

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

Document Number 5917A		Document Title Line Item Revisions to SEMI S8-1116, Safety Guideline For Ergonomics Engineering Of Semiconductor Manufacturing Equipment (Revisions on Multiple Topics)
List of Line Items	Line Item 1	Line Item Title Revisions and additions to hand/arm clearances
	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 Voters 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)

Negative 1

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
	Negative Text	<p>7.3</p> <p>Perceived Problem (PP)</p> <p>"All exposed surfaces that personnel are reasonably foreseen to contact should be free of sharp edges and burrs (see SEMI S2, § 18.2)." – This criterion already exists in S2. The non-revision-relative section reference might quickly become incorrect. There does not seem to be sufficient value add for this and it could cause confusion and become incorrect without careful monitoring.</p> <p>Proposed Solution (PS)</p> <p>Delete this sentence.</p>		
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 checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection
		<input type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)	
		Reason	XXXX	
	Motion by/ 2nd by	Name (Company)/Name (Company)		
Discussion				
		XX Y-XX N; Motion passed/failed.		

	Result of Vote (check one)	<input type="checkbox"/>	[Negative is not related.] < 2/3	GO TO “Persuasive” subsection		
	Result of Vote (check one)	<input type="checkbox"/>	2/3 ≤ [Negative is not related.]	GO TO “Final” subsection → (B)		
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)			
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)			
			Reason	XXXX		
	Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA) /Paul Schwab (Texas Instrument)				
	Discussion					
	Result of Vote (check one)	8 Y-0 N; Motion passed				
<input checked="" type="checkbox"/>		[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/>	Y	GO TO “Address by Technical Change Option” subsection
<input type="checkbox"/>		[Negative is related and not persuasive.] < 2/3	Is a technical change recommended? (check one)	<input type="checkbox"/>	N	GO TO “Final” subsection → (E)
<input type="checkbox"/>		2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO “Final” subsection → (C)			
<input type="checkbox"/>		90% ≤ [Negative is related and not persuasive.]	GO TO “Not Significant Finding Option” subsection			
Address by Technical Change Option	Technical Change Recommendations					
	Original section/paragraph number and at least one full sentence are required in “FROM” and “TO” fields.					
Technical Changes	1	<p>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.</p> <ul style="list-style-type: none"> • 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.) <p>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.</p>				

		<p>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.</p> <ul style="list-style-type: none"> • 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.) <p>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. <u>Note 5: See SEMI S2, § 18 regarding sharp edges and burrs.</u></p>	
		<p>Justification To avoid duplication with SEMI S2</p>	
Motion		Negative is addressed by the technical change(s).	
Motion by/2nd by		Ron Macklin (Bureau Veritas NA) /Paul Schwab (Texas Instrument)	
Discussion			
Result of Vote (check one)		10 Y-0 N; Motion passed	
		<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).] GO TO “Incorporation of the Technical Change” subsection
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3 GO TO “Final” subsection → (E)
Incorporation of the Technical Change	Motion		To incorporate the technical change(s).
	Motion by/2nd by		Ron Macklin (Bureau Veritas NA) /Lauren Crane(Tokyo Electron)
	Discussion		
	Result of Vote (check one)		10 Y-0 N; Motion passed
		<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.] GO TO “Final” subsection → (F)
		<input type="checkbox"/>	[Disagree to incorporate.]>10% GO TO “Final” subsection → (E)
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 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 checked="" type="checkbox"/>	(F) Addressed by technical change (counted under k disposition)	
(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.	

Negative 2

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.				
		7.3				
	Negative Text	<p>Perceived Problem (PP)</p> <p>In 'Covers should not interfere with access.' it is not clear what a 'cover' is intended to be and what is considered interfering. This criterion is worded too subjectively to be applied consistently during evaluations.</p> <p>Proposed Solution (PS)</p> <p>Reword to more clear and objective terms or delete the criterion.</p>				
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 checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)		GO TO "Persuasive" subsection	
		<input type="checkbox"/>	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.				
<input type="checkbox"/>		[Negative is not related.] < 2/3			GO TO "Persuasive" subsection	
<input type="checkbox"/>		2/3 ≤ [Negative is not related.]			GO TO "Final" subsection → (B)	
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)			
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)			
		Reason	XXXX			
	Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)				
	Discussion					
Result of Vote (check one)	10 Y-0 N; Motion passed					
	<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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)		
		90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
Technical Change Recommendations					
Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.					
Address by Technical Change Option	Technical Changes	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. <ul style="list-style-type: none"> • 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). <u>Covers should not interfere with access. The access criteria in this section should be met with the covers, if any, in their "open" positions.</u> 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. <ul style="list-style-type: none"> • 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) 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/2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
		Discussion			
		Result of Vote	8 Y-0 N; Motion passed/failed.		

	(check one)	<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO “Incorporation of the Technical Change” subsection	
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3	GO TO “Final” subsection → (E)	
	Incorporation of the Technical Change	Motion	To incorporate the technical change(s).		
		Motion by/2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
		Discussion			
Result of Vote (check one)	8 Y-0 N; Motion passed.				
	<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.]	GO TO “Final” subsection → (F)		
	<input type="checkbox"/>	[Disagree to incorporate.] > 10%	GO TO “Final” subsection → (E)		
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 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 checked="" type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.		

Negative 3

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
		7.3		
	Negative Text	<p>Perceived Problem (PP) Heavier clothing etc... does not necessarily mean the clothing is thicker.</p> <p>Proposed Solution (PS) Change “heavier” to “thicker”.</p>		
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 checked="" type="checkbox"/>	‘Related’ is mutually agreed upon. (Needs no motion.)	
		<input type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)	
		Reason	XXXX	
	Motion by/ 2 nd by	Name (Company)/Name (Company)		

	Discussion					
	Result of Vote (check one)	XX Y-XX N; Motion passed/failed.				
		<input type="checkbox"/>	[Negative is not related.] < 2/3	GO TO "Persuasive" subsection		
		<input type="checkbox"/>	2/3 ≤ [Negative is not related.]	GO TO "Final" subsection → (B)		
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)			
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)			
			Reason	XXXX		
	Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)				
	Discussion					
		Result of Vote (check one)	6 Y-0 N; Motion passed.			
	<input checked="" type="checkbox"/>		[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/> Y	GO TO "Address by Technical Change Option" subsection
	<input type="checkbox"/>		[Negative is related and not persuasive.] < 2/3	<input type="checkbox"/>	N	GO TO "Final" subsection → (E)
	<input type="checkbox"/>		2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)		
	<input type="checkbox"/>		90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
Address by Technical Change Option	Technical Change Recommendations					
	Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.					
	Technical Changes	1	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. <ul style="list-style-type: none"> 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.			

		<p>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.</p> <ul style="list-style-type: none"> • 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.) <p>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.</p>	
		<p>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.</p>	
Motion		Negative is addressed by the technical change(s).	
Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)	
Discussion			
Result of Vote (check one)		6 Y-0 N; Motion passed/failed.	
		<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).] GO TO “Incorporation of the Technical Change” subsection
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3 GO TO “Final” subsection → (E)
Incorporation of the Technical Change	Motion		To incorporate the technical change(s).
	Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)
	Discussion		
	Result of Vote (check one)		7 Y-0 N; Motion passed.
		<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.] GO TO “Final” subsection → (F)
		<input type="checkbox"/>	[Disagree to incorporate.] > 10% GO TO “Final” subsection → (E)
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 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 checked="" type="checkbox"/>	(F) Addressed by technical change (counted under k disposition)	
(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.	

Negative 4

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.				
		7.3.3				
	Negative Text	Perceived Problem (PP) The Chem glove value should be 120 (114+6) not 119. Proposed Solution (PS) Make Chem glove value 120mm (etc..)				
	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 checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)		GO TO "Persuasive" subsection	
		<input type="checkbox"/>	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.				
<input type="checkbox"/>		[Negative is not related.] < 2/3		GO TO "Persuasive" subsection		
	<input type="checkbox"/>	2/3 ≤ [Negative is not related.]		GO TO "Final" subsection → (B)		
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)			
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)			
		Reason	XXXX			
	Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)				
	Discussion					
	Result of Vote (check one)	7 Y-0 N; Motion passed/failed.				
<input checked="" type="checkbox"/>		[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/>	Y	GO TO "Address by Technical Change Option" subsection
	<input type="checkbox"/>	[Negative is related and not persuasive.] < 2/3		<input type="checkbox"/>	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 Significant Finding Option" subsection	
Technical Change Recommendations				
Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.				
Address by Technical Change Option	Technical Changes	FROM: Section/Paragraph XXX		
		7.3.3	<p>Clearance provided for flat hand to wrist access.</p> <p>Major dimension is parallel to the axis of the large knuckles (metacarpal phalangeal joints) with the hand in the intended orientation.</p>	<p>Major dimension, minimum</p> <p>Bare hand 114 mm (4.5 in.)</p> <p>Cleanroom glove 117 mm (4.6 in.)</p> <p>Chemical glove 119 mm (4.7 in.)</p> <p>Insulating glove 127 mm (5.0 in.)</p> <p>Minor dimension, minimum</p> <p>Bare hand 89 mm (3.5 in.)</p> <p>Cleanroom glove 92 mm (3.6 in.)</p> <p>Chemical glove 95 mm (3.7 in.)</p> <p>Insulating glove 102 mm (4.0 in.)</p>
		TO: Section/Paragraph xxx		
		7.3.3	<p>Clearance provided for flat hand to wrist access.</p> <p>Major dimension is parallel to the axis of the large knuckles (metacarpal phalangeal joints) with the hand in the intended orientation.</p>	<p>Major dimension, minimum</p> <p>Bare hand 114 mm (4.5 in.)</p> <p>Cleanroom glove 117 mm (4.6 in.)</p> <p>Chemical glove 119 120 mm (4.7 in.)</p> <p>Insulating glove 127 mm (5.0 in.)</p> <p>Minor dimension, minimum</p> <p>Bare hand 89 mm (3.5 in.)</p> <p>Cleanroom glove 92 mm (3.6 in.)</p> <p>Chemical glove 95 mm (3.7 in.)</p> <p>Insulating glove 102 mm (4.0 in.)</p>
Justification (If necessary)				
Ballot preparation error. Chemical glove clearance has been adjusted to be consistent with the rest of the section pertaining to the use chemical gloves.				
Motion		Negative is addressed by the technical change(s).		
Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
Discussion				
Result of Vote (check one)		8 Y-0 N; Motion passed.		
		<input checked="" type="checkbox"/> 2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection	
		<input type="checkbox"/> [Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)	
Incorporation of the	Motion		To incorporate the technical change(s).	
	Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)	
	Discussion			
			9 Y-0 N; Motion passed.	

		Result of Vote (check one)	<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.]	GO TO “Final” subsection → (F)	
			<input type="checkbox"/>	[Disagree to incorporate.] > 10%	GO TO “Final” subsection → (E)	
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 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 checked="" type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)		
	(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.			

Negative 5

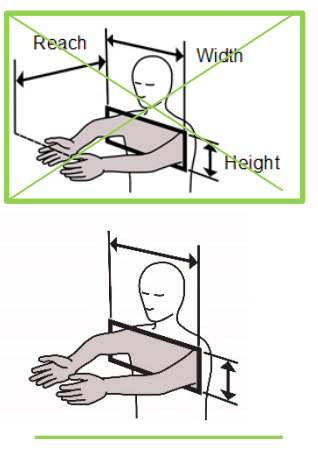
Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.			
		7.3.6			
	Negative Text	<p>Perceived Problem (PP)</p> <p>There is no need to constrain the shape of the opening as long as the minimum clearance is provided... i.e., the opening could be oval or triangular and still provide a min diameter clearance of 132.</p> <p>Proposed Solution (PS)</p> <p>Remove reference to particular opening shapes.</p>			
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 checked="" type="checkbox"/>	‘Related’ is mutually agreed upon. (Needs no motion.)		GO TO “Persuasive” subsection
		<input type="checkbox"/>	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)	<input type="checkbox"/>	[Negative is not related.] < 2/3		GO TO “Persuasive” subsection	
	<input type="checkbox"/>	2/3 ≤ [Negative is not related.]		GO TO “Final” subsection → (B)	
	<input type="checkbox"/>	XX Y-XX N; Motion passed/failed.			

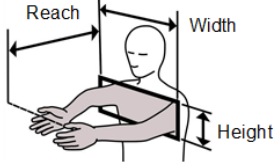
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)				
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)				
			Reason	XXXX			
	Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)					
	Discussion						
	Result of Vote (check one)	8 Y-0 N; Motion passed.					
		<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/>	Y	GO TO “Address by Technical Change Option” subsection
		<input type="checkbox"/>	[Negative is related and not persuasive.] < 2/3		<input type="checkbox"/>	N	GO TO “Final” subsection → (E)
		<input type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO “Final” subsection → (C)			
		<input type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO “Not Significant Finding Option” subsection			
Address by Technical Change Option	Technical Change Recommendations						
	Original section/paragraph number and at least one full sentence are required in “FROM” and “TO” fields.						
	Technical Changes	1	FROM: Section/Paragraph XXX				
			7.3.6	Clearance provided for one arm to shoulder access. Opening may be circular or rectangular.	Dia., minimum 132 mm (5.2 in.)		
			TO: Section/Paragraph xxx				
			7.3.6	Clearance provided for one arm to shoulder access. Opening may be circular or rectangular.	Dia., minimum 132 mm (5.2 in.)		
	Justification (if necessary) Shape of the opening is not important as long as the minimum size criteria for the opening is met.						
	Motion	Negative is addressed by the technical change(s).					
	Motion by/2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)					
	Discussion						
Result of Vote (check one)	8 Y-0 N; Motion passed/failed.						
	<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]				GO TO “Incorporation of the Technical Change” subsection	
<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3				GO TO “Final” subsection → (E)		
☐ – Motion	To incorporate the technical change(s).						

	Motion by/2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)			
	Discussion				
	Result of Vote (check one)	<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.]	GO TO “Final” subsection → (F)	
<input type="checkbox"/>		[Disagree to incorporate.] > 10%	GO TO “Final” subsection → (E)		
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 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 checked="" 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 # X. Adjust the illustration in the figure in 7.3.4			

Negative 6

	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.			
		7.3.8			
Negative	Negative Text	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 (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 checked="" type="checkbox"/>	‘Related’ is mutually agreed upon. (Needs no motion.)		GO TO “Persuasive” subsection
		<input type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)		
		Reason	XXXX		
	Motion by/ 2 nd by	Name (Company)/Name (Company)			
	Discussion				

		XX Y-XX N; Motion passed/failed.				
	Result of Vote (check one)	<input type="checkbox"/>	[Negative is not related.] < 2/3	GO TO "Persuasive" subsection		
		<input type="checkbox"/>	2/3 ≤ [Negative is not related.]	GO TO "Final" subsection → (B)		
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)			
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)			
			Reason	XXXX		
	Motion by/ 2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)				
	Discussion					
		7 Y-0 N; Motion passed.				
	Result of Vote (check one)	<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/> Y	GO TO "Address by Technical Change Option" subsection
		<input type="checkbox"/>	[Negative is related and not persuasive.] < 2/3	<input type="checkbox"/> N	GO TO "Final" subsection → (E)	
		<input type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)		
		<input type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
Address by Technical Change Option	Technical Change Recommendations					
	Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.					
	Technical Changes	FROM: Section/Paragraph XXX				
		Proposed in the Ballot				
	1	7.3.8	Clearance provided for two hands arm to shoulders access (does not ensure visual access).	Reach, maximum 610 mm (24 in.) Width, minimum 483 mm (19 in.) Width, minimum 495 mm (19.5 in.) Height, minimum 114 mm (4.5 in.) Height, minimum 125 mm (4.9 in.)		

		TO: Section/Paragraph xxx		
		Restore to currently as published		
7.3.8	Clearance provided for two hands arm to shoulders access (does not ensure visual access).	Reach, maximum 610 mm (24 in.) Width, minimum 483 mm (19 in.) Height, minimum 114 mm (4.5 in.)		
		Justification (If necessary) The TF and TC agree that the proposed change should not be made and the other changes associated with LI-1 shouldn't fail due to this one change. Therefore, the Taskforce requests that we keep the criteria in 7.3.8 as it is currently published in S8-1116.		
Motion		Negative is addressed by the technical change(s).		
Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
Discussion				
Result of Vote (check one)		7 Y-1 N; Motion passed.		
<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection		
<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)		
Incorporation of the Technical Change	Motion	To incorporate the technical change(s).		
	Motion by/2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
	Discussion			
	Result of Vote (check one)	6 Y-0 N; Motion passed.		
<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.]	GO TO "Final" subsection → (F)		
<input type="checkbox"/>	[Disagree to incorporate.] > 10%	GO TO "Final" subsection → (E)		
Final	<input type="checkbox"/>	(A)	Withdrawn (counted under h in disposition)	
	<input 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	DOCUMENT FAILS
	<input checked="" type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)	
	<input type="checkbox"/>		Comment generated. See Section V-(ii) Comment # X.	

Negative 7

	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.				
		RI-Y				
Negative	Negative Text	Perceived Problem (PP) Technical Negative This RI appears to repeat much of the same criteria that are proposed for addition to the main body of the SESC, which somewhat implies it has not had sufficient review and is not ready for publication.				
		Proposed Solution (PS) Resolve/remove redundancies with material already proposed for the main body of the SESC				
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	<input checked="" type="checkbox"/>	'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/ 2 nd by	Name (Company)/Name (Company)				
	Discussion					
Result of Vote (check one)	<input type="checkbox"/>	[Negative is not related.] < 2/3			GO TO "Persuasive" subsection	
	<input type="checkbox"/>	2/3 ≤ [Negative is not related.]			GO TO "Final" subsection → (B)	
Persuasive	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)				
		Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)				
		Reason	XXXX			
	Motion by/ 2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)				
	Discussion					
Result of Vote (check one)	7 Y-0 N; Motion passed.					
	<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" type="checkbox"/>	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)		
		90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
Address by	<p>Technical Change Recommendations</p> <p>Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.</p>				

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.)

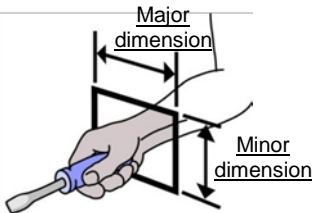
Note 2: Arm clearances provided in the following rows anticipate lightweight clothing with a cleanroom overgarment.

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

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

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.)	

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.

Motion	Negative is addressed by the technical change(s).		
Motion by/2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
Discussion			
Result of Vote (check one)	<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection
	<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)
Incorporation of the Technical Change	Motion	To incorporate the technical change(s).	
	Motion by/2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)	
	Discussion		
	Result of Vote (check one)	7 Y-0 N; Motion passed/failed.	
<input checked="" type="checkbox"/>		90% ≤ [Agree to incorporate.]	GO TO "Final" subsection → (F)
<input type="checkbox"/>		[Disagree to incorporate.] > 10%	GO TO "Final" subsection → (E)
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 type="checkbox"/>	(C) Related and not persuasive (significant)
		<input type="checkbox"/>	(D) Not significant (counted under j in disposition)

		(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
	x	(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.

7		Original number (#) of Negatives	(g)
#		Number of Negatives withdrawn	(h)
#		Number of Negatives found not related	(i)
#		Number of Negatives found not significant	(j)
7		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)

Voting Interest Reject 2 (Voting Interest Name: LAM)

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

Negative 1

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
		8.9.7		
Negative	Negative Text	Is there any date, version, or revision indication for this handbook?		
		Suggestion / Justification This would be good to indicate in case a future revision changes some of the values.		
TF input (optional)				
Withdrawal (check one)	<input type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection	
	<input checked="" type="checkbox"/>	Withdrawal document received by Standards staff on 07/13/2017.	GO TO "Final" subsection → (A)	
Final	(check if applicable)	<input checked="" type="checkbox"/>	(A) Withdrawn (counted under h in disposition)	
		<input 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	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 # X.	

Negative 2

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		7.3.8	
Negative	Negative Text	Was the intent to allow unlimited reach? The proposed change deletes the "reach" requirement without proposing a replacement.	
		Suggestion / Justification Leave the 24 inch reach requirement until agreement is reached on a different value.	
TF input (optional)			
Withdrawal (check one)	<input type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection
	<input checked="" type="checkbox"/>	Withdrawal document received by Standards staff on 07/13/2017.	GO TO "Final" subsection → (A)
Final	(check if applicable)	<input checked="" type="checkbox"/>	(A) Withdrawn (counted under h in disposition)
		<input type="checkbox"/>	(B) Not related (counted under i in disposition)

		(C)	Related and not persuasive (significant)
		(D)	Not significant (counted under j in disposition)
		(E)	Related and persuasive and not addressed by technical change
		(F)	Addressed by technical change (counted under k disposition)
(check if applicable)	x	Comment generated. 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 Negatives withdrawn	(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)	
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

None

V. Comments

V- (i) Voters' Comments

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

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

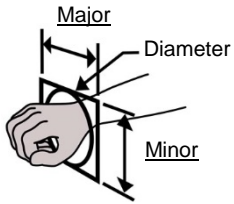
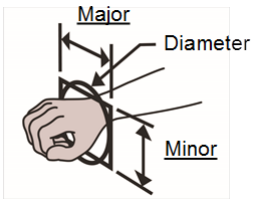
V-(ii) Comments Created by Handling Negative

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)	<input type="checkbox"/>	Commenter(s) / Comment(s) #
		<input checked="" type="checkbox"/>	Other [Withdrawn Reject 2 of negative 1]
1	FROM: Section/Paragraph XXX		
	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, D.C: Department of Defense. <u>July 31, 1995.</u>		
	Justification: (if necessary)		

2	FROM: 7.3.4 Reference Pictogram 
	TO: 7.3.4 Reference Pictogram 
Justification: Clarification on the figure	
Motion	To approve the above editorial change(s).
Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)
Discussion	XXXX
Vote	9 Y-0 N; Motion passed

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*)

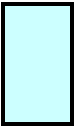
APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations ¶ 9.7.1.3*)

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

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	41	/	41	=	100.0%		≥	90%

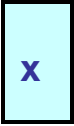
VII. – (ii) Approval Level (check one)

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.



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:

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	56	÷ 93	= 60.2%	≥60%
Intercommittee Ballot	22			
Voting Interest Reject(s)	1	Total Voters with Rejects		1
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: Lam Research)

Voter Reject 1 (Sean Larsen – Lam Research)

Negative 1

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		LI2 RZ-1.2.1, RZ-1.3, Table RZ-1	
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.	
		What is the intent of having operation tasks separated out from maintenance and service tasks? I am concerned this will get confusing with S2 issues for operators (such as different interlock criteria). This also seems to imply that manual handling of 300mm FOUPs could be acceptable.	
		Suggestion / Justification Suggest to divide this into something like “regularly occurring tasks to keep the equipment in working order” vs. “tasks to repair the system upon failure”.	
	TF input (optional)		
	Withdrawal (check one)	<input checked="" type="checkbox"/> 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/ 2 nd 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	TF believes the guidance as balloted is valuable and wants to maintain as written. Related information is considered useful and consistent with the main body of the document.			
	Motion by/ 2 nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)			
	Discussion				
Result of Vote (check one)	7 Y-1 N; Motion passed.				
	[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)	
	x 2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)			
	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection			
Final	(check if applicable)	(A)	Withdrawn (counted under h in disposition)		
		(B)	Not related (counted under i in disposition)		
		x (C)	Related and not persuasive (significant)		
		(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.			

Negative 2

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		LI2 RZ-1.2.1, RZ-1.3, Table RZ-1	
Negative	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.	
		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 of spares in the industry.	
TF input (optional)			
Withdrawal (check one)	<input type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO “Related” subsection
	<input checked="" type="checkbox"/>	Withdrawal document received by Standards staff on 07/13/2017.	GO TO “Final” subsection → (A)
Final	(check if applicable)	<input checked="" type="checkbox"/> (A)	Withdrawn (counted under h in disposition)
		<input 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)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.	

Negative 3

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.	
		LI2 Figure 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 (check one)	<input type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO “Related” subsection
	<input checked="" type="checkbox"/>	Withdrawal document received by Standards staff on - 7/13/2017.	GO TO “Final” subsection → (A)
Final	(check if applicable)	<input checked="" type="checkbox"/> (A)	Withdrawn (counted under h in disposition)
		<input type="checkbox"/> (B)	Not related (counted under i in disposition)
		<input type="checkbox"/> (C)	Related and not persuasive (significant)

		(D)	Not significant (counted under j in disposition)
		(E)	Related and persuasive and not addressed by technical change
		(F)	Addressed by technical change (counted under k disposition)
(check if applicable)	X	Comment generated. See Section V-(ii) Comment # X.	

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

3	Original number (#) of Negatives	(g)	
2	Number of Negatives withdrawn	(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)	
Final		$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	X	$g - (h + i + j + k) > 0$	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

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

1	Origin of this editorial change (Check one)	<input type="checkbox"/>	Commenter(s) / Comment(s) #
		<input checked="" type="checkbox"/>	Other [from withdrawn negative 2 of reject 1]
	FROM: Section/Paragraph XXX		
	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/Paragraph XXX			
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 <u>on a single piece of equipment</u> .			
Justification: (If necessary)			
To remove the confusion expressed in the negative of this related information			
2	Origin of this editorial change (Check one)	<input type="checkbox"/>	Commenter(s) / Comment(s) #
		<input checked="" type="checkbox"/>	Other [from withdrawn negative 3 of reject 1]
	FROM: 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 . <div style="text-align: center;"> Figure RZ-1 SEMI S8 Evaluation Scope Flowchart </div>		
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 . <div style="text-align: center;"> Figure RZ-1 SEMI S8 Evaluation Scope Flowchart </div>			
Justification: (If necessary)			
Editorial, removing a note from the figure RZ-1 in the Related Information section			
Motion	To approve the above editorial change(s).		
Motion by/ 2nd by	Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)		
Discussion	XXXX		
Vote	7 Y-0 N; Motion passed		

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	/	42	=	97.6%		≥90%	

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

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

Globally Approved (No Ratification Ballot needed):

Line Item 2 meets the Letter Ballot approval conditions for the global technical committee.

Need a Ratification Ballot:

Line Item 2 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		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)
	x	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)
	x	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)
Motion by/2nd by		Ron Macklin (Bureau Veritas NA)/Paul Schwab (Texas Instruments)
Discussion		XXXX
Vote		8 Y-0 N; Motion passed

IX. Intellectual Property (IP) Check

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

x	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)	
x	No potentially material patented technology or reproduction of copyrighted items is known.	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.	GO TO SECTION X.
	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.	
Motion		Ask ISC for special permission to publish.
		Quit activity.
		Wait for LOA for patented technology or release of copyrighted items.
Motion by/2nd by		Name (Company)/Name (Company)
Discussion		XXXX
Vote		XX Y-XX N
Final Action		Motion passed
		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

Motion (Check all applicable items)	<input type="checkbox"/>	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.
	<input checked="" type="checkbox"/>	Line item(s) [2] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
	<input checked="" type="checkbox"/>	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.
	<input type="checkbox"/>	Line item(s) [X], [X] and [X] failed TC Chapter review and will be returned to the TF for rework.
	<input type="checkbox"/>	Line item(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	
Final Action	<input checked="" type="checkbox"/>	Motion passed
	<input type="checkbox"/>	Motion failed

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

A&R	<input type="checkbox"/>	Line item(s) [X], [X] and [X] are Approved for publication
	<input type="checkbox"/>	Line item(s) [X], [X] and [X] are Approved pending acceptance of the Ratification Ballot
	<input type="checkbox"/>	Line item(s) [X], [X] and [X] are Not approved
	Reason:	