrawal made by Voter.</td><td>GO TO "Related" subsection</td></tr>
<tr><td></td><td colspan="2">Withdrawal document received by Standards staff on MM/DD/YYYY.</td><td>GO TO "Final" subsection → (A)</td></tr>
<tr><td rowspan="8">Related</td><td rowspan="3">Motion and Reason (check one)</td><td>✶</td><td colspan="2">'Related' is mutually agreed upon. (Needs no motion.)</td><td>GO TO "Persuasive" subsection</td></tr>
<tr><td></td><td colspan="2">Negative is not related. (Needs ≥2/3 votes to pass.)</td><td></td></tr>
<tr><td></td><td>Reason</td><td>XXXX</td><td></td></tr>
<tr><td colspan="2">Motion by/ 2nd by</td><td colspan="4">Name (Company)/Name (Company)</td></tr>
<tr><td colspan="2">Discussion</td><td colspan="4"></td></tr>
<tr><td rowspan="3">Result of Vote (check one)</td><td colspan="4">XX Y-XX N; Motion passed/failed.</td></tr>
<tr><td></td><td colspan="2">[Negative is not related.] < 2/3</td><td>GO TO "Persuasive" subsection</td></tr>
<tr><td></td><td colspan="2">2/3 ≤ [Negative is not related.]</td><td>GO TO "Final" subsection → (B)</td></tr>
<tr><td rowspan="8">Persuasive</td><td rowspan="3">Motion and Reason (check one)</td><td></td><td colspan="2">Negative is related and persuasive. (Needs >1/3 votes to pass.)</td><td></td></tr>
<tr><td>x</td><td colspan="2">Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)</td><td></td></tr>
<tr><td></td><td>Reason</td><td>Just because the test method does not provide lowest detection, it does not mean it is not valid.</td><td></td></tr>
<tr><td colspan="2">Motion by/ 2nd by</td><td colspan="4">Rob Shutter (Swagelok)/ Steve Martell (Sonoscan)</td></tr>
<tr><td colspan="2">Discussion</td><td colspan="4"></td></tr>
<tr><td rowspan="3">Result of Vote (check one)</td><td colspan="4">3 Y-0 N; Motion passed.</td></tr>
<tr><td></td><td>[Negative is related and persuasive.] > 1/3</td><td rowspan="2">Is a technical change recommended? (check one)</td><td>Y</td><td>GO TO "Address by Technical Change Option" subsection</td></tr>
<tr><td></td><td>[Negative is related and not persuasive.] < 2/3</td><td>N</td><td>GO TO "Final" subsection → (E)</td></tr>
</table>

			2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**	
		x	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**	

Not Significant Finding Option		**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (*Regulations* ¶ 9.6.4.4.2)**		
	Use of "Not significant finding option" (check one)	x	It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**
			It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**
			Whether or not the Negative is "not significant" is decided by a vote.	
	Motion		The Negative is "not significant".	
	Motion by/ 2nd by		Name (Company)/Name (Company)	
	Vote		XX **Y**-XX **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**
			XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**

Final	**(check if applicable)**		**(A)**	Withdrawn **(counted under h in disposition)**	
			(B)	Not related **(counted under i in disposition)**	
			(C)	Related and not persuasive (significant)	
		x	**(D)**	Not significant **(counted under j in disposition)**	
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**
			(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.**	
			b) 2.6.7. Advanced wet chemistry is appropriate for bulk metal analysis **In summary, the proposed method is not relevant for solargrade Polysilicon**	
	Negative Text		***Original complete Negative text (e.g., issue, justification, suggestion) should be copied.**	
TF input (optional)				
	Withdrawal (check one)	x	No Negative withdrawal made by Voter.	**GO TO "Related" subsection**
			Withdrawal document received by Standards staff on MM/DD/YYYY.	**GO TO "Final" subsection → (A)**
Related	**Motion and Reason (check one)**		'Related' is mutually agreed upon. **(Needs no motion.)**	**GO TO "Persuasive" subsection**
			Negative is not related. **(Needs ≥2/3 votes to pass.)**	

		Reason	XXXX
	Motion by/ 2nd by	Name (Company)/Name (Company)	
	Discussion		
	Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.	
		[Negative is not related.] < 2/3	**GO TO "Persuasive" subsection**
		2/3 ≤ [Negative is not related.]	**GO TO "Final" subsection → (B)**

Persuasive	**Motion and Reason (check one)**	Negative is related and persuasive. **(Needs >1/3 votes to pass.)**	
		x Negative is related and not persuasive. **(Needs ≥2/3 votes to pass.)**	
		Reason	There are many test methods. Wet chemistry is not the only test method. High Mass Resolution Glow Discharge Mass Spectrometry method has been proven. Many people are using it, so it is important to make it available for the industry to use. Also, this is a test method, which is not used for qualifying material.
	Motion by/ 2nd by	Rob Shutter (Swagelok)/ Steve Martell (Sonoscan)	
	Discussion		
	Result of Vote (check one)	3 **Y**-0 **N**; Motion passed.	

Result of Vote detail:

check	Condition	Is a technical change recommended? (check one)	Y/N	Go To
	[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**	Y	**GO TO "Address by Technical Change Option" subsection**
	[Negative is related and not persuasive.] < 2/3		N	**GO TO "Final" subsection → (E)**
	2/3 ≤ [Negative is related and not persuasive.] < 90%	**GO TO "Final" subsection → (C)**		
x	90% ≤ [Negative is related and not persuasive.]	**GO TO "Not Significant Finding Option" subsection**		

Not Significant Finding Option	**This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.6.4.4.2)**		
	Use of "Not significant finding option" (check one)	x It is mutually agreed upon to term the Negative "not significant".	**GO TO "Final" subsection → (D)**
		It is mutually agreed upon to term the Negative "significant".	**GO TO "Final" subsection → (C)**
		Whether or not the Negative is "not significant" is decided by a vote.	
	Motion	The Negative is "not significant".	
	Motion by/ 2nd by	Name (Company)/Name (Company)	
	Vote	XX **Y**-XX **N**; Motion passed with simple majority	**GO TO "Final" subsection → (D)**
		XX **Y**-XX **N**; Motion failed with simple majority	**GO TO "Final" subsection → (C)**

			(A)	Withdrawn **(counted under h in disposition)**	
Final	**(check if applicable)**		(B)	Not related **(counted under i in disposition)**	
			(C)	Related and not persuasive (significant)	
		x	(D)	Not significant **(counted under j in disposition)**	
			(E)	Related and persuasive and not addressed by technical change	**DOCUMENT FAILS**
			(F)	Addressed by technical change **(counted under k disposition)**	
	(check if applicable)			Comment generated. **See Section V-(ii) Comment #** X.	

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

2	Original number (#) of Negatives	**(g)**
#	Number of Negatives withdrawn	**(h)**
#	Number of Negatives found not related	**(i)**
2	Number of Negatives found not significant	**(j)**
#	Number of Negatives addressed by technical change **(Negative becomes not significant)**	**(k)**

Final	x	$g - (h + i + j + k) = 0$	**Reject is Not Valid and is not included in the denominator of § VI.** *Approval Conditions Check*
		$g - (h + i + j + k) > 0$	**Reject is included in the denominator of § VI.** *Approval Conditions Check*
		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* ¶ 9.6.4.4.2)

IV. Other Technical Issues

Note: TC Chapter may choose to address a technical issue that is not part of a Negative received on a Letter Ballot (i.e., a Comment or a reason not addressed by a Vote response) by handling it as a Negative and finding it related and technically persuasive. The TC Chapter may then fail the Document or address

such technical issue by using the procedure defined in *Regulations* § 9.6.4.3 to make a technical change to the Document. (*Regulations* ¶ 9.6.2.4.5)

None

V. Comments
None

VI. Editorial Changes Other than Those Voted on in § V

Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.

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* ¶ 9.7.1.2)
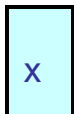
APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations* ¶ 9.7.1.3)

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

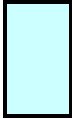|		Accepts		(Accepts + Valid Rejects)				
Approval Rate	=	25	/	25	=	100.0%		≥90%

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

Note: See *Regulations* § 9.7.2 for further information.

X **Globally Approved (No Ratification Ballot needed):**
The Letter Ballot meets the Letter Ballot approval conditions for the global technical committee.

	Need a Ratification Ballot: **The Letter Ballot meets the Letter Ballot approval conditions for the TC Chapter** **and a Ratification Ballot will be issued to validate technical changes.**

VIII. Safety Check

Note: See *Regulations* § 15 for further information.

<table>
<tr><td rowspan="3">Motion</td><td>x</td><td colspan="2">This is not a Safety Document, when all safety-related information is removed, the Document is still technically sound and complete. (<i>Regulations</i> ¶ 8.7.1)</td></tr>
<tr><td></td><td colspan="2">This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (<i>Regulations</i> ¶ 8.7.2)</td></tr>
<tr><td>■</td><td></td><td>Safety Checklist (<i>Regulations</i> ¶ 15.3) is complete and has been included with the Document throughout the balloting process. (<i>Regulations</i> ¶ 15.1.2)</td></tr>
<tr><td colspan="2">Motion by/2nd by</td><td colspan="2">Steve Martell (Sonoscan)/Rob Shutter (Swagelok)</td></tr>
<tr><td colspan="2">Discussion</td><td colspan="2">XXXX</td></tr>
<tr><td colspan="2">Vote</td><td colspan="2">3 Y-0 N; Motion passed</td></tr>
</table>

IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. This IP check applies to the entire Standard or Safety Guideline. See *Regulations* § 16 for further information.

<table>
<tr><td>x</td><td colspan="3">The TC Chapter meeting chair asked those participating, if they were aware of any potentially material patented technology or copyrighted items* in the Standard or Guideline. (<i>Regulations</i> ¶ 8.8.1)</td></tr>
<tr><td rowspan="9"></td><td>x</td><td colspan="2">No potentially material patented technology or reproduction of copyrighted items is known.</td></tr>
<tr><td colspan="2" rowspan="0"></td></tr>
<tr><td></td><td colspan="2">Potentially material patented technology or reproduction of copyrighted items is known, but a Letter of Assurance (LOA) or copyright release letter for such items has been obtained or presented to the TC Chapter.</td></tr>
<tr><td></td><td colspan="2">Potentially material patented technology or reproduction of copyrighted items is known and use of such materials is technically justified by the TC Chapter, but an LOA or copyright release letter for some of the item(s) has NOT been obtained or presented to the TC Chapter.</td></tr>
<tr><td rowspan="3">Motion</td><td></td><td>Ask ISC for special permission to publish.</td></tr>
<tr><td></td><td>Quit activity.</td></tr>
<tr><td></td><td>Wait for LOA for patented technology or release of copyrighted items.</td></tr>
<tr><td colspan="2">Motion by/2nd by</td><td>Name (Company)/Name (Company)</td></tr>
<tr><td colspan="2">Discussion</td><td>XXXX</td></tr>
</table>

(Note: the two "GO TO SECTION X." cells appear to the right of the first two sub-rows above.)

		GO TO SECTION **X.**

Vote	XX Y-XX N

Final Action		Motion passed
		Motion failed

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X. Action for This Document

Motion	x	This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
		This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
		This Document passed TC Chapter review with technical changes and with or without editorial changes and will be forwarded to the ISC A&R SC for procedural review. A Ratification Ballot will be issued to verify the technical changes.
		This Document failed TC Chapter review and will be returned to the TF for rework.
		This Document failed TC Chapter review and work will be discontinued.

Motion by/ 2nd by	Steve Martell (Sonoscan)/Rob Shutter (Swagelok)	
Discussion	XXXX	
Vote	3 Y-0 N	
Final Action	x	Motion passed
		Motion failed

A&R		Approved for publication
		Approved pending acceptance of the Ratification Ballot
		Not approved
	Reason:	