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

Region/Locale: NA

Global Technical Committee: EHS

TC Chapter Cochairs: Sean Larsen (Lam Research), Chris Evanston (Salus Engineering),

Bert Planting (ASML)

Standards Staff: Kevin Nguyen

	Scheduled in Background Statement	Actual
Date	7/13/2017	7/13/2017
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.

Document Information

I. Document Number, Title, Lists of Line Items

Doc 5917	ument Number A	Document Title Line Item Revisions to SEMI S8-1116, Safety Guideline For Ergonomics Engineering Of Semiconductor Manufacturing Equipment (Revisions on Multiple Topics)
List	Line Item 1	Line Item Title Revisions and additions to hand/arm clearances
t of Line	Line Item 2	Line Item Title Add a new Related Information section "Z" to assist with determining what tasks are within the scope of an assessment to SEMI S8

Line Item 1 Adjudication

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:

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	56	÷	93	=	60.2%	≥60%
Intercommittee Ballot	22					
Voting Interest Reject(s)	2		Total Vo	ters	with Rejects	2
Voting Interest Accept(s)	41					

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

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: TEL)
Voter Reject 1 (Voter: Lauren Crane/Tokyo Electron)

	Referenced	*TF/	/TC Chapter to fill in, in	ncluding text in the ballot if nec	essary.					
	Section/ Paragraph	7.3	7.3							
		Perceived Problem (PP)								
Negative	**All exposed surfaces that personnel are reasonably foreseen to contact should be free of shand burrs (see SEMI S2, § 18.2)." – This criterion already exists in S2. The non-revision-relative reference might quickly become incorrect. There does not seem to be sufficient value add for it could cause confusion and become incorrect without careful monitoring. **Proposed Solution (PS)** Delete this sentence.									
TF i	input (optional)									
	Withdrawal	х	No Negative withdrawa	GO TO "Related" subsection						
	(check one)		Withdrawal document received by Standards staff on MM/DD/YYYY.		GO TO "Final" subsection → (A)					
	Motion and	X	'Related' is mutually ag	greed upon. (Needs no motion.)	GO TO "Persuasive" subsection					
	Reason		Negative is not related	. (Needs ≥2/3 votes to pass.)						
Rel	(check one)		Reason	xxxx						
Related	Motion by/ 2 nd by	Name (Company)/Name (Company)								
	Discussion									
		XX '	Y-XX N ; Motion passed	/failed.						

		ult of Vote		[Negative is not related.	.] < 2/3				GO TO "Persuasive" subsection	
	(cł	neck one)							GO TO "Final" subsection → (B)	
		-4: d	x	Negative is related and persuasive. (Needs >1/3 votes to pass.)						
	l	otion and Reason neck one)		legative is related and not persuasive. (Needs ≥2/3 votes to pass.)						
				Reason	Reason XXXX					
۾		otion by/ 2 nd by	Ron	n Macklin (Bureau Veritas	s NA) /P	Paul Schwab (Tex	xas lı	nstru	ument)	
rsu	Di	scussion								
Persuasive			8 Y	-0 N; Motion passed						
Ve			x	[Negative is related and persuasive.] > 1/3	С	s a technical hange ecommended?	х	Y	GO TO "Address by Technical Change Option" subsection	
		Result of Vote (check one)		[Negative is related and persuasive.] < 2/3		(check one)		N	GO TO "Final" subsection → (E)	
				2/3 ≤ [Negative is relate and not persuasive.] < 9		O TO "Final" s	ubse	ctio	n → (C)	
				90% ≤ [Negative is relat and not persuasive.]	to d	GO TO "Not Significant Finding Option" subsection				
Address		nal sectio		ecommendations agraph number and at l	east on	ne full sentence	are ı	requ	iired in "FROM" and "TO"	
res		FROM	: Sect	tion/Paragraph XXX						
s by Technical Change Option	FROM: Section/Paragraph XXX 7.3 Hand/Arm Clearance All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see S2, § 18.2). Covers should not interfere with access. Additional clearance should be provided if heavier clothing or personal protective equipment for the arm is anticipated Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate. • Cleanroom gloves with liners: 3 mm (0.12 in.) • Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.) • Thermal insulating gloves over cleanroom gloves and liners: 13 mm (0.50 in.) Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom over-garm Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports provide visual access. Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increa									

TO: Section/Paragraph xxx

7.3 Hand/Arm Clearance

All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI-S2, § 18.2).

Covers should not interfere with access.

Additional clearance should be provided if heavier clothing or personal protective equipment for the arm is anticipated.

Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.

- Cleanroom gloves with liners: 3 mm (0.12 in.)
- Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.)
- Thermal insulating gloves over cleanroom gloves and liners: 13 mm (0.50 in.)

Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom over-garment.

Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports can provide visual access.

Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increasing the opening size can increase the reach distance.

Note 5: See SEMI S2, § 18 regarding sharp edges and burrs.

Justification

To avoid duplication with SEMI S2

	Motion				Negative is addressed by the technical change(s).					
	Motion by/2 nd by				Ron Macklin (Bureau Veritas NA) /Paul Schwab (Texas Instrument)					
	Discussion									
ŀ					10	Y-0 N; N	Motion passed			
		Result of V (check on			X	2/3 ≤ [N change	legative is addressed by the technical (s).]	GO TO "Incorporation of the Technical Change" subsection		
	(chook one)						ve is not addressed by the technical (s).] < 2/3	GO TO "Final" subsection → (E)		
Ī		Motion			To i	ncorpor	ate the technical change(s).			
	Tec	Motion by/	2 nd b	у	Ron Macklin (Bureau Veritas NA) /Lauren Crane(Tokyo Electron)					
	orpor.	Discussion	1							
	atio al C				10 Y-0 N; Motion passed					
	ncorporation of the Technical Change	Result o		е	X	x 90% ≤ [Agree to incorporate.]		GO TO "Final" subsection → (F)		
	he e	(check	(check one)			[Disagree to incorporate.]>10%		GO TO "Final" subsection → (E)		
					(A)	Withdrawn (counted under h in disp	osition)		
					(B)	Not related (counted under i in disp	osition)		
	(6	check if			(C)	Related and not persuasive (significa	nt)		
		plicable)			(D)	Not significant (counted under j in d	isposition)		
					(E)		Related and persuasive and not addressed by technical change	DOCUMENT FAILS		
			Χ		(F)	Addressed by technical change (coul	nted under k disposition)		
	•	check if plicable)		Con	nme	nt genera	ated. See Section V-(ii) Comment # X.			

	Referenced	*TF/T	C Chapter to fill in, in	cludi	ng text in the ballo	t if nec	essary.		
	Section/ Paragraph	7.3							
Negative	Perceived Problem (PP) In 'Covers should not interfere with access.' it is not clear what a 'cover' is intended what is considered interfering. This criterion is worded too subjectively to be appropriately during evaluations. Proposed Solution (PS) Reword to more clear and objective terms or delete the criterion.								
TFi	input (optional)								
	Withdrawal	x N	lo Negative withdrawa	l made	e by Voter.		GO TO "Related" subsection		
	(check one)		Vithdrawal document r	eceive	ed by Standards sta	ff on	GO TO "Final" subsection → (A)		
		* 'F	Related' is mutually ag	reed u	ipon. (Needs no mo	otion.)	GO TO "Persuasive" subsection		
	Motion and Reason	N	legative is not related.	(Needs ≥2/3 votes to pass.)					
	(check one)	R	Reason	xxxx					
Rel	Motion by/ 2 nd by	Name	Name (Company)/Name (Company)						
Related	Discussion								
		XX Y -XX N ; Motion passed/failed.							
	Result of Vote (check one)	1]	Negative is not related	.] < 2/3	3		GO TO "Persuasive" subsection		
	(oneok one)	2	:/3 ≤ [Negative is not re	elated.]		GO TO "Final" subsection → (B)		
	Matianand	x N	legative is related and	persu	asive. (Needs >1/3	votes t	to pass.)		
	Motion and Reason (check one)	N	legative is related and	not pe	ersuasive. (Needs 2	≥2/3 vot	es to pass.)		
Per	· ·	R	Reason XXXX						
Persuasive	Motion by/ 2 nd by	ıs Instru	ments)						
Ve	Discussion	n							
		10 Y-0	O N; Motion passed						
	Result of Vote (check one)		Is a technical Support of the state of the s				GO TO "Address by Technical Change Option" subsection		

Technical Changes

		[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)				
		90% ≤ [Negative is related and not persuasive.]	GO TO "Not Sig	nifica	ant F	inding Option" subsection	

Technical Change Recommendations

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

FROM: Section/Paragraph XXX

7.3 Hand/Arm Clearance

All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI S2, § 18.2).

Covers should not interfere with access.

Additional clearance should be provided if heavier clothing or personal protective equipment for the arm is anticipated.

Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.

- Cleanroom gloves with liners: 3 mm (0.12 in.)
- Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.)
- Thermal insulating gloves over cleanroom gloves and liners: 13 mm (0.50 in.)

Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom over-garment.

Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports can provide visual access.

Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increasing the opening size can increase the reach distance.

TO: Section/Paragraph xxx

7.3 Hand/Arm Clearance

All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI S2, § 18.2).

Covers should not interfere with access. The access criteria in this section should be met with the covers, if any, in their "open" positions.

Additional clearance should be provided if heavier clothing or personal protective equipment for the arm is anticipated.

Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.

- Cleanroom gloves with liners: 3 mm (0.12 in.)
- Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.)
- $\bullet\,$ Thermal insulating gloves over clean room gloves and liners: 13 mm (0.50 in.)

Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom over-garment.

Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports can provide visual access.

Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increasing the opening size can increase the reach distance.

Justification (If necessary)

Clarification of the statement that any cover over an opening must not affect the minimum opening criteria stated in the specific section when the cover is opened for gaining access.

Motion	Negative is addressed by the technical change(s).
Motion by/2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)
Discussion	
Result of Vote	8 Y-0 N; Motion passed/failed.

A&R Ballot Report Template (Line Item) Revision 1.4

		(check one)			2/3 ≤ [Negative is addressed by the technical change(s).]		GO TO "Incorporation of the Technical Change" subsection			
					[Negative is not addressed by the technical change(s).] < 2/3		GO TO "Final" subsection → (E)			
	Motion				To incorporate the technical change(s).					
	Tec	Motion by/	2 nd b	y R	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)					
	Incorporation of the Technical Change	Discussion	1							
	atior al C			8	Y- 0 N ; Mot	ion passed.				
	hang Result		Result of Vote		90% ≤ [/	Agree to incorporate.]	GO TO "Final" subsection → (F)			
	he e	(check	(check one)		[Disagree to incorporate.]>10%		GO TO "Final" subsection → (E)			
					(A)	Withdrawn (counted under h in disposition)				
				(B)		Not related (counted under i in disposition)				
	(0	check if		(C)		Related and not persuasive (significant)				
Final	•	plicable)			(D)	Not significant (counted under j in d	isposition)			
<u>a</u>					(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS			
				(F)		Addressed by technical change (cour	Addressed by technical change (counted under k disposition)			
		check if plicable)		Comment generated. See Section V-(ii) Comment # X.						

INEG	auve s								
	Referenced Section/	*TF/	TC Chapter to fill in, inclu	ding text in the ballot if nec	essary.				
	Paragraph								
Ž		Per	ceived Problem (PP)						
Negative		Hea	vier clothing etc does not	necessarily mean the clothing	g is thicker.				
Ve	Negative Text	Pro	posed Solution (PS)						
		Cha	Change "heavier" to "thicker".						
TF	input (optional)								
	Withdrawal	х	No Negative withdrawal made by Voter.		GO TO "Related" subsection				
	(check one)		Withdrawal document receimm/DD/YYYY.	ived by Standards staff on	GO TO "Final" subsection → (A)				
	Motion and		'Related' is mutually agreed	d upon. (Needs no motion.)	GO TO "Persuasive" subsection				
Re	Reason		Negative is not related. (Ne	eeds ≥2/3 votes to pass.)					
Related	(check one)		Reason XXX	xx					
	Motion by/ 2 nd by	Nan	Name (Company)/Name (Company)						

	Di	scussi	on								
				XX	Y-XX N; Motion	passed/faile	d.				
		Result of Vote (check one)			[Negative is not related.] < 2/3				GO TO "Persuasive" subsection		
	(0.	ioon oi	.0)		2/3 ≤ [Negative	is not relate	d.]		GO TO "Final" subsection → (B)		
				х	Negative is rela	ted and pers	suasive. (Needs >1/	/3 vot	tes to pass.)		
	i	otion a Reasor neck or	1		Negative is rela	legative is related and not persuasive. (Needs ≥2/3 votes to pass.)					
	(01	icon oi	ic)		Reason	xxx	X				
۳		otion b 2 nd by	y/	Ron	Macklin (Bureau	ı Veritas NA)/Paul Schwab (Tex	kas In	estruments)		
Persuasive	Di	scussi	on								
Jasi				6 Y-	-0 N ; Motion pas	sed.					
Ve	Ras	-			[Negative is rela persuasive.] > 1		Is a technical change recommended?	х	GO TO "Address by Technical Change Option" subsection		
	Result of Vote (check one)			[Negative is relapersuasive.] < 2		(check one)		N GO TO "Final" subsection → (E)			
					2/3 ≤ [Negative and not persuas		GO TO "Final" s	ubse	ection → (C)		
					90% ≤ [Negative and not persuas	e is related		nifica	ant Finding Option" subsection		
Addr		inal sed			ecommendation		one full sentence	are r	required in "FROM" and "TO"		
ess					tion/Paragraph)	(XX					
					Clearance	are reasonably	y foreseen to contact sho	ould be	e free of sharp edges and burrs (see SEMI		
by Technical Change Option			§ 18.2		Personne.	ure reasonasi	101000011 10 00111101 011	Juliu 00	o not of sharp edges and carry (see \$221.21		
hni	Tec				not interfere with acc						
cal	hni			al clearance should be provided if heavier clothing or personal protective equipment for the arm is anticipated. Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.							
Chi	Technical Changes	1			oom gloves with line			snave	been provided where appropriate.		
nge	Cha				-		gloves and liners: 6 mm	n (0.20	in.)		
0	nge		• Th	nerma	al insulating gloves o	ver cleanroom	gloves and liners: 13 m	nm (0.5	50 in.)		
otio	S								othing with a cleanroom over-garment.		
] 5					commended opening access.	sizes in this se	ection do not ensure visu	ial acc	ess. Larger openings or viewports can		
		Not	e 4: W	here			these are based on the s	size of	the opening. In many cases, increasing the		

TO: Section/Paragraph xxx

7.3 Hand/Arm Clearance

All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI S2, § 18.2).

Covers should not interfere with access.

Additional clearance should be provided if heavier thicker clothing or personal protective equipment for the arm is anticipated.

Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.

- Cleanroom gloves with liners: 3 mm (0.12 in.)
- Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.)
- Thermal insulating gloves over cleanroom gloves and liners: 13 mm (0.50 in.)

Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom over-garment.

Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports can provide visual access.

Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increasing the opening size can increase the reach distance.

Justification (If necessary)

The word "heavier" could mean the weight of the clothing rather than the dimensional thickness, which was the original intent. Also, the word "heavier" may not translate into other languages as intended.

	languag	jes a	2 1111	tend	eu.					
Motic	on			Neg	jative is	addressed by the technical change(s).				
Motic	on by/2 nd by	/		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)						
Discu	ussion									
				6 Y-0 N; Motion passed/failed.						
Result of Vote (check one)				X	2/3 ≤ [change	Negative is addressed by the technical e(s).]	GO TO "Incorporation of the Technical Change" subsection			
						ive is not addressed by the technical e(s).] < 2/3	GO TO "Final" subsection → (E)			
	Motion			То	incorpo	rate the technical change(s).				
Inco	Motion by/2 nd by Discussion Change Result of Vote (check one)		у	Ror	Mackli	n (Bureau Veritas NA)/Paul Schwab (Te	xas Instruments)			
orpora hnic										
atio al C					-0 N ; Mo	otion passed.				
n of tl hang	Result o		-	X	90% ≤	[Agree to incorporate.]	GO TO "Final" subsection → (F)			
he e	(check	one)			[Disag	ree to incorporate.]>10%	GO TO "Final" subsection → (E)			
				(A)	Withdrawn (counted under h in disp	oosition)			
				(B)	Not related (counted under i in disp	osition)			
((check if applicable)			((C)	Related and not persuasive (significa	nt)			
•				(D)	Not significant (counted under j in d	isposition)			
				((E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS			
		Х			(F)	Addressed by technical change (cou	nted under k disposition)			
(check if applicable) Comment generated. See Section V-(ii) Comment # X.										

	Referenced	*TF/	TC Chapter to fill in, ir	cludi	ng text in the ball	lot if n	ec	essary.				
	Section/ Paragraph	7.3.	3									
Negative	Negative Text	The Pro	Ceived Problem (PP) Chem glove value shou posed Solution (PS) Ee Chem glove value 120		. ,	19.						
TF	input (optional)											
	Withdrawal	х	No Negative withdrawa	l mad	e by Voter.			GO TO "Related" subsection				
	(check one)		Withdrawal document r MM/DD/YYYY.	eceive	ed by Standards st	aff on		GO TO "Final" subsection → (A)				
	Motion and	×	'Related' is mutually ag	reed ι	ıpon. (Needs no n	notion	.)	GO TO "Persuasive" subsection				
	Reason		Negative is not related.	(Nee	ds ≥2/3 votes to p	ass.)						
	(check one)	Reason XXXX										
Re	Motion by/ 2 nd by	Nan	Name (Company)/Name (Company)									
Related	Discussion											
		XX '	Y-XX N; Motion passed	failed.								
	Result of Vote (check one)		[Negative is not related		GO TO "Persuasive" subsection							
	(6.1.50.1.5)		2/3 ≤ [Negative is not re		GO TO "Final" subsection → (B)							
	Matter and	х	Negative is related and	persu	asive. (Needs >1/	3 vote	s t	o pass.)				
	Motion and Reason (check one)		Negative is related and	not p	ersuasive. (Needs	≥2/3 v	ot	es to pass.)				
_	(61100110110)		Reason	XXXX	(
Persuasive	Motion by/ 2 nd by	Ron	Macklin (Bureau Verita	s NA)/	Paul Schwab (Tex	as Ins	tru	ments)				
Nise	Discussion											
Θ		7 Y-	0 N; Motion passed/fail	ed.								
	Result of Vote (check one)	x [Negative is related and persuasive.] > 1/3			Is a technical x Y change recommended?			GO TO "Address by Technical Change Option" subsection				
			[Negative is related and persuasive.] < 2/3	not	(check one)		N	GO TO "Final" subsection → (E)				

ı	I			. =							
					egative is related persuasive.] < 90%	GO TO "I	Final" subsection	on → (C)			
				•	legative is related	GO TO "I	Not Significant I	Finding Option" subsection			
					persuasive.]	00 10 1	tot olgilliloant i	many option subsection			
	Tech	nic	al Change Recor	nmei	ndations						
	Origi fields				h number and at least one full sentence are required in "FROM" and "TO"						
			FROM: Section/		• •		34 . 1				
				earanc cess.	e provided for flat hand t	o wrist	Major dimension, Bare hand	minimum 114 mm (4.5 in.)			
					mension is parallel to the	axis of the	Cleanroom glove				
				-	ickles (metacarpal phalan		Chemical glove	119 mm (4.7 in.)			
				-	ith the hand in the intend	-	Insulating glove	127 mm (5.0 in.)			
			ori	ientatio	on.		Minor dimension,	minimum			
							Bare hand	89 mm (3.5 in.)			
							Cleanroom glove	, ,			
							Chemical glove	95 mm (3.7 in.)			
	Ţ.						Insulating glove	102 mm (4.0 in.)			
)ch		TO: Section/Pa	ragra	ph xxx						
>	nica		7.3.3 Cl	earanc	e provided for flat hand t	o wrist	Major dimension,	minimum			
ddr	Technical Changes	1		cess.			Bare hand	114 mm (4.5 in.)			
sə.				-	mension is parallel to the	Cleanroom glove					
d s	ng			-	ickles (metacarpal phalan ith the hand in the intend	-	Chemical glove	119 120 mm (4.7 in.)			
y T	Se			ints) w ientatio		zu	Insulating glove	127 mm (5.0 in.)			
ec							Minor dimension,				
nni							Bare hand	89 mm (3.5 in.)			
cal							Cleanroom glove				
Ω Ω							Chemical glove Insulating glove	95 mm (3.7 in.) 102 mm (4.0 in.)			
Address by Technical Change C			1				mounting grove	102 mm (4.0 m.)			
Detion			Justification (If			clearanc	e has been adiu	sted to be consistent with th			
					ertaining to the use						
	Motic	on		Neg	ative is addressed by	the techn	ical change(s).				
	Motio	on k	oy/2 nd by	Ron	Macklin (Bureau Ve	ritas NA)/P	aul Schwab (Tex	kas Instruments)			
	Disc	uss	ion								
				8 Y-	0 N; Motion passed.						
			sult of Vote heck one)	X	2/3 < [Negative is addressed by the technic			GO TO "Incorporation of the Technical Change" subsection			
		•	•		[Negative is not add change(s).] < 2/3	the technical	GO TO "Final" subsection → (E)				
	_	Мс	otion	To ii	ncorporate the tech	nical chan	ge(s).	~ (-)			
	n cor	Mc	otion by/2 nd by	1	Macklin (Bureau Ve			cas Instruments)			
	Incorporation of the	Dis	scussion			•	· ·	·			
	atio	\vdash		0 V	O.N: Motion passed						
		1		∀ T -	0 N; Motion passed.						

	Result o	f Vote	e X	g	90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)		
	(check	one)		[]	[Disagre	e to incorporate.]>10%	GO TO "Final" subsection → (E)		
				(A)	N)	Withdrawn (counted under h in disp	osition)		
				(B)		Not related (counted under i in disposition)			
	(check if		(C)		;)	Related and not persuasive (significate	nt)		
Final	applicable)		(D)			Not significant (counted under j in disposition)			
a		x		(E)	Ξ)	Related and persuasive and not addressed by technical change			
				(F)		Addressed by technical change (counted under k disposition)			
	(check if applicable)		• •			ted. See Section V-(ii) Comment # X.			

	Referenced Section/		<u> </u>	ncluding text in the ballot if nec	essary.				
	Paragraph	7.3.	6						
Negative	Negative Text	Perceived Problem (PP) There is no need to constrain the shape of the opening as long as the minim provided i.e., the opening could be oval or triangular and still provide a minimal clearance of 132. Proposed Solution (PS) Remove reference to particular opening shapes.							
TFi	nput (optional)								
	Withdrawal		No Negative withdrawa	Il made by Voter.	GO TO "Related" subsection				
	(check one)		Withdrawal document r MM/DD/YYYY.	eceived by Standards staff on	GO TO "Final" subsection → (A)				
	Motion and	×	'Related' is mutually ag	reed upon. (Needs no motion.)	GO TO "Persuasive" subsection				
	Reason		Negative is not related.	(Needs ≥2/3 votes to pass.)					
	(check one)		Reason	xxxx					
Rela	Motion by/ 2 nd by	Nan	ne (Company)/Name (C	Company)					
Related	Discussion								
			Y-XX N; Motion passed/	failed.					
	Result of Vote (check one)		[Negative is not related	.] < 2/3	GO TO "Persuasive" subsection				
	(cneck one)		2/3 ≤ [Negative is not re	elated.]	GO TO "Final" subsection → (B)				

l I			1										
				x N	legative	is related and	l persu	asive. (Nee	ds >1	/3 vo	tes t	o pass.)	
	R	eas	and on one)	N	legative	is related and	l not pe	ersuasive. (Needs	s ≥2/3	3 vot	es to pass.)	
			,	R	Reason	son XXXX							
ק _		tion I nd b	by/ by	Ron M	1acklin ((Bureau Verita	s NA)/	Paul Schwa	ab (Tex	kas Ir	nstru	ments)	
ersi	Dis	cus	sion										
Persuasive				8 Y- 0	N; Moti	on passed.							
						[Negative is related and persuasive.] > 1/3			cal	х	Υ	GO TO "Address by Technical Change Option" subsection	
	(check one) [Ne			ersuasi	e is related and ve.] < 2/3		(check or	ne)		N	GO TO "Final" subsection → (E)		
				a	nd not բ	egative is relate persuasive.] <	90%	GO TO "Fi	nal" s	ubse	ectio	n → (C)	
						legative is rela persuasive.]	ited	GO TO "N	ot Sig	nific	ant F	Finding Option" subsection	
Те	echn	ical	Chang			ndations							
	rigin elds.	•			-		least o	one full ser	ntence	are	requ	ired in "FROM" and "TO"	
		F	ROM: S	Sectio	n/Para	graph XXX							
		7.	7.3.6			e provided for one Opening may be ci		5115 61661	Dia., m	inimu	m 132	2 mm (5.2 in.)	
Ado	Тес	Ц			rectangul								
dres	hnic	TO:	TO: Sec	tion/F	Paragra	ph xxx							
· •	Technical Chan	1	7.3.0			e provided for one			Dia., m	inimu	m 132	2 mm (5.2 in.)	
chn	ges	ľ			rectangui								
Technical Change Option		S					rtant a	s long as t	the mi	nimı	ım s	ize criteria for the opening is	
nge C	otio		net.		Nega	ative is addres	sed by	the technic	cal cha	ınge(s).		
) ptic	otio	n by	/2 nd by	,	Ron	Macklin (Bure	au Ver	itas NA)/Pa	ul Sch	wab	(Tex	as Instruments)	
) Dis	iscu												
					8 Y-	0 N; Motion pa	assed/f	ailed.					
	Result of Vote (check one)					2/3 ≤ [Negativ change(s).]	e is ac	ldressed by	the te	chnic	cal	GO TO "Incorporation of the Technical Change" subsection	
						[Negative is no change(s).] <		essed by th	ne tech	nnica		GO TO "Final" subsection → (E)	
5	-[Moti	ion		To ir	ncorporate the	e techr	nical chang	e(s).				

		Motion by/	2 nd k	эу	Roi	n Macklin (Bureau Veritas NA)/Paul Schwab (Te	xas Instruments)		
		Discussion	1							
					9 Y	'-0 N ; Motio	on passed.			
		Result of Vote (check one)			X	90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)		
)		[Disagree	e to incorporate.]>10%	GO TO "Final" subsection → (E)		
					(A)		Withdrawn (counted under h in disp	oosition)		
					((B)	Not related (counted under i in disposition)			
	0	check if			((C)	Related and not persuasive (significant)			
Final	•	plicable)				(D)	Not significant (counted under j in d	isposition)		
al								(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
			Х			(F)	Addressed by technical change (cou	nted under k disposition)		
	•	check if			mment generated. See Section V-(ii) Comment # X.					
	ap	Adjust the illustration in the figure in 7.3.4								

	Referenced Section/		<u> </u>	o fill in, in	ncluding text in the ballot if nec	essary.					
	Paragraph	7.3.	7.3.8								
Negative	Negative Text	This char sour Ren state	Perceived Problem (PP) This change is to more strict criteria, but there is no compelling rationale give for why a change is needed (e.g. in the background statement – not being able to find the original source for 483/114 does not necessarily mean they are insufficient values for our industry). Removing the reach dimension does not seem to solve the issue cited in background statement that the current reach does not accommodate a worldwide population. Proposed Solution (PS) Do not make this change								
TF	input (optional)										
	Withdrawal	х	No Negative v	withdrawa	GO TO "Related" subsection						
	(check one)		Withdrawal do MM/DD/YYYY		GO TO "Final" subsection → (A)						
	Motion and	×	'Related' is m	utually ag	reed upon. (Needs no motion.)	GO TO "Persuasive" subsection					
	Reason		Negative is no	ot related.	(Needs ≥2/3 votes to pass.)						
Related	(check one)		Reason		xxxx						
ed	Motion by/ 2 nd by	Nan	ne (Company)	/Name (C	Company)						
	Discussion										

				XX	Y-XX N; Motion passe	d/failed						
	_		of Vote		[Negative is not relate					GO TO "Persuasive" subsection		
	(0	Heci	c one)		2/3 ≤ [Negative is not	related.]			GO TO "Final" subsection → (B)		
				х	Negative is related an	tes t	to pass.)					
		Rea	n and son ‹ one)		Negative is related an	legative is related and not persuasive. (Needs ≥2/3 votes to pass.)						
	(0	(check c			Reason	XXXX	(
 _P	N	lotio 2 nd	n by/ by	Ron	Macklin (Bureau Verit	as NA)/	Paul Schwab (Tex	as Ir	nstru	ments)		
Persuasive	D	iscu	ssion									
iser				7 Y-	0 N; Motion passed.							
ve	Pa	eult :	of Vote	X	[Negative is related ar persuasive.] > 1/3	Is a technical change recommended?	х	Y	GO TO "Address by Technical Change Option" subsection			
			eck one)		[Negative is related ar persuasive.] < 2/3		(check one)		N	GO TO "Final" subsection → (E)		
					2/3 ≤ [Negative is rela and not persuasive.] <		GO TO "Final" s	ubse	ectio	n → (C)		
					90% ≤ [Negative is related and not persuasive.]		GO TO "Not Sign	nifica	ant F	Finding Option" subsection		
Address by Technical Change Option	Original Changes		FROM:	Section Clear handacce	tion/Paragraph XXX a the Ballot arance provided for two ds arm to shoulders ess ess not ensure visual	each, ma Vidth, mir Vidth, mir leight, mi	ximum 610 mm (24 in nimum 483 mm (19 in nimum 495 mm (19.5 in nimum 114 mm (4.5 in nimum 125 mm (4.9 in nimum 125)) in.)	requ	Reach Width		
ge Option	Changes											

		TO: Se	ction/	/Parag	raph xxx							
		Restore	e to c	urrent	ly as pub	lishe	ed					
		7.3.		Clearar for two shoulde	nce provided hands arm ters access not ensure	l R	Reach, maximum 610 mm (24 in.) Width, minimum 483 mm (19 in.) Height, minimum 114 mm (4.5 in.)	ļ	Reach Width Height			
	Motio	The TF associa that we	and [.] ited w	TC agr th Ll-	1 shouldi iteria in 7	n't fa .3.8	ail due to this one change. T as it is currently published in	here 1 S8-	made and the other changes efore, the Taskforce requests -1116.			
							essed by the technical change(-				
	Motio	n by/2 nd by	<u>/</u>	Ro	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)							
	Discu	ssion										
				7 Y	/-1 N ; Mot	tion	passed.					
		Result of V		x	cnange(s).]				GO TO "Incorporation of the Technical Change" subsection			
					[Negative change)		not addressed by the technica < 2/3	l	GO TO "Final" subsection → (E)			
		Motion		То	To incorporate the technical change(s).							
	nco Tec	Motion by/	2 nd b	y Ro	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)							
	orpo Shni	Discussion	1									
	Incorporation Technical Ch			6 V	/-0 N ; Mot	ion r	nassed					
	on of the Change	Result o					ee to incorporate.]		GO TO "Final" subsection → (F)			
	he e	(check one)			[Disagre	e to	incorporate.]>10%		GO TO "Final" subsection → (E)			
					(A)	Wit	thdrawn <mark>(counted under h in</mark>	disp	osition)			
					(B)	No	t related (counted under i in o	dispo	osition)			
	(0	(check if			(C)	Re	elated and not persuasive (sign	ifican	nt)			
Final		plicable)		(D)	No	t significant (counted under j	in di	sposition)				
a				(E)	add	elated and persuasive and not dressed by technical change		DOCUMENT FAILS				
		х			(F)	Add	dressed by technical change (coun	ted under k disposition)			
	•	check if plicable)		Comm	ent genera	ated.	See Section V-(ii) Comment	# X.				

	Referenced	*TF/TC Chapter to fill in, i	ncluding text in the ballot if nec	essary.						
	Section/ Paragraph	RI-Y								
Negative	Negative Text	main body of the SESC, wheready for publication. Proposed Solution (PS)	much of the same criteria that are nich somewhat implies it has not hold the criterial already propose	ad sufficient review and is not						
TF	input (optional)									
	Withdrawal	x No Negative withdraw	al made by Voter.	GO TO "Related" subsection						
	(check one)	Withdrawal document MM/DD/YYYY.	received by Standards staff on	GO TO "Final" subsection → (A)						
	Motion and	* 'Related' is mutually a	greed upon. (Needs no motion.)	GO TO "Persuasive" subsection						
	Motion and Reason	Negative is not related	l. (Needs ≥2/3 votes to pass.)							
	(check one)	Reason	xxxx							
Rel	Motion by/ 2 nd by	Name (Company)/Name (Company)								
Related	Discussion									
		XX Y-XX N; Motion passed/failed.								
	Result of Vote (check one)	[Negative is not related	d.] < 2/3	GO TO "Persuasive" subsection						
	(0.10011 0.110)	2/3 ≤ [Negative is not	related.]	GO TO "Final" subsection → (B)						
		x Negative is related and	d persuasive. (Needs >1/3 votes	to pass.)						
	Motion and Reason (check one)	Negative is related and	d not persuasive. (Needs ≥2/3 vot	tes to pass.)						
Per	· ·	Reason	xxxx							
Persuasive	Motion by/ 2 nd by	Ron Macklin (Bureau Verita	as NA)/Paul Schwab (Texas Instru	iments)						
Ve	Discussion									
		7 Y-0 N; Motion passed.								
	Result of Vote (check one)	[Negative is related and persuasive.] > 1/3 Is a technical change recommended? (check one) X Y GO TO "Address by Technical Change O subsection Check one)								

			[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" s	ubse	ectio	on → (C)
			90% ≤ [Negative is related and not persuasive.]	GO TO "Not Sigr	nifica	ant F	Finding Option" subsection
>	Technical Chang	je R	ecommendations				
\ddress by	Original section/ fields.	/para	agraph number and at least o	one full sentence	are	requ	uired in "FROM" and "TO"

FROM:

RELATED INFORMATION Y ADDITIONAL HAND/ARM CLEARANCE RECOMMENDATIONS

Hand and arm clearance recommendations are provided for gloved and ungloved conditions in Table RY-1.

All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI S2, § 18.2).

Covers should not interfere with access.

Additional clearance should be added for heavier clothing or personal protective equipment for the arm is anticipated.

Note 1: Clearances for cleanroom, chemical and thermal protective gloves have been provided where appropriate.

- Cleanroom gloves with liners: 3 mm (0.12 in.)
- Chemical resistant gloves over cleanroom gloves and liners: 6 mm (0.20 in.)
- Thermal insulating gloves over cleanroom gloves and liners: 13 mm (0.50 in.)

Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom overgarment.

Note 3: The recommended opening sizes in this section do not ensure visual access. Larger openings or viewports can provide visual access.

Note 4: Where reach measurements are provided, these are based on the size of the opening. In many cases, increasing the opening size can increase the reach distance.

Note 5: For applications where the hand can be rotated about the axis of the forearm based on the activity performed, the provided opening dimensions are labeled "major" and "minor" (the major dimension is the larger of the two). For example, if a wrench must be turned horizontally to perform a task, then the horizontal dimension of the opening should be larger.

Table RY-1 Hand/Arm Clearance Recommendations

Number	Indicator	Recommended	d Dimensions	Reference Pictogram
Y-1	Common screwdriver use with freedom to turn hand 180°.	Cleanroom glove 12 Chemical glove 12 Insulating glove 13 Minor dimension, mi Bare hand 12 Cleanroom glove 13	20 mm (4.7 in.) 23 mm (4.8 in.) 26 mm (5.0 in.) 33 mm (5.2 in.) inimum 10 mm (4.3 in.) 13 mm (4.4 in.) 16 mm (4.6 in.)	Major dimension Minor dimensio

TO:

RELATED INFORMATION Y

ADDITIONAL HAND/ARM CLEARANCE RECOMMENDATIONS HAND-HELD OBJECTS

See Appendix 1, §§ 7.3 for additional information pertaining to hand/arm access.

Table RY-1 Hand/Arm Clearance Recommendations

Number	Indicator	Recommended Dimensions	Reference Pictogram
Y-1	Common screwdriver use with freedom to turn hand 180°.	Major dimension, minimum Bare hand 120 mm (4.7 in.) Cleanroom glove 123 mm (4.8 in.) Chemical glove 126 mm (5.0 in.) Insulating glove 133 mm (5.2 in.) Minor dimension, minimum Bare hand 110 mm (4.3 in.) Cleanroom glove 113 mm (4.4 in.) Chemical glove 116 mm (4.6 in.) Insulating glove 123 mm (4.8 in.)	Major dimension Minor dimension

Justification (If necessary)

The TF and TC agree that the preamble to Appendix 1 §§ 7.3 does not need to be repeated within the new RI. It is also felt that the title of the RI needs to be changed to reflect that these hand/arm clearances are supplemental guidance and not a continuation of the criteria stated within Appendix 1 §§ 7.3.

	WICHIII	.ppc	<u> </u>		3 7 101		
Motio	on		N	leç	gative is a	ddressed by the technical change(s).	
Motio	Motion by/2 nd by		R	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)			
Discussion							
				<mark>7</mark> ١	Y-0 N ; Mo	tion passed.	
Result of Vote (check one)		x	2/3 ≤ [Negative is addressed by the technical change(s).]		•	GO TO "Incorporation of the Technical Change" subsection	
				[Negative is not addressed by the technical change(s).] < 2/3			GO TO "Final" subsection → (E)
	Motion		Т	To incorporate the technical change(s).			
Inco	Motion by/	2 nd k	y R	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)			
ncorporation Technical Ch	Discussion	1					
ation			7	7 Y-0 N; Motion passed/failed.			
on of the Change		Result of Vote		,	90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)
าe e	(check	one)		[Disagree to incorporate.]>10%		e to incorporate.]>10%	GO TO "Final" subsection → (E)
				(A)		Withdrawn (counted under h in disposition)	
(check if				((B)	Not related (counted under i in disp	osition)
applicable)			((C)	Related and not persuasive (significa	nt)	
				((D)	Not significant (counted under j in d	isposition)

		(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
	Х	(F)	Addressed by technical change (coun	ted 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.

7	Original	Original number (#) of Negatives (g)					
#	Number	of N	egatives withdrawn		(h)		
#	Number of Negatives found not related (i)						
#	Number of Negatives found not significant (j)						
7			egatives addressed by technic t significant)	al change (Negative	(k)		
	х		$\mathbf{g} - (\mathbf{h} + \mathbf{i} + \mathbf{j} + \mathbf{k}) = 0$	Reject is Not Valid and denominator of § VI. A	is not included in the pproval Conditions Check		
	Final		g - (h + i + j + k) >0 Reject is included in the Approval Conditions (ne denominator of § VI.		

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)

Voting Interest Reject 2 (Voting Interest Name: LAM)

Voter Reject 1 (Voter: Sean Larsen (LAM Research))

Negative 1

	Referenced Section/	*TF/TC Chapter to fill in, including text in the ballot if necessary.					
Z	Paragraph		7				
Negative		Is th	ere any date, vers	sion, or revision indication for this handbook	?		
/e	Negative Text	- 00	estion / Justification would be good to	o indicate in case a future revision changes so	ome of the values.		
TF	input (optional)						
	Withdrawal (check one)		No Negative withdrawal made by Voter.		GO TO "Related" subsection		
			Withdrawal document received by Standards staff on 07/13/2017.		GO TO "Final" subsection → (A)		
		X	(A)	Withdrawn (counted under h in disp	position)		
			(B)	Not related (counted under i in disp	oosition)		
	(check if		(C)	Related and not persuasive (significa	ınt)		
Final	applicable)		(D)	Not significant (counted under j in d	lisposition)		
a			(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS		
			(F)	Addressed by technical change (cou	nted under k disposition)		
	(check if applicable)	Comment generated. See Section V-(ii) Comment # X.					

	Section/		TC Chapter to fill	in, including text in the ballot if ne	cessary.	
Negative	Negative Text	Was the intent to allow unlimited reach? The proposed change deletes the "reach" requirement. Suggestion / Justification Leave the 24 inch reach requirement until agreement is reached on a different value.				
TFi	input (optional)					
	Withdrawal (check one)		No Negative withou	drawal made by Voter.	GO TO "Related" subsection	
(Withdrawal document received by Standards staff on 07/13/2017.		GO TO "Final" subsection → (A)	
Fir al	(check if	Х	(A)	Withdrawn (counted under h in dis	sposition)	
	applicable)		(B)	Not related (counted under i in disp	position)	

		(C)	Related and not persuasive (significan	t)
		(D)	Not significant (counted under j in dis	sposition)
			Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		(F)	Addressed by technical change (coun	ted under k disposition)
(check if applicable)	Х	Comment generat	ted. See Section V-(ii) Comment # X.	

Disposition of Voting Interest Reject 2

Check only when the Document has not been failed.

2	Original number (#) of Negatives (g)							
2	Number	of N	egatives withdrawn		(h)			
#	Number	of N	egatives found not related		(i)			
#	Number of Negatives found not significant (j)							
#			egatives addressed by technic tsignificant)	al change (Negative	(k)			
	х				is not included in the pproval Conditions Check			
	Final		g - (h + i +j + k) >0	ne denominator of § VI. 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

None

V. Comments

V- (i) Voters' Comments

Commenter 1 (Murata Machinery: Tadamasa Tominaga) - Comment 1

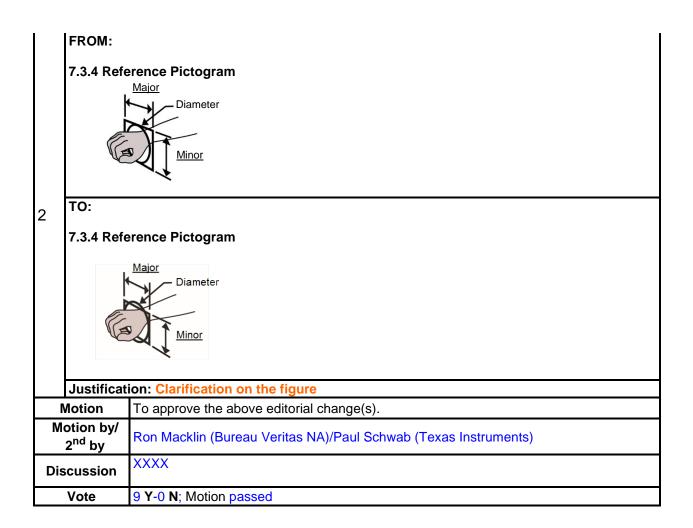
Com	*TF	*TF/TC Chapter to fill in section/paragraph #, if necessary.						
Comment	Hov	Accept, However, I think the operation is difficult because the type of glove used is not the story the equipment supplier decides.						
	The	The TC Chapter agreed to do one of the following actions.						
	*No	*No motion is required in this step.						
A		Already addressed by Commenter #, Comment #						
Action	Х	No further action was taken by the TC Chapter.						
		Refer to the TF for more consideration.						
		New Business						
		Editorial Change						

V-(ii) Comments Created by Handling Negative 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.

	Origin of this editorial change (Check one)		Commenter(s) / Comment(s) #					
			Other [Withdrawn Reject 2 of negative 1]					
	FROM: Section/Paragraph XXX							
1	8 Related Documents 8.9 Other Documents 8.9.7 MIL-HDBK-759: Handbook for Human Engineering Design Guidelines. Washington, D.C: Department of Defense.							
	TO: Section/Paragraph XXX							
	8 Related Documents 8.9 Other Documents 8.9.7 MIL-HDBK-759C: Handbook for Human Engineering Design Guidelines. Washington, I Department of Defense. July 31, 1995.							
	Justification: (If necessary)							



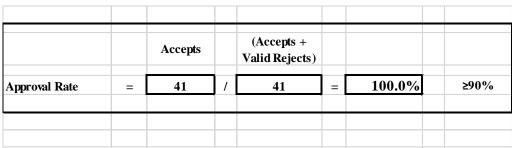
VII. Approval Conditions Check

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.



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

Note: See Regulations § 9.7.2 for further information.

	Globally Approved (No Ratification Ballot needed): Line Item 1 meets the Letter Ballot approval conditions for the global technical committee.
x	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.

Line Item 2 Adjudication

II. Tally

Voting Tally:

22	÷	93	=	60.2%	≥60%
22					
1		Total Voters with Rejects		1	
41					
	41	41			

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

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: Lam Research) Voter Reject 1 (Sean Larsen – Lam Research)

	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballo LI2 RZ-1.2.1, RZ-1.3, Table RZ-1	ot if necessary.
Neg		*Original complete Negative text (e.g., issue, justi copied.	ification, suggestion) should be
Negative	Negative Text	What is the intent of having operation tasks separated out to concerned this will get confusing with S2 issues for operat. This also seems to imply that manual handling of 300mm. Suggestion / Justification Suggest to divide this into something like "regularly occur	tors (such as different interlock criteria). FOUPs could be acceptable.
		working order" vs. "tasks to repair the system upon failure	
TF	input (optional)		
	Withdrawal (check one)	x No Negative withdrawal made by Voter.	GO TO "Related" subsection

			Withdrawal docur	nent receiv	ved by Standards st	taff on	1	GO TO "Final" subsection → (A)			
		×		ally agreed	upon. (Needs no r	notio	n.)	GO TO "Persuasive" subsection			
	Motion and Reason		Negative is not related. (Needs ≥2/3 votes to pass.)								
	(check one)		Reason XXXX								
Reli	Motion by/ 2 nd by	Nan	Name (Company)/Name (Company)								
Related	Discussion										
		XX	Y-XX N; Motion pa	assed/faile	d.						
	Result of Vote (check one)		[Negative is not re	elated.] < 2	//3			GO TO "Persuasive" subsection			
	(chicon chic)		2/3 ≤ [Negative is	not related	d.]			GO TO "Final" subsection → (B)			
			Negative is relate	d and pers	uasive. (Needs >1/	3 vot	es t	to pass.)			
	Motion and Reason	X	x Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								
	(check one)		Reason	mair		ated ir	nfor	lloted is valuable and wants to mation is considered useful and the document.			
Pe	Motion by/ 2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)									
rsua	Discussion										
Persuasive		7 Y-	1 N; Motion passe	ed.							
θ	Result of Vote		[Negative is relate persuasive.] > 1/3		Is a technical change recommended?		Y	GO TO "Address by Technical Change Option" subsection			
	(check one)		[Negative is related persuasive.] < 2/3		(check one)		N	GO TO "Final" subsection → (E)			
		x	2/3 ≤ [Negative is and not persuasiv	/e.] < 90%	GO TO "Final" s	ubse	ctio	n → (C)			
			90% ≤ [Negative i and not persuasiv		GO TO "Not Sign	nifica	nt F	Finding Option" subsection			
			(A)	Withdraw	n (counted under	h in d	lisp	osition)			
			(B)	Not relate	d (counted under	i in d	ispo	osition)			
	(check if	Х	(C)	†	nd not persuasive (,			
Final	applicable)		(D)		icant (counted und		n di	sposition)			
==			(E)	addresse	nd persuasive and d by technical chan	ge		DOCUMENT FAILS			
	(check if		(F)	•	•			ted under k disposition)			
	applicable)		Comment genera	ted. See S	ection V-(ii) Comn	nent #	# X.				

	Referenced	*TF/	TC Chapter to	fill in, including text in the ballot if ne	cessary.					
	Section/ Paragraph	LI2 RZ-1.2.1, RZ-1.3, Table RZ-1								
Ne		*Ori		Negative text (e.g., issue, justification	n, suggestion) should be					
Negative	Negative Text	the falso man	For the 5 year criteria, is this expectation for each system, or that if you have 100 or 1000 systems in the field, you will need to have replaced 1 after 5 years do to something stupid occurring. It would also be useful to indicate that this is similar, but either is or is not defined by whether the equipment manufacturer decides to "spare" the part. Suggestion / Justification The concept seems to be rather crucial to this section, but is not clear how it relates to the normal idea							
			f spares in the industry.							
TFi	input (optional)									
	Withdrawal		No Negative wi	ithdrawal made by Voter.	GO TO "Related" subsection					
-	(check one)	X	Withdrawal doc 07/13/2017.	cument received by Standards staff on	GO TO "Final" subsection → (A)					
		Х	(A)	Withdrawn (counted under h in dis	position)					
			(B)	Not related (counted under i in disp	oosition)					
	(check if		(C)	Related and not persuasive (signification	ant)					
Final	applicable)		(D)	Not significant (counted under j in d	lisposition)					
ıal			(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS					
			(F)	Addressed by technical change (cou	nted under k disposition)					
	(check if applicable)	X	Comment gene	erated. See Section V-(ii) Comment # X	·					

_	Referenced Section/ Paragraph		TC Chapter to fill Figure RZ-1 Note	C Chapter to fill in, including text in the ballot if necessary. gure RZ-1 Note						
Negative	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. This note is problematic as it is written as a criterion for the contents of the system manuals. Suggestion / Justification Rewrite the note to clarify.								
TF	input (optional)									
	Withdrawal		No Negative with	drawal made by Voter.	GO TO "Related" subsection					
	(check one)		Withdrawal docum 7/13/2017.	nent received by Standards staff on -	GO TO "Final" subsection → (A)					
П	(also also if	X	(A)	Withdrawn (counted under h in disp	sposition)					
Final	(check if applicable)		(B)	Not related (counted under i in disp	osition)					
	,		(C)	Related and not persuasive (significa	ant)					

		(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 (coun	ddressed by technical change (counted under k disposition)			
(check if applicable)	Х	Comment genera	nerated. See Section V-(ii) Comment # X.				

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

3	Original	Original number (#) of Negatives (g)						
2	Number	of N	(h)					
#	Number of Negatives found not related (i)							
#	Number of Negatives found not significant (j)							
#	# Number of Negatives addressed by technical change (Negative becomes not significant)				(k)			
			g - (h + i + j + k) = 0		$\mathbf{g} - (\mathbf{h} + \mathbf{i} + \mathbf{j} + \mathbf{k}) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check		
	Final $g - (h + i + j + k) > 0$ Reject is included in the denominal 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 None

V. Comments None

V- (i) Voters' Comments None

V-(ii) Comments Created by Handling Negative None

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

	T			than those voted on in g v							
		this editorial change		Commenter(s) / Comment(s) #							
	((Check one)	X	Other [from withdrawn negative 2 of reject 1]							
	FROM: Se	FROM: Section/Paragraph XXX									
1	or restore p	RZ-2.4 <i>spareable component</i> — a component that has been determined as needing to be available to maintain or restore proper operation of the equipment. This includes consumables and components for which, based on experience, failure, or wear-out is expected within five (5) years.									
	TO: Section	TO: Section/Paragraph XXX									
	or restore p	RZ-2.4 <i>spareable component</i> — a component that has been determined as needing to be available to maintain or restore proper operation of the equipment. This includes consumables and components for which, based on experience, failure, or wear-out is expected within five (5) years on a single piece of equipment.									
		ion: (<mark>If necessary)</mark> e the confusion exp	ress	ed in the negative of this related information							
		this editorial change		Commenter(s) / Comment(s) #							
		Check one)	x	Other [from withdrawn negative 3 of reject 1]							
2	Note: If a component is a "spareable" item then it should be addressed within the maintenance or service manual, whichever is applicable. Figure RZ-1 SEMI S8 Evaluation Scope Flowchart TO: RELATED INFORMATION Z Figure RZ-1 note Note: If a component is a "spareable" item then it should be addressed within the maintenance or service manual, whichever is applicable.										
		Figure RZ-1 SEMI S8 Evaluation Scope Flowchart Justification: (If necessary) Editorial, removing a note from the figure RZ-1 in the Related Information section									
	Motion	To approve the above	/e e4	itorial change(s)							
	lotion by/			5 ()							
<u> </u>	2 nd by	` ·	u ver	itas NA)/Paul Schwab (Texas Instruments)							
1	Discussion XXXX										
L Di	scussion	XXXX	_								

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	=	41	1	42	=	97.6%	≥90%

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

Note: See Regulations § 9.7.2 for further information.

X	Globally Approved (No Ratification Ballot needed): Line Item 2 meets the Letter Ballot approval conditions for the global technical committee.
	Need a Ratification Ballot:

Checks for Entire Document Including All Approved Line Items

VIII. Safety Check

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

				Safety Document , when all safety-related information is removed, the Document lly sound and complete. (<i>Regulations</i> ¶ 8.7.1)					
Motion	x		This is a Safety Document , when all safety-related information is removed, the Document is not echnically sound and complete. (<i>Regulations</i> ¶ 8.7.2)						
		х		ecklist ($Regulations$ ¶ 15.3) is complete and has been included with the Document the balloting process. ($Regulations$ ¶ 15.1.2)					
ı	Moti	ion	by/2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)					
	Discussion		ussion	XXXX					
	Vote			8 Y-0 N; Motion passed					

IX. Intellectual Property (IP) Check

Note: This IP check <u>applies to the entire Standard or Safety Guideline</u> including all the approved Line Items. See § 16 of the *Regulations* for further information.

х	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>Regulation</i> 8.8.1)										
	Х		otentially n righted iter		patented technology or reproduction of own.	GO TO SECTION X.					
	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.										
		use (of such ma	teriaİs i	s technically justified by the TC Chapter, but a	r reproduction of copyrighted items is known and d by the TC Chapter, but an LOA or copyright NOT been obtained or presented to the TC Chapter.					
	~		Ask ISC f	or spec	or special permission to publish.						
	Motion		Quit activ	ity.	ry.						
	Ď		Wait for L	OA for patented technology or release of copyrighted items.							
	Mot	ion by	y/2 nd by	Name	ne (Company)/Name (Company)						
	С	Discus	ssion	XXXX	XXX						
		Vot	te	XX Y-XX N							
		inal ^	ction		Motion passed						
	-	iiiai A	Clion		Motion failed						

^{*} Note: Such potentially material patented technology or copyrighted items might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this Letter Ballot.

X. Action for This Document

a		Line item(s) [X], [X] and [X] passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.			
Motion (Check all applicable items)	X	Line item(s) [2] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.			
	X	Line item(s) [1] passed TC Chapter review with technical changes and with 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.			
		Line item(s) [X], [X] and [X] failed TC Chapter review and will be returned to the TF for rework.			
		Line i	tem(s) [X], [X] and [X] failed TC Chapter review and work will be discontinued.		
Motion by/ 2nd by			Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
Discussion			XXXX		
Vote			7 Y-0 N		
Tital A 44 au			x Motion passed		
Final Action		n	Motion failed		

Standards staff to record the result of the A&R procedural review here:

A&R		Line item(s) [X], [X] and [X] are Approved for publication			
		Line item(s) [X], [X] and [X] are Approved pending acceptance of the Ratification Ballot			
		Line item(s) [X], [X] and [X] are Not approved			
	Reason:				