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

Region/Locale: North America Global Technical Committee: Gases TC Chapter Cochairs: Mohamed Saleem/Brooks Instrument Standards Staff: Laura Nguyen

	Scheduled in Background Statement	Actual
Date	11/07/2023	11/07/2023
Location	SEMI HQ, Milpitas, CA/USA	SEMI HQ, Milpitas, CA/USA
Reason for Change of Date and/or Location (if changed)		

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

Document Information

I. Document Number, Title, Lists of Line Items

Document Number 7097		Document Title Line-Item Revision to SEMI C54-1116, Specification for Oxygen			
List of Line Items	Line Item 1	Line Item Title Add chemical formula for oxygen in title.			
	Line Item 2	Line Item Title Update throughout to comply to Regs, PM and SM.			
	Line Item 3	Line Item Title Clarify word usage and SI units in §9 through § 10 per SM.			
	Line Item 4	Line Item Title Change "is to", "may", "must", or "should" to "shall" or "should" throughout, where appropriate.			

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* ¶ 9.6.2.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	48] ÷	80	=	60.0%	≥60%
Intercommittee Ballot	40					
Voting Interest Reject(s)	1]	Total Voters with Rejects		rs with Rejects	1
Voting Interest Accept(s)	37					

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

III. Rejects Voting Interest Reject 1 (Voting Interest Name: Guru) Voter Reject 1 (Voter: Eric Sklar / Safety Guru)

Negative 1 (SG1-1)

z	Referenced Section/	*TF/ Sen	TC Chapter to fill /II C54-1116, SPEC	in, iı CIFIC	ncluding text in the ballot if nec ATION FOR OXYGEN (O2)	essary.					
egati	Paragraph	Title									
ve	Negative Text	Neg Rea	Vegative: Replace "O2" with "O ₂ " Reason/Justification: Correct typographical error in the formula								
	Withdrawal (check one)	X	No Negative witho	drawa	al made by Voter.	GO TO "Related" subsection					
Relat ed	Motion and Reason (check one)	x	'Related' is mutua	lly ag	reed upon. (Needs no motion.)	GO TO "Persuasive" subsection					
	Motion and Reason	x	Negative is related	d anc	l not persuasive. <mark>(Needs ≥2/3 vot</mark>	es to pass.)					
Per	(check one)		Reason		Editorial to correct typographical	error in formula.					
suasi	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Kevin Findleton / Ichor Systems								
ve	Discussion	Non	None								
	Result of Vote	16 Y- 0 N; Motion passed.									
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	relate e.] <	ed 90% GO TO "Final" subsectio	n → (C)					
			(A)	With	drawn <mark>(counted under h in disp</mark>	osition)					
			(B)	Not	related (counted under i in dispo	osition)					
	(check if	X	(C)	Rela	ted and not persuasive (significar	it)					
Fin	applicable)		(D)	Not :	significant <mark>(counted under j in di</mark>	sposition)					
<u>a</u>			(E)	Rela addr	ited and persuasive and not ressed by technical change	DOCUMENT FAILS					
			(F)	Add	ressed by technical change (coun	ted under k disposition)					
	(check if applicable)	X	Comment generat	ted. <mark>S</mark>	See Section V-(ii) Comment # NC	<mark>-1</mark> .					

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

1	Original	num	ber (#) of Negatives	(g)			
0	Number	of N	egatives withdrawn	idrawn (h)			
0	Number	of N	egatives found not related	(i)			
0	Number	of N	egatives found not significant		(j)		
0	Number	· of N es no	al change <mark>(Negative</mark>	(k)			
	Final		g - (h + i + j + k) = 0	Reject is Not Valid and is not included in the denominator of § VI. <i>Approval Conditions Check</i>			
			g - (h + i + j + k) >0	Reject is included in the Approval Conditions C	he 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* ¶ 9.6.1.4.5.2)

IV. Other Technical Issues None

V. Comments V- (i) Voters' Comments None

V-(ii) Comments Created by Handling Negative

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

Cor	*TF/TC Chapter to fill in									
nme	<i>Negative:</i> Replace "O2" with "O ₂ " <i>Reason/Justification:</i> Correct typographical error in the formula.									
٨	The TC Chapter agreed to do one of the following actions.									
ctio	*No motion is required in this step.									
Р	X Editorial change									
		Options for editorial		Case 1: No vote in this section:						
				To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.						
		change		Case 2: Voted in this section:						
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.						

		FROM: Sec	tion/Paragraph Title					
Edito		SPECIFICATION FOR OXYGEN (O2)						
rial (1	TO: Section/Paragraph Title						
Chance		SPECIFICA	SPECIFICATION FOR OXYGEN (O22)					
ŝ		Justification (If necessary) Editorial to correct typographical error.						
М	otior	n	To approve above editorial change(s)					
М	Motion by/2 nd by		By: Thomas Fritz / WIKA Instrument Corporation Second: Kevin Findleton / Ichor Systems					
Discussion		ssion	None					
Ve	ote		15 Y-0 N; Motion passed.					

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

VII. Approval Conditions Check

VII. - (i). Approval Rate

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

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

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

		Accepts		(Accepts + Valid Rejects)			
Approval Rate	=	37	/	38	=	97.4%	≥90%

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

Note: See Regulations § 9.6.2 for further information.



Globally Approved (No Ratification Ballot needed):

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

Line Item2 Adjudication

II. Tally

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	48	÷	80	=	60.0%	≥60%
Intercommittee Ballot	13]				
Voting Interest Reject(s)	1		Total Voters with Rejects		rs with Rejects	1
Voting Interest Accept(s)	34					

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

III. Rejects Voting Interest Reject 1 (Voting Interest Name: Guru) Voter Reject 1 (Voter: Eric Sklar / Safety Guru)

Negative 1 (SG2-1)

	Referenced	1.1									
Ne	Section/ Paragraph	1.1 The purpose of this Standard is to provide a series of specifications for different grades of Oxygen (O2) that are used in the semiconductor industry.									
gative	Negative Text	Nega Reas itself Also each cons	<i>Vegative:</i> Replace "Standard" with "Specification". <i>Reason/Justification:</i> Although SEMI does permit using "Standard" to refer to a document within iself, it is more "reader-friendly" to use "Specification", as that's part of the title of the document. Also, "Specification" is used in ¶2.1 to refer to the same thing and, in technical writing, one should use each term to mean only one thing and only one term to mean each thing, so ¶¶1.1 and 2.1 should be consistent.								
	Withdrawal (check one)	X	No Negative witho	drawal mad	e by Voter.	GO TO "Related" subsection					
Rela ted	Motion and Reason <mark>(check one)</mark>	x	'Related' is mutua	elated' is mutually agreed upon. (Needs no motion.)							
	Motion and	X	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								
Per	Reason (check one)		Reason	Edito "This redur	rial per SM #4-4 (2); The s Standard provides a serie adant and say "specification"	sentence should actually read as of" otherwise it would be ' twice in the same sentence.					
suasiv	Motion by/ 2 nd by	By: 、 Sec	By: Jeff Christian / WIKA Instrument Corporation Second: Thomas Fritz / WIKA Instrument Corporation								
/e	Discussion	Non	e								
	Result of Vote	13 Y	-0 N ; Motion pass	ed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90%	GO TO "Final" subsectio	n → (C)					
NП	(check if		(A)	Withdrawn	(counted under h in disp	osition)					
≓ ਤੋਂ	applicable)		(B)	Not related	d (counted under i in dispo	osition)					

		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				Related and persuasive and not addressed by technical change	DOCUMENT FAILS				
			(F)	(F) Addressed by technical change (counted under k disposit					
	(check if applicable)	X	Comment generat	nt generated. See Section V-(ii) Comment # NC-1 (SG2-1).					

This table is needed for each Negative.

Negative 2 (SG2-2)

Ne	Referenced Section/ Paragraph	5.1 (5.1 (3 places)								
gative	Negative Text	Neg Rea	Vegative: Replace "O2" with "O2" Reason/Justification: Correct typographical error in the formula.								
	Withdrawal (check one)	X	No Negative withd	Irawa	al made by Voter.	GO TO "Related" subsection					
Rela ted	Motion and Reason <mark>(check one)</mark>	x	'Related' is mutua	lly ag	reed upon. (Needs no motion.)	GO TO "Persuasive" subsection					
Per	Motion and Reason <mark>(check one)</mark>	X	Negative is related	tes to pass.)							
			Reason								
suasi	Motion by/ 2 nd by	By: I Seco	By: Max van den Berg / Festo SE & Co. KG Second: Chris Sanders / CBRE								
ve	Discussion	Non	e								
	Result of Vote	13 Y	-0 N ; Motion pass	ed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasive	relate e.] <	ed 90% GO TO "Final" subsectio	on → (C)					
			(A)	With	drawn <mark>(counted under h in disp</mark>	osition)					
	(check if		(B)	Not	related <mark>(counted under i in disp</mark>	osition)					
Fina	applicable)	X	(C)	Rela	ted and not persuasive (significa	nt)					
al			(D)	Not	significant <mark>(counted under j in d</mark>	isposition)					
	(check if applicable)	X	Comment generat	ed. <mark>S</mark>	See Section V-(ii) Comment # N	C-2 (SG2-2)					

Negative 3 (SG2-3)

Ne	Referenced	6.2.2
gative	Section/ Paragraph	6.2.2. dewpoint — the temperature at which liquid first condenses when cooled. [SEMI C3]

	Neç	jativ	ve Text	Nega Rea Wha becc mak (oxy	ative: C son/Justii t conden omes liqu e it clear gen).	 Correct the definition. <i>(Justification:</i> Liquids do not condense, as liquid is already a condensed state. ndenses is a gas (specifically, in this context, water vapor) which, by condensing, s liquid water that is detected by a dewpoint hygrometer. Also, the definition should clear that what is condensing is an impurity (water), not the gas being analyzed). 							
(With (chec	drav <mark>k o</mark>	val ne)	X	No Nega	tive withdrawal mad	e by Voter.			GO TO "Related" subsection			
Rela ted	Me I (cl	otio Rea neck	n and son <mark>(one)</mark>	x	'Related	ated' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection							
	Me I	otio Rea	n and son	x	Negative	ative is related and persuasive. (Needs >1/3 votes to pass.)							
_	Μ	otio 2 nd	n by/ by	By: I Seco	Max van ond: Yanl	den Berg / Festo SE i Chen / Applied Mat	& Co. KG erials, Inc.						
bers	Di	scu	ssion	Non	е								
sua				15 Y	′-0 N ; Mo	tion passed.							
sive	Res (cl	ult o neck	of Vote <mark>c one)</mark>	x	[Negativo persuasi	e is related and ve.] > 1/3	Is a technical change recommended?	x	Y	GO TO "Address by Technical Change Option" subsection			
					[Negativo persuasi	e is related and not ve.] < 2/3	(check one)			GO TO "Final" subsection → (E)			
Address by Tech	Origin Technical Changes	1	FROM: 6.2.2. dev TO: Sev 6.2.2 de pressure Justific Definitic	Section wpoin ction wpoin first cation	ion/Parage it — the te /Paragra nt — the t condenses n (If nece arified for	per and at least one functions graph 6.2.2 emperature at which lice ph 6.2.2 emperature at which I -when cooled. [SEMI- essary) technical errors	ull sentence are rec quid first condenses iquid-water vapor c	when	l in " coole	FROM" and "TO" fields. ed. [SEMI C3] liquid phase at a certain constant			
nical	Moti	on	nd		Neg	ative is addressed by	y the technical cha	inge(s	s).				
Cha	Moti	on b	y/2 nd by	/	Seco	Second: John Zawada / Swagelok							
ange	Disc	ussi	ion		SM: TM:	SM: is dewpoint applicable to any pressure? TM: constant pressure							
Opt					15 Y	15 Y-0 N; Motion passed.							
ion		Res (C	sult of V heck on	ote e)	X	X 2/3 ≤ [Negative is addressed by the technical change(s).] GO TO "Incorporation of Technical Change" subsection							
		-				change(s).] < 2/3				→ (E)			
	at In	Мо	tion		To ii	ncorporate the tech	nical change(s).						
	corpc ion o	Мо	tion by/	2 nd b	y By: I Seco	Max van den Berg / I ond: Jeff Christian / \	Festo SE & Co. KC VIKA Instrument C	G Corpo	ratio	n			
	Discussion					e							

					14 `	Y-0 N; Mo	tion passed.			
	Result of <mark>(check o</mark>		f Vot	Vote		90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)		
			one)			[Disagree	e to incorporate.]>10%	GO TO "Final" subsection → (E)		
				(A) (B) (C)		(A)	Withdrawn (counted under h in disposition)			
		(check if applicable)				(B)	Not related (counted under i in disposition)			
꼬	(((C)	Related and not persuasive (significant)			
nal	ap			applicable)		(D)		(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 (coun	ted under k disposition)		

Negative 4 (SG2-4)

	Referenced	6.2.	3											
Neç	Section/ Paragraph	6.2.3	6.2.3 frostpoint — the temperature at which liquid first freezes when cooled.											
yative	Negative Text	Neg Rea wate mak (oxy	egative: Correct the definition. leason/Justification: The frostpoint is the temperature at which, in the case of hygromet. rater vapor sublimes to ice that is detected by the hygrometer. Also, the definition shoul nake it clear that what is subliming is an impurity (water), not the gas being analyzed pxygen).											
	Withdrawal (check one)	X	No Negative withdrawal mad	e by Voter.			GO TO "Related" subsection							
Rela ted	Motion and Reason (check one)	x	'Related' is mutually agreed t	GO TO "Persuasive" subsection										
	Motion and Reason (check one)	x	X Negative is related and persuasive. (Needs >1/3 votes to pass.)											
	Motion by/ 2 nd by	By: I Sec	By: Max van den Berg / Festo SE & Co. KG Second: Yanli Chen / Applied Materials, Inc.											
Ders	Discussion	None												
suas		15 Y-0 N; Motion passed.												
sive	Result of Vote (check one)	x	[Negative is related and persuasive.] > 1/3	Is a technical change recommended?	X	Y	GO TO "Address by Technical Change Option" subsection							
			[Negative is related and not persuasive.] < 2/3	(check one)		Ν	GO TO "Final" subsection → (E)							
A	Technical Chang	je Re	ecommendations											
ddress by	Original section/ fields.	riginal section/paragraph number and at least one full sentence are required in "FROM" and "TO الطائع												

	FROM: Section/					/Paragraph 6.2.3						
	Techr		6.2.3 fro	ostpoi	int —	nt — the temperature at which liquid first freezes when cooled.						
	iical Changes	1	TO: See 6.2.3 fro pressure	ction stpoi	n/Par nt — reeze	ragra - the 1 S whe	aph 6. temper en cool	2.3 ratur led.	e at which liquid water vapor changes to	o solid phase at a certain constant		
	•		Justification (If necessary) definition clarified for technical errors									
	Motic	on				Neg	ative i	is ac	dressed by the technical change(s).			
	Motic	on b	y/2 nd by	/		By: [*] Sec [,]	Thoma ond: J	as F Iohn	ritz / WIKA Instrument Corporation Zawada / Swagelok			
	Discu	ussi	ion			None						
						15 Y-0 N; Motion passed.						
		Result of Vote				$\frac{2/3}{\text{change}(s).]}$			egative is addressed by the technical .).]	GO TO "Incorporation of the Technical Change" subsection		
						[Negative is not addressed by the technical change(s).] < 2/3 GO TO "Final" subsection → (E)						
	-	Мо	tion			To incorporate the technical change(s).						
	ncorp Tech	Мо	tion by/	2 nd k	у	By: Max van den Berg / Festo SE & Co. KG Second: Jeff Christian / WIKA Instrument Corporation						
	oora nica	Discussion				None						
	al C					14 Y-0 N; Motion passed.						
	ר of t hang	F	Result o	f Vot	e	X	90%	≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)		
	he e		(спеск	one)			[Disa	gree	e to incorporate.]>10%	GO TO "Final" subsection → (E)		
						(/	A)		Withdrawn <mark>(counted under h in disp</mark>	oosition)		
						(B)		Not related <mark>(counted under i in disp</mark>	osition)		
1	((che	heck if			(C)		Related and not persuasive (signification	nt)		
	ap	plic	able)			(D)		Not significant <mark>(counted under j in d</mark>	isposition)		
						(E)		Related and persuasive and not addressed by technical change	DOCUMENT FAILS		
				X	(F)			Addressed by technical change (cour	nted under k disposition)			

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

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

2	Number become	Number of Negatives addressed by technical change (Negative becomes not significant) (k)									
			g - (h + i + j + k) = 0	Reject is Not Valid and denominator of § VI. A	l is not included in the proval Conditions Check						
I	Final		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* ¶ 9.6.1.4.5.2)

IV. Other Technical Issues None

V. Comments V- (i) Voters' Comments None

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) NC – 1 (SG2-1)

	*TF	/TC Chapte	er to	fill in				
Negative: Replace "Standard" with "Specification". Reason/Justification: Although SEMI does permit using "Standard" to refer to a document itself, it is more "reader-friendly" to use "Specification", as that's part of the title of the docu Also, "Specification" is used in ¶2.1 to refer to the same thing and, in technical writing, one s use each term to mean only one thing and only one term to mean each thing, so ¶¶1.1 ar should be consistent.								
A	The	e TC Chapt	er ag	greed to do one of the following actions.				
ctio	*Nc	o motion is	requ	uired in this step.				
כ	X	Editorial c	hang	le				
		Options		Case 1: No vote in this section:				
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.				
		change		Case 2: Voted in this section:				
		one)	one)	Original section number and at least one full sentence are required in "FROM" and "TO" fields.				
Π		FROM: S	ectio	on/Paragraph 1.1				
ditorial	1	1 1.1 The purpose of this Standard is to provide a series of specifications for different grades of O (O_2) that are used in the semiconductor industry.						

	 TO: Section/Paragraph 1.1 1.1 The purpose of tThis Standard is to provides a series of specifications for different Oxygen (O₂) that are used in the semiconductor industry. 							
		Justification (If necessary) Editorial per SM #4-4 (2); The sentence should actually read "This Standard provides a series of" otherwise it would be redundant and say "specification" twice in the same sentence.						
М	otior	า	To approve above editorial change(s)					
м	otior	n by/2 nd by	By: Max van den Berg / Festo SE & Co. KG Second: Chris Sanders / CBRE					
Discussion			None					
Vote			13 Y-0 N; Motion passed.					

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

Comment (Created by Handling Negative) NC – 2 (SG2-2)

Co	*TF/	*TF/TC Chapter to fill in								
mme	Neg Rea	Negative: Replace "O2" with "O ₂ " Reason/Justification: Correct typographical error in the formula.								
Δ	The TC Chapter agreed to do one of the following actions.									
ctio	*No	motion is	requ	uired in this step.						
P	X	Editorial c	hang	je						
		Options		Case 1: No vote in this section:						
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.						
		change (check		Case 2: Voted in this section:						
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.						
		FROM: Section/Paragraph 5.1								
		SEMI C3.22 — Standard for Oxygen (O2), 99.5% Quality								
Ē		SEMI C3.23 — Standard for Oxygen (O2), 99.98% Quality								
litor		SEMI C3.41 — Standard for Oxygen (O2), Bulk, 99.9998% Quality								
ial (1	TO: Section/Paragraph 5.1								
Cha	•	SEMI C3.22 — Standard for Oxygen (O22), 99.5% Quality								
nae		SEMI C3.23 — Standard for Oxygen (O ₂ ²), 99.98% Quality								
Ś		SEMI C3.4	1—	Standard for Oxygen (O ₂ ²), Bulk, 99.9998% Quality						
		Justificat Editorial in	tion nat	(If necessary) ure.						
М	otion	1	Т	o approve above editorial change(s)						
м	otion	n by/2 nd by	E	By: Max van den Berg / Festo SE & Co. KG Second: Chris Sanders / CBRE						
Di	iscus	ssion	Ν	None						
V	ote		1	13 Y-0 N; Motion passed.						

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

VII. Approval Conditions Check

VII. - (i). Approval Rate

VII. – (ii) Approval Level (check one) Note: See *Regulations* § 9.6.2 for further information.



Globally Approved (No Ratification Ballot needed):

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

X

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.

Line Item 3 Adjudication

II. Tally

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	48	÷	80	=	60.0%	≥60%
Intercommittee Ballot	40]				
Voting Interest Reject(s)	1	1	Total	Vote	rs with Rejects	1
Voting Interest Accept(s)	38					-

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

III. Rejects Voting Interest Reject 1 (Voting Interest Name: Guru) Voter Reject 1 (Voter: Eric Sklar / Safety Guru)

Negative 1 (SG3-1)

7	Referenced Section/ Paragraph	9.1.4.1, 9.1.4.2, 10.2.2.3, 10.3.2.3, 10.3.4.1, 10.3.4.2, 10.3.4.3, 10.5.4.1, 10.5.4.2, 10.5.4.3
legative	Negative Text	Negative: Change "pressure as specified" to "pressure specified". Reason/Justification: Correct grammar. Using "as" means "in the manner in which", but the instruction is to pressurize to the pressure that is specified by the cell manufacturer, not to pressurize the cell in the manner in which the cell manufacturer provided the pressure specification.

	Withdrawal (check one)	X	No Negative witho	drawal	GO TO "Related" subsection					
Relat ed	Motion and Reason (check one)	x	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection							
	Motion and	x	Negative is related	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)						
Per	(check one)		Reason	E	ditor	ial in nature, grammar.				
suasi	Motion by/ 2 nd by	By: Sec	Thomas Fritz / WIKA Instrument Corporation cond: Chris Sanders / CBRE							
Discussion Max: no value added										
	Result of Vote	17 Y- 0 N; Motion passed.								
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90	l 0%	GO TO "Final" subsectio	on → (C)			
			(A)	Withdr	rawn	(counted under h in disp	osition)			
			(B)	Not re	lated	(counted under i in dispe	osition)			
	(check if	X	(C)	Relate	ed an	d not persuasive (significar	nt)			
Fin	applicable)		(D)	Not się	gnific	ant <mark>(counted under j in d</mark> i	sposition)			
a			(E)	Relate addres	ed an ssed	d persuasive and not by technical change	DOCUMENT FAILS			
			(F)	Addres	ssed	by technical change (cour	nted under k disposition)			
	(check if applicable)	X	Comment generat	ted. <mark>Se</mark>	e Se	ction V-(ii) <mark>Comment # N(</mark>	C-1 (SG3-1).			

IV. Other Technical Issues None

V. Comments V- (i) Voters' Comments None

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) NC – 1 (SG3-1)

J.	*TF	/TC Chapter to fill in						
omment	Neg Rea insti the	Negative: Change "pressure as specified" to "pressure specified". Reason/Justification: Correct grammar. Using "as" means "in the manner in which", but the instruction is to pressurize to the pressure that is specified by the cell manufacturer, not to pressurize the cell in the manner in which the cell manufacturer provided the pressure specification.						
Δ	The	e TC Chapter agreed to do one of the following actions.						
ctio	*No motion is required in this step.							
Ρ	X	Editorial change						

		Case 2: Voted in this section:
		X Original section number and at least one full sentence are required in "FROM" and "TO" fields.
		FROM: Section/Paragraph 9.1.4.1, 9.1.4.2, 10.2.2.3, 10.3.2.3, 10.3.4.1, 10.3.4.2, 10.3.4.3, 10.5.4.1, 10.5.4.2, 10.5.4.3
		9.1.4.1 Pressurize the evacuated gas cell with the calibration standard to the pressure as specified by the gas cell manufacturer, e.g., 345 kPa (50 psia). Scan the following wave numbers for absorbance: carbon monoxide 2172 cm-1, nitrous oxide 2235 cm-1, and carbon dioxide 2360 cm-1.
		9.1.4.2 Evacuate the cell and pressurize gas cell with the oxygen sample standard to the pressure as specified by the gas cell manufacturer, e.g., 345 kPa (50 psia). Scan the appropriate wave numbers as in \P 9.1.4.1.
		10.2.2.3 Sample Cell Pressure — appropriate pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) for full scale range 0 to 20 ppm carbon monoxide or.
		10.3.2.3 Sample Cell Pressure — appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig) for full scale range 0 to 5 ppm carbon dioxide, 1.379 MPa (200 psig) for0 to 2.5 ppm carbon dioxide.
		10.3.4.1 Open the zero gas (prepurified nitrogen or pure oxygen, independently measured to be less than 0.1 ppm CO2) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig) as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.
Editorial	1	10.3.4.2 Open the calibration gas standard cylinder valve. Close V1 and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig). Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of carbon dioxide in the calibration gas.
Changes	1	10.3.4.3 Introduce the oxygen sample into the analyzer by closing valves V1 and V3, opening valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, 689 kPa (100 psig). If the instrument indicates absorbance, read the absorbance of the sample and calculate the quantity of carbon dioxide, using the formula below. If the instrument indicates concentration, record the concentration. The results shall not exceed the specification in § 7 of this Standard.
		10.5.2.3 Sample Cell Pressure — 1.379 MPa (200 psig) for full scale range 0 to 5 ppm nitrous oxide or appropriate pressure as recommended by the cell manufacturer.
		10.5.4.1 Open the zero gas (pre-purified nitrogen or certified pure oxygen, independently measured to be less than 0.1 ppm N2O) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.
		10.5.4.2 Open the calibration gas standard cylinder valve. Close Vl and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig). Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of nitrous oxide in the calibration gas.
		10.5.4.3 Introduce the oxygen sample into the analyzer by closing valves Vl and V3, opening Valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig). Read the absorbance of the sample and calculate the quantity of nitrous oxide, using the formula below. If the instrument indicates concentration, record the concentration. The result shall not exceed the specification in § 7 of this Standard.

TO: Section/Paragraph 9.1.4.1, 9.1.4.2, 10.2.2.3, 10.3.2.3, 10.3.4.1, 10.3.4.2, 10.3.4.3, 10.5.4.1, 10.5.4.2, 10.5.4.3

9.1.4.1 Pressurize the evacuated gas cell with the calibration standard to the pressure $\frac{1}{100}$ specified by the gas cell manufacturer, e.g., 345 kPa (50 psia). Scan the following wave numbers for absorbance: carbon monoxide 2172 cm⁻¹, nitrous oxide 2235 cm⁻¹, and carbon dioxide 2360 cm⁻¹.

9.1.4.2 Evacuate the cell and pressurize gas cell with the oxygen sample standard to the pressure as specified by the gas cell manufacturer, e.g., 345 kPa (50 psia). Scan the appropriate wave numbers as in \P 9.1.4.1.

10.2.2.3 Sample Cell Pressure — appropriate pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) for full scale range 0 to 20 ppm carbon monoxide or.

10.3.2.3 Sample Cell Pressure — appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig) for full scale range 0 to 5 ppm carbon dioxide, 1.379 MPa (200 psig) for0 to 2.5 ppm carbon dioxide.

10.3.4.1 Open the zero gas (prepurified nitrogen or pure oxygen, independently measured to be less than 0.1 ppm CO2) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig) as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.

10.3.4.2 Open the calibration gas standard cylinder valve. Close V1 and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, e.g., 689 kPa (100 psig). Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of carbon dioxide in the calibration gas.

10.3.4.3 Introduce the oxygen sample into the analyzer by closing valves V1 and V3, opening valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to appropriate pressure as recommended by the cell manufacturer, 689 kPa (100 psig). If the instrument indicates absorbance, read the absorbance of the sample and calculate the quantity of carbon dioxide, using the formula below. If the instrument indicates concentration, record the concentration. The results shall not exceed the specification in § 7 of this Standard.

10.5.2.3 Sample Cell Pressure — 1.379 MPa (200 psig) for full scale range 0 to 5 ppm nitrous oxide or appropriate pressure $\frac{48}{45}$ recommended by the cell manufacturer.

10.5.4.1 Open the zero gas (pre-purified nitrogen or certified pure oxygen, independently measured to be less than 0.1 ppm N2O) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.

10.5.4.2 Open the calibration gas standard cylinder valve. Close Vl and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig). Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of nitrous oxide in the calibration gas.

10.5.4.3 Introduce the oxygen sample into the analyzer by closing valves VI and V3, opening Valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to pressure as recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig). Read the absorbance of the sample and calculate the quantity of nitrous oxide, using the formula below. If the instrument indicates concentration, record the concentration. The result shall not exceed the specification in § 7 of this Standard.

Justification (If necessary) Editorial in nature, grammar.

Motion To approve above editorial change(s)					
Motion by/2 nd by	By: Jeff Christian / WIKA Instrument Corporation Second: Yanli Chen / Applied Materials, Inc.				
Discussion	None				
Vote	13 Y-0 N; Motion passed.				

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

VII. Approval Conditions Check

VII. - (i). Approval Rate VII. - (ii) Approval Level (check one) Note: See *Regulations* § 9.6.2 for further information.



Globally Approved (No Ratification Ballot needed):

Line Item 3 meets the Letter Ballot approval conditions for the global technical committee.

Need a Ratification Ballot: Line Item 3 meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

Line Item 4 Adjudication

II. Tally

Voting Tally (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	48	÷	80	=	60.0%	≥60%
Intercommittee Ballot	40]				
Voting Interest Reject(s)	1]	Total	Vote	rs with Rejects	1
Voting Interest Accept(s)	37]				

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

III. Rejects Voting Interest Reject 1 (Voting Interest Name: Guru) Voter Reject 1 (Voter: Eric Sklar / Safety Guru)

INCY	alive I (504-1)										
N	Referenced Section/ Paragraph	9.2.4	0.2.4.1									
gative	Negative Text	Neg Rea are para	<i>Vegative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs.									
	Withdrawal (check one)	X	No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection								
Per	Motion and Reason <mark>(check one)</mark>	x	Negative is related	d and not	persuasive. <mark>(Needs ≥2/3 vot</mark>	es to pass.)						
			Reason	NO are	TEs are not normative parts or removed.	of the document; therefore, they						
suasi	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG									
ve	Discussion	Non	е									
	Result of Vote	14 Y	-0 N ; Motion pass	sed.								
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related [e.] < 90%	GO TO "Final" subsectio	n → (C)						
			(A)	Withdra	wn <mark>(counted under h in disp</mark>	osition)						
			(B)	Not relat	ed (counted under i in disp	osition)						
	(check if	X	(C)	Related	and not persuasive (significar	nt)						
Fin	applicable)		(D)	Not sign	ificant <mark>(counted under j in di</mark>	sposition)						
a			(E)	Related address	and persuasive and not ed by technical change	DOCUMENT FAILS						
			(F)	Address	ed by technical change (cour	ted under k disposition)						
(check if applicable) X Comment generated. See Section V-(ii) Comment # NC-1 (SG4-						C <mark>-1 (SG4-1)</mark> .						

Negative 1 (SG4-1)

This table is needed for each Negative.

Negative 2 (SG4-2)

0 -	Referenced	NOTE 1
leg ativ	Section/	
	Paragraph	

	Negative Text	Neg than Rea anyt while reco Con valic	Negative: Either convert this to a numbered paragraph or rewrite it as a declarative, rather 'han imperative, sentence. Reason/Justification: NOTEs are not normative and are not permitted to instruct one to do anything or to define any requirements. If this is meant as advice that one is free to ignore while performing the procedure, rewrite it as a statement, not an instruction, such as "It is recommented that one introduce". Contrarily, if this is meant as an instruction that must be followed for the procedure to be valid, make it normative by converting it to a numbered paragraph.								
	Withdrawal (check one)	X	No Negative withc	Irawal r	GO TO "Related" subsection						
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	lly agre	ed upon. (Needs no motion.)	GO TO "Persuasive" subsection					
	Motion and	X	X Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								
Per	(check one)		Reason	E	ditorial, NOTEs are not official o	content.					
suasi	Motion by/ 2 nd by	By: I Sec	Max van den Berg ond: Jeff Christian	/ Festo / WIKA	SE & Co. KG Instrument Corporation						
ve	Discussion	Non	e								
	Result of Vote	13 Y	-0 N ; Motion pass	ed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasive	related e.] < 90	GO TO "Final" subsectio	on → (C)					
			(A)	Withdra	awn <mark>(counted under h in dis</mark> p	oosition)					
			(B)	Not rela	ated <mark>(counted under i in disp</mark>	osition)					
	(check if	X	(C)	Related	d and not persuasive (significa	nt)					
Fin	applicable)		(D)	Not sig	nificant <mark>(counted under j in d</mark>	isposition)					
al			(E)	Related addres	d and persuasive and not sed by technical change	DOCUMENT FAILS					
			(F)	Addres	sed by technical change (cour	nted under k disposition)					
	(check if applicable)	X	Comment generat	ed. <mark>See</mark>	e Section V-(ii) Comment # <mark>N</mark>	<mark>C-2 (SG4-2)</mark> .					

Negative 3 (SG4-3)

Ne	Referenced Section/ Paragraph	9.3	.3								
Negative Text Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers are not permitted in the normative portions of the document, including the numbered paragraphs.											
	Withdrawal (check one)	X	X No Negative withdrawal made by Voter. GO TO "Related" subsection								
Rela ted	Motion and Reason (check one)	X	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection								
	Motion and Reason	X	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								

	(check one)		Reason	NOTE are re	Es are not normative parts o emoved.	f the document; therefore, they					
Persu	Motion by/ 2 nd by	By: ⁻ Sec	y: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG								
lasiv	Discussion	Non	None								
ve	Result of Vote	14 Y	-0 N ; Motion pass	ed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90%	GO TO "Final" subsection → (C)						
			(A)	Withdrawn	(counted under h in disposition)						
			(B)	Not related	d (counted under i in dispo	sition)					
	(check if	X	(C)	Related and not persuasive (significant)							
Fin	applicable)		(D)	Not signific	cant <mark>(counted under j in di</mark> s	sposition)					
hal			(E)	Related an addressed	nd persuasive and not by technical change	DOCUMENT FAILS					
			(F)	Addressed	l by technical change <mark>(coun</mark>	ted under k disposition)					
	(check if applicable)	X	Comment generat	ed. <mark>See Se</mark>	ection V-(ii) Comment # <mark>NC</mark>	-3 (SG4-3)					

Negative 4 (SG4-4)

7	Referenced Section/	NOT	NOTE 3, 4								
legative	Negative Text	Neg rathe Rea anyt	Negative: Either convert these to numbered paragraphs or rewrite them as a declarative, rather than imperative, sentences. Reason/Justification: NOTEs are not normative and are not permitted to instruct one to do anything or to define any requirements.								
	Withdrawal (check one)	X	X No Negative withdrawal made by Voter. GO TO "Related" subsection								
Rela ted	Motion and Reason <mark>(check one)</mark>	x	'Related' is mutua	Ily agreed upon. (Needs no motion.) GO TO "Persuasive subsection							
	Motion and Reason <mark>(check one)</mark>	X	X Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								
Per			Reason E			Editorial, NOTEs are not official content.					
suasi	Motion by/ 2 nd by	By: I Sec	By: Max van den Berg / Festo SE & Co. KG Second: Jeff Christian / WIKA Instrument Corporation								
ve	Discussion	Non	e								
	Result of Vote	13 Y	-0 N ; Motion pass	ed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	relate e.] <	ed 90%	GO TO "Final" subsectio	n → (C)				
			(A)	With	drawn	(counted under h in disp	osition)				
			(B)	Not i	elated	d (counted under i in dispo	osition)				
Fina	(check if	X	(C)	Rela	ted ar	nd not persuasive (significan	it)				
al	applicable)		(D)	Not s	signific	cant <mark>(counted under j in di</mark>	sposition)				
			(E)	Rela addr	ted ar essed	nd persuasive and not by technical change	DOCUMENT FAILS				

		(F)	Addressed by technical change (counted under k disposition)
(check if applicable)	X	Comment generat	ted. See Section V-(ii) Comment # NC-4 (SG4-4).

Negative 5 (SG4-5)

Ne	Referenced Section/ Paragraph	9.4							
gative	Negative Text	Neg Rea are para	ative: Remove th son/Justification: not permitted in the igraphs.	e parenthe NOTEs are normative	tical reference to the NOT e not normative parts of th portions of the document,	E. ne d , inc	ocument and pointers to them luding the numbered		
(Withdrawal (check one)	X	No Negative witho	drawal mad	e by Voter.	(GO TO "Related" subsection		
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	Related' is mutually agreed upon. (Needs no motion.)					
	Motion and Reason <mark>(check one)</mark>	x	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)						
Pers			Reason	NOTE are re	Es are not normative parts emoved.	s of	the document; therefore, they		
suasi	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG						
ve	Discussion	Non	None						
	Result of Vote	14 Y	-0 N; Motion pass	ed.					
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90%	GO TO "Final" subsect	tion	i → (C)		
			(A)	Withdrawr	(counted under h in dis	spo	sition)		
			(B)	Not related	d (counted under i in dis	spos	sition)		
	(check if	X	(C)	Related ar	nd not persuasive (signific	cant)		
Fin	applicable)		(D)	Not signific	cant (counted under j in	dis	position)		
al			(E)	Related ar addressed	nd persuasive and not I by technical change		DOCUMENT FAILS		
			(F)	Addressed	by technical change (co	unt	ed under k disposition)		
	(check if applicable)	X	Comment generat	ted. <mark>See Se</mark>	ection V-(ii) Comment #	NC-	<mark>-5 (SG4-5)</mark> .		

Negative 6 (SG4-6)

Ne	Referenced Section/ Paragraph	NOT	E 5	
gative	Negative Text	Neg rathe Rea anyt	ative: Either convert these to numbered paragraphs or r er than imperative, sentences. son/Justification: NOTEs are not normative and are not hing or to define any requirements.	ewrite them as a declarative, permitted to instruct one to do
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO "Related" subsection

Rela ted	Motion and Reason (check one)	X	'Related' is mutually	Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection							
	Motion and	x	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								
Per	(check one)		Reason	Editorial,	Editorial, NOTEs are not official content.						
suasi	Motion by/ 2 nd by	By: Sec	Max van den Berg / F ond: Jeff Christian / V	esto SE & C IKA Instrum	o. KG nent Corporation						
ve	Discussion	Non	None								
	Result of Vote (check one)	13 Y	-0 N ; Motion passed								
		X	$2/3 \le$ [Negative is related and not persuasive.] < 90% GO TO "Final" subsection \rightarrow (C)								
			(A) W	hdrawn <mark>(co</mark>	ounted under h in dis	position)					
			(B) No	related (co	ounted under i in dis	position)					
	(check if	X	(C) Re	ated and no	ot persuasive (significa	ant)					
Fin	applicable)		(D) No	significant	(counted under j in o	disposition)					
al			(E) Re	ated and pe Iressed by t	ersuasive and not technical change	DOCUMENT FAILS					
			(F) Ac	dressed by	technical change (cou	Inted under k disposition)					
	(check if applicable)	X	Comment generated. See Section V-(ii) Comment # NC-6 (SG4-6).								

Negative 7 (SG4-7)

Z	Referenced Section/ Paragraph	9.5								
gative	Negative Text	Neg Rea are i para	<i>egative:</i> Remove the parenthetical reference to the NOTE. <i>Asson/Justification:</i> NOTEs are not normative parts of the document and pointers to them a not permitted in the normative portions of the document, including the numbered aragraphs.							
	Withdrawal (check one)	X	X No Negative withdrawal made by Voter.			e by Voter.	GO TO "Related" subsection			
Rela ted	Motion and Reason <mark>(check one)</mark>	x	'Related' is mutuall	GO TO "Persuasive" subsection						
	Motion and	X	X Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)							
Per	(check one)		Reason		NOTE are re	Es are not normative parts o emoved.	of the document; therefore, they			
suasi	Motion by/ 2 nd by	By: [·] Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG							
Ve	Discussion	Non	е							
	Result of Vote	14 Y	-0 N ; Motion passe	ed.						
	(check one)	X	2/3 ≤ [Negative is re and not persuasive	elate .] < 9	ed 90%	GO TO "Final" subsectio	n → (C)			
-· 71			(A)	Nith	drawn	(counted under h in disp	osition)			

			(B)	osition)				
		X	(C) Related and not persuasive (significant)					
	(check if applicable)		(D)	(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)	X	Comment generated. See Section V-(ii) Comment # NC-7 (SG-7).					

Negative 8 (SG4-8)

-	Ret S Pa	fere ect rag	enced ion/ jraph	NOT	OTE 8								
Vegative	Neg	ativ	/e Text	Neg Rea by th "requare appe	<i>egative:</i> Rewrite to identify by whom or what this is "required". <i>Eason/Justification:</i> It is permissible for a NOTE to state that something is required, either the present document or by something else, but it is not permissible for a NOTE to, itself, equire" anything, as NOTEs are advisory, not normative. The present writing of NOTE 8 pears to be intended to state a requirement of C54.								
	Withd (chec	lrav <mark>k o</mark>	val ne)	X	No Negative withdrawal made	e by Voter.		GO TO "Related" subsection					
Rela ted	Motion and Reason (check one)			x	'Related' is mutually agreed u	ipon. <mark>(Needs no</mark> r	notic	on.) GO TO "Persuasive" subsection					
	Mo F	tio Rea	n and son	x	Negative is related and persu	asive. <mark>(Needs</mark> >1/	/3 vo	tes to pass.)					
Π	Mo	otio 2 nd	n by/ by	By: Thomas Fritz / WIKA Instrument Corporation Second: Yanli Chen / Applied Materials, Inc.									
ers	Dis	scu	ssion	None									
uas				11 Y-0 N; Motion passed.									
sive	Resi (ch	Result of Vote (check one)			[Negative is related and persuasive.] > 1/3	Is a technical change recommended?	x	Y GO TO "Address by Technical Change Option" subsection					
					[Negative is related and not persuasive.] < 2/3	(check one)		N GO TO "Final" subsection → (E)					
Address	Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.												
by Tec Opti	Tech		FROM: NOTE 8	Sect	ion/Paragraph NOTE 8 s procedure will be required only	y immediately after	chan	iging the test solution or contaminating					
hnical on	nical	1	the appar	atus v	with air.								
Ch	Cha		TO: Se	ction	/Paragraph NOTE 8								
ange	Inges		NOTE 8: solution	EXC or cor	<u>EPTION</u> : This procedure in $\P 9.3$ it aminating the apparatus with an	5 <u>.4.1 is_will be</u> requ r.	ired o	only immediately after changing the test					

		Justific Rewritte editorial	ation en to cha	n (lf r clari nge.	nec ify \	essary) what is '	"required". This is no longer a NOTE	and cannot be revised as an			
M	Motion				Neg	ative is	addressed by the technical change(s).				
М	Motion by/2 nd by Discussion				By: John Zawada / Swagelok Second: Jeff Christian / WIKA Instrument Corporation None						
Di				I							
					13	Y-0 N ; M	lotion 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 \rightarrow (E)			
	Motion				To i	incorpor	ate the technical change(s).				
Tec	Inco	Motion by/	2 nd k	ру	By: Jeff Christian / WIKA Instrument Corporation Second: John Zawada / Swagelok						
hnica	rpora	Discussior	١		None						
<u></u>	tion				12	Y-0 N ; M	tion passed.				
nange	of th	Result o	f Vot	te	X	90% ≤	[Agree to incorporate.]	GO TO "Final" subsection \rightarrow (F)			
	ē	(Check	one))		[Disagr	ee 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)			
	(0	heck if			(C)	Related and not persuasive (signification	nt)			
	ap	plicable)			(D)	Not significant (counted under j in d	isposition)			
					((E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS			
			X		((F)	Addressed by technical change (cour	nted under k disposition)			
	(c ap	heck if blicable)		Comment generated. See Section V-(ii) Comment # X.							

Negative 9 (SG4-9)

		<u> </u>					
7	Referenced Section/ Paragraph	10					
legative	Negative Text Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and are not permitted in the normative portions of the document, including the nu paragraphs. Also, NOTE 1 follows ¶9.2.4.1, not ¶9.2.1.1.						
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO "Related" subsection			
Rela ted	Motion and Reason (check one)	X	X 'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection				

	Motion and	X	Negative is rela	ted and not p	ersuasive. <mark>(Needs ≥2/3 vc</mark>	otes to pass.)		
Per	(check one)		Reason	NOTE are re	NOTEs are not normative parts of the document; therefore, they are removed.			
suasi	Motion by/ 2 nd by	By: Sec	Thomas Fritz / W ond: Max van de	/IKA Instrume n Berg / Fest	ent Corporation o SE & Co. KG			
ve	Discussion	Non	one					
	Result of Vote (check one)	14 Y	/-0 N ; Motion pa	ssed.				
		X	2/3 ≤ [Negative and not persuas	is related sive.] < 90%	GO TO "Final" subsecti	on → (C)		
			(A)	Withdrawn	(counted under h in dis	position)		
			(B)	Not related	position)			
	(check if	X	(C)	Related ar	nd not persuasive (significa	ant)		
Fin	applicable)		(D)	Not signific	cant <mark>(counted under j in c</mark>	lisposition)		
a			(E)	Related ar addressed	Related and persuasive and not addressed by technical change			
			(F)	Addressed	l by technical change <mark>(cou</mark>	nted under k disposition)		
	(check if applicable)	X	Comment gener	rated. See Section V-(ii) Comment # NC8 (SG4-9).				

Negative 10 (SG4-10)

z	Referenced Section/ Paragraph	NOT	TE 9									
legative	Negative Text Negative: Either convert this to a numbered paragraph or rewrite it as a declarative, rath than imperative, sentence. Reason/Justification: NOTEs are not normative and are not permitted to instruct one to anything or to define any requirements.											
	Withdrawal (check one)	X	No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason (check one)	x	X 'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection									
	Motion and Reason (check one)	X Negative is related and persuasive. (Needs >1/3 votes to pass.)										
	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Yanli Chen / Applied Materials, Inc.									
ers	Discussion	Non	lone									
iuas		11 Y	11 Y-0 N; Motion passed.									
sive	Result of Vote (check one)	x	[Negative is related and persuasive.] > 1/3	ls a technical change recommended?	X	Y	GO TO "Address by Technical Change Option" subsection					
			[Negative is related and not persuasive.] < 2/3			N	GO TO "Final" subsection → (E)					
Add ress	Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.											

			FROM:	Sect	ion/	Para	graph <mark>NC</mark>	DTE 9			
	_		NOTE 9	: All	gase	s usec	l in the ana	lysis of the sample shall contain no more the	han 10% of the sample value of the		
	Tech		compone	ent of	inter	est ui	nless other	wise specified.			
	nnica		TO: Se	ction	n/Paragraph NOTE 9						
$\frac{1}{2}$ $\frac{1}{1}$ NOTE 9: <u>10.1</u> All gases used in the analysis of the sample shall contain no more than 10% of the same									nore than 10% of the sample value		
	of the component of interest unless otherwise specified. Justification (If necessary)										
			Convert	ted to	o a	num	bered pa	ragraph. This is no longer a NOTE	and cannot be revised as an		
	Motic) n	euitoriai	i cha	nge	Neg	ative is ac	ddressed by the technical change(s).			
	Motic	n	by/2 nd by			By:	John Zaw	ada / Swagelok			
						Sec	ond: Jeff (Christian / WIKA Instrument Corporatio	n		
	Discu	JSS	sion			None					
						13 Y-U N; Motion passed.					
		Re (esult of V check on	ote e)		x	2/3 ≤ [Ne change(s	egative is addressed by the technical .).]	Technical Change" subsection		
		•					[Negative change(s	e is not addressed by the technical $(5) = 2/3$	GO TO "Final" subsection → (E)		
		Μ	otion			To incorporate the technical change(s).					
	lnco Tec	Μ	otion by/	2 nd k	у	By: Jeff Christian / WIKA Instrument Corporation Second: John Zawada / Swagelok					
	rpora hnica	Di	iscussior	า		None					
	ition al Ch					12 Y	-0 N ; Mot	tion passed.			
	of th lange		Result o	of Vot	te	X	90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)		
	e ?		(спеск	one))		[Disagree	e to incorporate.]>10%	GO TO "Final" subsection → (E)		
						(/	A)	Withdrawn <mark>(counted under h in disp</mark>	osition)		
						(B)	Not related (counted under i in disp	osition)		
	(0	cho	eck if			(C)	Related and not persuasive (significar	nt)		
Fin	ap	applicable)				(D)	Not significant <mark>(counted under j in di</mark>	sposition)		
al						(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS		
				Χ		(F)	Addressed by technical change (cour	nted under k disposition)		
	(c ap	cho pli	eck if icable)		Cor	nmer	nt generat	ed. See Section V-(ii) Comment # X.			

Negative 11 (SG4-11)

Nega	Referenced Section/ Paragraph	10.2.2.3
tive	Negative Text	Negative: Delete the " or" at the end of the sentence. Reason/Justification: Correct an apparent ballot preparation error.

	Withdrawal (check one)	X	No Negative with	drawal ma	de by Voter.	GO TO "Related" subsection					
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	ally agreed	l upon. <mark>(Needs no motion.)</mark>	GO TO "Persuasive" subsection					
	Motion and Reason	x	Negative is related	d and not	d not persuasive. (Needs ≥2/3 votes to pass.)						
Per	(check one)		Reason	Edit	orial in nature.						
suasi	Motion by/ 2 nd by	By: Sec	By: Yanli Chen / Applied Materials, Inc. Second: Max van den Berg / Festo SE & Co. KG								
ive	Discussion	None									
	Result of Vote	14 \	/ -0 N ; Motion pass	sed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related /e.] < 90%	n → (C)						
			(A)	Withdraw	n (counted under h in disp	position)					
			(B)	Not relate	ed <mark>(counted under i in disp</mark> o	osition)					
	(check if	X	(C)	Related a	and not persuasive (significar	nt)					
Fin	applicable)		(D)	Not signi	ficant <mark>(counted under j in di</mark>	sposition)					
a			(E)	Related a addresse	and persuasive and not ed by technical change	DOCUMENT FAILS					
			(F)	Addresse	ed by technical change (coun	ted under k disposition)					
-				Addressed by technical change (counted under k disponented. See Section V-(ii) Comment # NC9 (SG4-11).							

Negative 12 (SG4-12)

z	Referenced Section/ Paragraph	NOT	E 10, ¶10.2.4.1, 10.2.4.3, et seq.									
egative	Negative Text	Neg pres Rea pres	<i>legative:</i> Change the references to "1.379 MPa (200 psig)" to references to "sample ressure". <i>Reason/Justification:</i> That value is stated, in ¶10.2.2.3 as an example of a sample ressure, it is not, however, the sample pressure specified to be used for this procedure.									
	Withdrawal (check one)	X	No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason <mark>(check one)</mark>	X	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection									
	Motion and Reason <mark>(check one)</mark>	x	X Negative is related and persuasive. (Needs >1/3 votes to pass.)									
Per	Motion by/ 2 nd by	By: ⁻ Seco	By: Thomas Fritz / WIKA Instrument Corporation Second: Yanli Chen / Applied Materials, Inc.									
sua	Discussion	Non	e									
sive		11 Y	-0 N; Motion passed.									
Φ	Result of Vote (check one)	x	[Negative is related and persuasive.] > 1/3 Ls a technical change recommended? (check one)	GO TO "Address by Technical Change Option" subsection								

1					[Negative	e is relate	ed and not			Ν	GO TO	"Final"	subsection	
	Tech	nic	al Chang	le Re	persuasi [.] commer	ve.] < 2/3 ndations					→ (E)			
	Origi fields	nal s.	section/	para	graph ni	umber an	id at least	one full sente	nce ar	e requ	uired in	"FROM"	and "TO"	
			FROM: Section/Paragraph NOTE 10, ¶10.2.4.1, 10.2.4.3, et seq.											
			10.2.2.3 <i>Sample Cell Pressure</i> — appropriate pressure recommended by the cell manufacturer, e.g., 1.379 MPa (200 for full scale range 0 to 20 ppm carbon monoxide.											
			NOTE 10: An example of an operating procedure is outlined below for the sample system shown in Figure 3. This is appropriate only when the infrared gas cell is designed to withstand the 1.379 MPa (200 psig) sample pressure											
A	Technical Ch		 10.2.4.1 CO) cylino regulator to valve V1. read zero.	Open der val o <mark>1.37</mark> After	the zero ga ve. Open v 9 MPa (200 a constant	ns (pre-purif valve V1, cl <mark>0 psig)</mark> as sh readout is c	ied nitrogen o lose valves V nown on gaug observed, adju	or certified pure of 2 and V3. Flow th e G. Adjust the flo ust the zero contro	kygen, in ne gas thr wrate or ol knob o	depend ough ti the flo f the at	lently mea he system wmeter to nalyzer to	sured to be and adjust 1000 cc/m set the abs	e less than 0.1 ppm the back pressure ninute by adjusting sorbance output to	
ddress by T			10.2.4.2 through th 1000 cc/m indicates a carbon mo	Open e syste inute. ibsorba	the calibra em and adj After a co ance direct e in the cal	tion gas sta ust the back onstant read ly. If the in ibration gas	ndard cylinde c pressure reg out is observe strument indi	er valve. Close V1 ulator to 1.379 M ed, record the abs cates concentratio	and V2 Pa (200) sorbance on, adjus	, and op psig). <i>A</i> of the the sp	pen valve Adjust the calibration an control	V3. Flow t flowrate of n standard, to read th	the calibration gas n the flowmeter to , if the instrument e concentration of	
echnical Ch		1	10.2.4.3 valve V2 t If the instr using the f specification	Introd intil th rument formul on in {	uce the oxy e flowrate t indicates a below. If 7 of this S	ygen sample on the flow absorbance the instrum Standard.	e into the anal meter is 1000 e, read the abs nent indicates	lyzer by closing va) cc/minute. Adjust sorbance of the sa concentration, rec	alves VI st the bac ample an cord the	and V3 k press d calcu concent	, opening y sure regula llate the qu tration. Th	valve V4 at ator to <mark>1.37</mark> uantity of e results sh	nd slowly opening 9 MPa (200 psig) carbon monoxide nall not exceed the	
ange Optic	nanges		 10.5.2.3 as recomm	Sampl rended	e Cell Pres	<i>ssure</i> — <mark>1.3</mark> l manufactu	379 MPa (200 11er.	<mark>psig)</mark> for full scale	e range 0	to 5 pp	m nitrous o	oxide or ap	propriate pressure	
ň			 10.5.4.1 N ₂ O) cylin regulator t flowrate o control kno	Open ider va o pres on the ob of t	the zero ga lve. Open sure recom flowmeter he analyze	ts (pre-purif valve V1, c nmended by to 1000 cc/ er to set the	Tied nitrogen of close valves V the cell man /minute by ad absorbance of	or certified pure of 2 and V3. Flow th ufacturer, e.g., 1. ljusting valve V1. utput to read zero.	kygen, in he gas th 379 MPa After a	depend rough t . (200 j constai	lently mea he system <mark>osig)</mark> as sh nt readout	sured to be and adjust own on ga is observe	e less than 0.1 ppm the back pressure uge G. Adjust the ed, adjust the zero	
			10.5.4.2 through th MPa (200 absorbance concentrat	Open le syste psig). e of t ion, ac	the calibra em and ad Adjust the he calibra ljust the sp	tion gas station gas station just the bac e flowrate control standation standation standation	andard cylinde or pressure re on the flowme ard, if the ir to read the con	er valve. Close VI gulator to pressur- eter to 1000 cc/mi nstrument indicat ncentration of nitr	and V2, re recom- inute. Af es absor- ous oxid	and op mendeo ter a co bance e in the	ben valve d by the constant read directly. e calibratio	V3. Flow t ell manufa idout is ob If the ins on gas.	the calibration gas acturer, e.g., 1.379 served, record the trument indicates	
			10.5.4.3 valve V2 u by the cell oxide, usin the specific	Introd intil th manu ig the f cation	uce the oxy e flowrate facturer, e. formula bel in § 7 of th	ygen sample on the flow g., <mark>1.379 M</mark> low. If the in his Standard	e into the anal meter is 1000 Pa (200 psig) nstrument indi l.	yzer by closing va cc/minute. Adjus Read the absorba icates concentratio	lves VI a t the bac ance of th on, recore	nd V3, k press ne samj l the co	opening V ure regulated ole and cal ncentratio	Valve V4 a tor to press culate the n. The resu	nd slowly opening sure recommended quantity of nitrous ilt shall not exceed	

TO: Section/Paragraph NOTE 10, ¶10.2.4.1, 10.2.4.3, et seq. (please note the numbering updated when changes were made)

10.2.2.3 <u>10.3.2.3</u> Sample Cell Pressure — appropriate pressure recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) the sample pressure for full scale range 0 to 20 ppm carbon monoxide.

.

NOTE 10:NOTE 8: An example of an operating procedure is outlined below for the sample system shown in Figure 3. This procedure is appropriate only when the infrared gas cell is designed to withstand the 1.379 MPa (200 psig) sample pressure.

• •

10.2.4.1 Open the zero gas (pre-purified nitrogen or certified pure oxygen, independently measured to be less than 0.1 ppm CO) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to 1.379 MPa (200 psig) sample pressure as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.

10.2.4.2 Open the calibration gas standard cylinder valve. Close V1 and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to 1.379 MPa (200 psig). the sample pressure. Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of carbon monoxide in the calibration gas.

10.2.4.3 Introduce the oxygen sample into the analyzer by closing valves VI and V3, opening valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to 1.379 MPa (200 psig). the sample pressure. If the instrument indicates absorbance, read the absorbance of the sample and calculate the quantity of carbon monoxide, using the formula below. If the instrument indicates concentration, record the concentration. The results shall not exceed the specification in § 7 of this Standard.

. .

10.5.2.3 Sample Cell Pressure — 1.379 MPa (200 psig) The sample pressure for full scale range 0 to 5 ppm nitrous oxide or appropriate pressure as recommended by the cell manufacturer.

. . .

10.5.4.1 Open the zero gas (pre-purified nitrogen or certified pure oxygen, independently measured to be less than 0.1 ppm N₂O) cylinder valve. Open valve V1, close valves V2 and V3. Flow the gas through the system and adjust the back pressure regulator to pressure recommended by the cell manufacturer, e.g., $\frac{1.379 \text{ MPa}}{200 \text{ psig}}$ -sample pressure as shown on gauge G. Adjust the flowrate on the flowmeter to 1000 cc/minute by adjusting valve V1. After a constant readout is observed, adjust the zero control knob of the analyzer to set the absorbance output to read zero.

10.5.4.2 Open the calibration gas standard cylinder valve. Close VI and V2, and open valve V3. Flow the calibration gas through the system and adjust the back pressure regulator to pressure recommended by the cell manufacturer, e.g., <u>1.379</u> <u>MPa (200 psig)sample pressure</u>. Adjust the flowrate on the flowmeter to 1000 cc/minute. After a constant readout is observed, record the absorbance of the calibration standard, if the instrument indicates absorbance directly. If the instrument indicates concentration, adjust the span control to read the concentration of nitrous oxide in the calibration gas.

10.5.4.3 Introduce the oxygen sample into the analyzer by closing valves VI and V3, opening Valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to pressure recommended by the cell manufacturer, e.g., 1.379 MPa (200 psig) sample pressure. Read the absorbance of the sample and calculate the quantity of nitrous oxide, using the formula below. If the instrument indicates concentration, record the concentration. The result shall not exceed the specification in § 7 of this Standard.

Justification (If necessary) Update all references throughout from "1.379 MPa (200 psig)" to references to "sample pressure".

FROM: Section/Paragraph 10.3.2.3 is now 10.4.2.3

10.3.2.3 *Sample Cell Pressure* — appropriate pressure recommended by the cell manufacturer, e.g., 689 kPa (100 psig) for full scale range 0 to 5 ppm carbon dioxide, 1.379 MPa (200 psig) for 0 to 2.5 ppm carbon dioxide.

		 TO: Section/Paragraph 10.3.2.3 is now 10.4.2.3 10.3.2.3 10.4.2.3 Sample Cell Pressure — appropriate pressure recommended by the cell manufacturer, e.g., 689 kPa (100 psig) for full scale range 0 to 5 ppm carbon dioxide, 1.379 MPa (200 psig) for 0 to 2.5 ppm carbon 									
		dioxde . Justific Remove	atio	n (lf refe	nece rence	es of "1.37	79 MPa (200 psig)" and everything afte	er it.			
	Motic	n			Neg	ative is a	ddressed by the technical change(s).				
	Motic	on by/2 nd by	/		By: Sec	John Zaw ond: Jeff	rada / Swagelok Christian / WIKA Instrument Corporatio	วท			
	Discussion					None					
						13 Y-0 N; Motion passed.					
	Result of Vote (check one)				x	2/3 ≤ [Ne change(s	egative is addressed by the technical (3).]	GO TO "Incorporation of the Technical Change" subsection			
						[Negative is not addressed by the technical change(s).] < $2/3$ GO TO "Final" subsection \rightarrow (E)					
		Motion			To incorporate the technical change(s).						
	Incc Tec	Motion by/	2 nd k	у	By: Sec	Jeff Chris	an / WIKA Instrument Corporation Zawada / Swagelok				
	orpora chnica	Discussior	ו		None						
	tion I Cł				12 Y-0 N; Motion passed.						
	of the	Result o	f Voi	te	x	90% ≤ [A	gree to incorporate.]	GO TO "Final" subsection → (F)			
	e	(Check	one,			[Disagree	e to incorporate.]>10%	GO TO "Final" subsection → (E)			
					(4	A)	Withdrawn <mark>(counted under h in disp</mark>	position)			
					(B)	Not related (counted under i in disp	osition)			
	(0	heck if			(C)	Related and not persuasive (significa	nt)			
!	ap	applicable)			(D)	Not significant <mark>(counted under j in d</mark>	isposition)			
-					(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS			
			X		(F)	Addressed by technical change (cou	nted under k disposition)			
	(c ap	heck if: plicable)		Cor	nmer	nt generat	ted. See Section V-(ii) Comment # X				

Negative 13 (SG4-13)

Ne	Referenced Section/ Paragraph	10.3.4.3
gative	Negative Text	<i>Negative:</i> Unless it is known that all cell manufacturers recommend the same cell pressure, designate the value as an example. <i>Reason/Justification:</i> This was done, in other paragraphs, by the use of "e.g.", but not done here.

	Withdrawal (check one)	X	No Negative with	drawal m	ade by Voter.	GO TO "Related" subsection					
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	ally agree	d upon. <mark>(Needs no motion.)</mark>	GO TO "Persuasive" subsection					
	Motion and Reason	x	Negative is relate	d and no	d not persuasive. (Needs ≥2/3 votes to pass.)						
Per	(check one)		Reason	Ed	itorial in nature.						
suasi	Motion by/ 2 nd by	By: Sec	By: Yanli Chen / Applied Materials, Inc. Second: Max van den Berg / Festo SE & Co. KG								
ive	Discussion	None									
	Result of Vote	14 Y-0 N; Motion passed.									
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related /e.] < 90%	GO TO "Final" subsectio	on → (C)					
			(A)	Withdra	wn <mark>(counted under h in dis</mark> p	position)					
			(B)	Not rela	ted <mark>(counted under i in disp</mark>	osition)					
	(check if	X	(C)	Related	and not persuasive (significa	nt)					
Fin	applicable)		(D)	Not sigr	ificant <mark>(counted under j in d</mark>	isposition)					
a			(E)	Related address	and persuasive and not ed by technical change	DOCUMENT FAILS					
			(F)	Addressed by technical change (counted under k disposition)							

Negative 14 (SG4-14)

	Referenced Section/ Paragraph	10.6								
Negative TextNegative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointer are not permitted in the normative portions of the document, including the numberer paragraphs. It is permissible to duplicate NOTEs 3 and 4 after ¶10.6. It is also permissible to portion NOTE here invoking other NOTEs.										
-	Withdrawal (check one)	X	No Negative withdrawal made by Voter. GO TO "Related" subsection							
Rela ted	Motion and Reason <mark>(check one)</mark>	X	'Related' is mutually agreed upon. (Needs no motion.)							
P	Motion and	X	Negative is re	lated and	d not persuasive. <mark>(Needs ≥2/3 v</mark>	votes to pass.)				
ersua	(check one)		Reason	NOTEs are not normative parts of the document; therefore, the are removed.						
sive	Motion by/ 2 nd by	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG								
Discussion None										

	Result of Vote	14 \	4 Y-0 N; Motion passed.							
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related /e.] < 90%	GO TO "Final" subsectio	n → (C)				
			(A)	Withdrawn (counted under h in disposition)						
			(B)	Not related (counted under i in disposition)						
	(check if	X	(C)	Related and not persuasive (significant)						
Fin	applicable)		(D)	Not significant (counted under j in disposition)						
hal		(E)		Related ar addressed	nd persuasive and not by technical change	DOCUMENT FAILS				
			(F)	Addressed by technical change (counted under k disposition)						
	(check if applicable)	X	Comment genera	ated. See Section V-(ii) Comment # NC11 (SG4-14).						

Negative 15 (SG4-15)

	Referenced Section/	10.7).7									
	Paragraph											
Negative	Negative Text	ative Text Reason/Justification: NOTEs are not normative parts of the document and pointers to th are not permitted in the normative portions of the document, including the numbered paragraphs. It is permissible to duplicate NOTEs after ¶10.7. It is also permissible to place a NOTE t invoking other NOTEs.										
	Withdrawal (check one)	X	No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason (check one)	x	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection									
	Motion and Reason <mark>(check one)</mark>	x	X Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)									
Pers			Reason		NOTEs are are remove	not normative parts d.	of the document; therefore, they					
suasi	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG									
Ve	Discussion	Non	е									
	Posult of Voto	14 Y -0 N ; Motion passed.										
	(check one)	X	2/3 ≤ [Negative is and not persuasive	relat e.] <	ed 90% GO 1	O "Final" subsecti	ion → (C)					
			(A)	With	ndrawn <mark>(cou</mark>	nted under h in dis	position)					
			(B)	Not	related <mark>(cou</mark>	nted under i in dis	position)					
	(check if	Χ	(C)	Rela	ated and not	persuasive (significa	ant)					
Fin	applicable)		(D)	Not	significant <mark>(c</mark>	counted under j in o	disposition)					
a			(E)	Rela addr	ated and pers ressed by te	suasive and not chnical change	DOCUMENT FAILS					
			(F)	Add	ressed by te	chnical change (cou	Inted under k disposition)					
(check if applicable) X Comment generated. See Section						V-(ii) Comment #	NC12 (SG4-15).					

Negative 16 (SG4-16)

7	Referenced Section/ Paragraph	11.1.5.4										
Negative Text Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to are not permitted in the normative portions of the document, including the numbered paragraphs. Also, I noticed that NOTE 12 is a noun phrase, not a sentence.												
	Withdrawal (check one)	X	X No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason <mark>(check one)</mark>	x	Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection									
	Motion and	x	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)									
Per	(check one)		Reason	NOTE are re	Es are not normative parts emoved.	of the document; therefore, they						
suasi	Motion by/ 2 nd by	By: ⁻ Seco	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG									
ve	Discussion	Non	None									
	Result of Vote	14 Y	-0 N ; Motion pass	ed.								
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90%	GO TO "Final" subsection	on → (C)						
			(A)	Withdrawn	(counted under h in disp	oosition)						
			(B)	Not related	l (counted under i in disp	osition)						
	(check if	X	(C)	Related an	nd not persuasive (significa	nt)						
Fin	applicable)		(D)	Not signific	cant (counted under j in d	isposition)						
al			(E)	Related an addressed	DOCUMENT FAILS							
			(F)	Addressed	by technical change (cou	nted under k disposition)						
	(check if applicable)	X	Comment generat	ed. <mark>See Se</mark>	ction V-(ii) Comment # <mark>N</mark>	<mark>C13 (SG4-16).</mark>						

Negative 17 (SG4-17)

Ne	Referenced Section/ Paragraph	11.2	1.2.5								
gative	Negative Text	Neg Rea are para	<i>egative:</i> Remove the parenthetical reference to the NOTE. <i>eason/Justification:</i> NOTEs are not normative parts of the document and pointers to them re not permitted in the normative portions of the document, including the numbered aragraphs.								
	Withdrawal (check one)	X No Negative withdrawal made by Voter. GO TO "Related" subsection									
Rela ted	Motion and Reason (check one)	X	'Related' is mutually agreed upon. (Needs no motion.)								
	Motion and Reason	X	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)								

	(check one)		Reason	NOTEs are not normative parts of the document; therefore, they are removed.							
Persu	Motion by/ 2 nd by	By: Sec	3y: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG								
asi	Discussion	Non	one								
ve	Result of Vote (check one)	14 Y	14 Y-0 N; Motion passed.								
		X	2/3 ≤ [Negative is and not persuasiv	related /e.] < 90% GO TO "Final" subsection → (C)							
			(A)	Withdrawn (counted under h in disposition)							
	(check if		(B)	Not related (counted under i in disposition)							
Fin	applicable)	X	(C)	Related and not persuasive (significant)							
al			(D)	Not significant (counted under j in disposition)							
-	(check if applicable)	X	Comment genera	ited. See Section V-(ii) Comment # NC14 (SG4-17).							

Negative 18 (SG4-18)

z	Referenced Section/ Paragraph	11.2	5.4						
egative	Negative Text	Neg Rea are para	<i>legative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs.						
	Withdrawal (check one)	X	No Negative witho	drawal mad	e by Voter.	GO TO "Related" subsection			
Rela ted	Motion and Reason (check one)X'Related' is mutually agreed upon. (Needs no motion.)GO TO "Persus subsection				GO TO "Persuasive" subsection				
	Motion and	x	Negative is related	d and not p	ersuasive. <mark>(Needs ≥2/3 vot</mark>	es to pass.)			
Per	(check one)		Reason	NOTE are re	Es are not normative parts c emoved.	of the document; therefore, they			
suasi	Motion by/ 2 nd by	By: Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG						
ve	Discussion	Non	None						
	Result of Vote	14 Y	-0 N; Motion pass	ed.					
	(check one)	X	2/3 ≤ [Negative is and not persuasiv	related e.] < 90%	GO TO "Final" subsectio	n → (C)			
			(A)	Withdrawn	(counted under h in disp	osition)			
			(B)	Not related	d (counted under i in dispo	osition)			
	(check if	X	(C)	Related an	nd not persuasive (significar	nt)			
Fin	applicable)		(D)	Not signific	cant <mark>(counted under j in di</mark>	sposition)			
al			(E)	Related an addressed	nd persuasive and not by technical change	DOCUMENT FAILS			
			(F)	Addressed	l by technical change (coun	ted under k disposition)			
	(check if applicable)	X	Comment generat	ted. <mark>See Se</mark>	ection V-(ii) Comment # <mark>N(</mark>	C15 (SG4-18).			

Neg	ative 19 (SG4-	· 19)						
	Referenced	11.5	i -					
	Paragraph							
Negative	Negative Text	Neg Rea are i para	<i>Negative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs.					
	Withdrawal (check one)	X	No Negative withd	Irawal ma	de by Voter.		GO TO "Related" subsection	
Rela ted	Motion and Reason (check one)	x	'Related' is mutua	lly agreed	l upon. <mark>(Needs no mo</mark>	tion.)	GO TO "Persuasive" subsection	
	Motion and Reason <mark>(check one)</mark>	x	Negative is related	d and not	persuasive. <mark>(Needs</mark> ≥2	2/3 vot	es to pass.)	
Pe			Reason	NO are	TEs are not normative removed.	parts o	f the document; therefore, they	
rsuasiv	Motion by/ 2 nd by	By: ⁻ Sec	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG					
Ø	Discussion	Non	None					
	Result of Vote	14 Y	-0 N ; Motion pass	ed.				
	(check one)	X	2/3 ≤ [Negative is and not persuasive	related e.] < 90%	GO TO "Final" sub	sectio	n → (C)	
			(A)	Withdrav	/n <mark>(counted under h</mark> i	n dispo	osition)	
			(B)	Not relat	ed <mark>(counted under</mark> i ir	n <mark>dispc</mark>	osition)	
	(check if	X	(C)	Related a	and not persuasive (sig	gnifican	t)	
Fin	applicable)		(D)	Not signi	ficant <mark>(counted under</mark>	' j in di	sposition)	
<u>a</u>			(E)	Related addresse	and persuasive and no ed by technical change	ot	DOCUMENT FAILS	
			(F)	Addresse	ed by technical change	e <mark>(coun</mark>	ted under k disposition)	
	(check if applicable)	X	Comment generat	ed. <mark>See S</mark>	Section V-(ii) Comme	nt # <mark>NC</mark>	C16 (SG4-19).	

IV. Other Technical Issues None

V. Comments

V- (i) Voters' Comments None

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) NC – 1 (SG4-1)

Co	*TF	TC Chapt	er to) fill in				
mment	<i>Negative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them ar not permitted in the normative portions of the document, including the numbered paragraphs.							
A	Th	e TC Chap	ter a	agreed to do one of the following actions.				
ctio	*N	o motion is	s req	uired in this step.				
٢	X	Editorial c	hang	je				
		Options		Case 1: No vote in this section:				
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.				
		change (check one)		Case 2: Voted in this section:				
			X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.				
		FROM: Section/Paragraph 9.2.4.1						
Edito		9.2.4.1 I retention t	nject ime a	ject the calibration standard into the column using a gas-sampling valve. Record the ne and peak area (refer to Note 1).				
rial (1	TO: Sect	on/Paragraph 9.2.4.1 (numbering may have changed due to renumbering)					
Change		9.2.4.1 Inject the calibration standard into the column using a gas-sampling valve. Recorretention time and peak area-(refer to Note 1).						
S		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.						
Мо	otion	1	٦	To approve above editorial change(s)				
Мс	Motion by/2 nd by		E	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.				
Di	scus	sion	١	None				
Vo	Vote			3 Y-0 N; Motion passed.				

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

Comment (Created by Handling Negative) NC – 2 (SG4-2)

	*TF/TC Chapter to fill in
Comment	 Negative: Either convert this to a numbered paragraph or rewrite it as a declarative, rather than imperative, sentence. Reason/Justification: NOTEs are not normative and are not permitted to instruct one to do anything or to define any requirements. If this is meant as advice that one is free to ignore while performing the procedure, rewrite it as a statement, not an instruction, such as "It is recommented that one introduce". Contrarily, if this is meant as an instruction that must be followed for the procedure to be valid, make it normative by converting it to a numbered paragraph.

A	Th	e TC Chap	ter a	greed to do one of the following actions.		
ctio	*No motion is required in this step.					
n	X	Editorial c	hang	je		
		Options		Case 1: No vote in this section:		
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.		
		change		Case 2: Voted in this section:		
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.		
		FROM: S	ectio	on/Paragraph NOTE 1		
		NOTE 1: The desired precision is achieved by injecting Introduce the calibration standard as many times as				
Edi		necessary to	necessary to achieve the desired precision.			
orial Changes	1	TO: Section/Paragraph NOTE 1 (numbering may have changed due to renumbering) NOTE 1: <u>The desired precision is achieved by injecting Introduce</u> the calibration standard as many times as necessary to achieve the desired precision. <u>more than once.</u>				
		Justifica Editorial, N	tion NOTE	(If necessary) Es are not official content.		
Мо	Motion		Т	To approve above editorial change(s)		
Мо	Motion by/2 nd by		E	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Di	scus	ssion	Ν	lone		
Vo	te		1	3 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 3 (SG4-3)

င၀	*TF	*TF/TC Chapter to fill in					
mment	Neg Rea not	<i>Negative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs.					
A	Th	The TC Chapter agreed to do one of the following actions.					
ctio	*N	*No motion is required in this step.					
n	X Editorial change						
		Options for editorial		Case 1: No vote in this section:			
			for editorial	To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
		change		Case 2: Voted in this section:			
		Check	X	Original section number and at least one full sentence are required in			

		FROM: Sec	tion/Paragraph 9.3	
Edito	1	9.3 <i>Total Hydrocarbons</i> — This procedure is for the determination of total hydrocarbons (THC) in oxygen using a continuous flow flame ionization detector equipped total hydrocarbon analyzer (refer to Notes 2, 3, and 4).		
ial Changes		 TO: Section/Paragraph 9.3 (numbering may have changed due to renumbering) 9.3 <i>Total Hydrocarbons</i> — This procedure is for the determination of total hydrocarbons (THC) in oxygen using a continuous flow flame ionization detector equipped total hydrocarbon analyzer (refer to Notes 2, 3, and 4). 		
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.		
Mo	otion	1	To approve above editorial change(s)	
Motion by/2 nd by		n by/2 nd by	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.	
Discussion			None	
Vote			13 Y-0 N; Motion passed.	

Comment (Created by Handling Negative) NC – 4 (SG4-4)

C	*TF	*TF/TC Chapter to fill in					
omment	Neg tha Rea any	Negative: Either convert these to numbered paragraphs or rewrite them as a declarative, rather than imperative, sentences. Reason/Justification: NOTEs are not normative and are not permitted to instruct one to do anything or to define any requirements.					
A	Th	e TC Chap	ter a	greed to do one of the following actions.			
ctior	*N	o motion is	s req	uired in this step.			
۲	X	Editorial c	hang	e			
		Options for editorial change	al e	Case 1: No vote in this section:			
				To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
				Case 2: Voted in this section:			
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
Ec		FROM: S	ectio	on/Paragraph NOTE 3, 4			
ditorial Changes	1	NOTE 3: As matrices sha NOTE 4: Th hydrocarbor impurities ir	s the fl ll coir ne effe ns can n oxyg	low rate and heat capacity of the matrix gas affect the instrument output, the zero and span gas ncide with that of the sample gas. ctive response of a flame ionization detector-equipped total hydrocarbon analyzer to different vary and shall be approximated. However, the response of the most common hydrocarbon en can be accurately totaled and compared to methane.			

		TO: Section	n/Paragraph NOTE 3, 4 (numbering may have changed due to renumbering)		
		NOTE 3: As the matrices shall c instrument outp	the flow rate and heat capacity of the matrix gas affect the instrument output, the zero and span gas- coincide with that of the sample gas. In order to mitigate the effects of heat capacity on the put, the zero and span gas matrices need to coincide with that of the sample gas.		
	NOTE 4: The effective response of a flame ionization detector-equipped total hydrocarbon analyzer to different hydrocarbons can vary and <u>shall-need to</u> be approximated. However, the response of the most common hydrocarbon impurities in oxygen can be accurately totaled and compared to methane.				
		Justification (If necessary) Editorial, NOTEs are not official content.			
Мо	otior	n	To approve above editorial change(s)		
Motion by/2 nd by		n by/2 nd by	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Discussion		ssion	None		
Vo	ote		13 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 5 (SG4-5)

I

Comment	<i>Negative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs.					
A	Th	e TC Chap	ter a	greed to do one of the following actions.		
ction	*No	o motion is	s req	uired in this step.		
	X	Editorial c	hang	je		
		Options		Case 1: No vote in this section:		
		editorial		Case 2: Voted in this section:		
		change (check one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.		
Edito		FROM: Section/Paragraph 9.4 9.4 <i>Water</i> — This procedure is for the determination of trace moisture (water) in oxygen using a continuous flowing, cooled-surface condensation, dewpoint/frost-point hygrometer (refer to Notes 5, 6, and 7).				
ial Change	1	 TO: Section/Paragraph 9.4 (numbering may have changed due to renumbering) 9.4 Water — This procedure is for the determination of trace moisture (water) in oxygen using a continuous flowing, cooled-surface condensation, dewpoint/frost-point hygrometer (refer to Notes 5, 6, and -7). 				
Š		Justification NOTEs ar	tion e not	(If necessary) t normative parts of the document; therefore, they are removed.		
Мс	Motion		Г	To approve above editorial change(s)		
Мс	Motion by/2 nd by		E	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Dis	scus	sion	١	None		
Vo	te		1	3 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 6 (SG4-6)

0	*TF	*TF/TC Chapter to fill in				
Comment	<i>Negative:</i> Either convert this to a numbered paragraph or rewrite it as a declarative, rather than imperative, sentence. <i>Reason/Justification:</i> NOTEs are not normative and are not permitted to instruct one to do anything or to define any requirements.					
A	Th	e TC Chap	ter a	greed to do one of the following actions.		
ctior	*Ne	o motion is	s req	uired in this step.		
n	X	Editorial c	hang	je		
		Options		Case 1: No vote in this section:		
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.		
		change		Case 2: Voted in this section:		
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.		
		FROM: Section/Paragraph NOTE 5				
Edit		NOTE 5: The sampling system and hygrometer shall be designed to operate under the sample pressure, or the sample pressure shall be reduced (by a regulator with a diaphragm of stainless steel or other suitable material) to accommodate the pressure restrictions of the analytical hygrometer.				
orial Changes	1	TO: Section/Paragraph NOTE 5 (numbering may have changed due to renumbering) NOTE 5: The sampling system and hygrometer <u>shall-need to</u> be designed to operate under the sample pressure, or the sample pressure <u>shall-need to</u> be reduced (by a regulator with a diaphragm of stainless steel or other suitable material) to accommodate the pressure restrictions of the analytical hygrometer.				
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.				
Мс	Motion		Т	o approve above editorial change(s)		
Мс	otion	by/2 nd by	E	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Dis	scus	sion	Ν	lone		
Vo	Vote			3 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 7 (SG4-7)

Co	*TF	*TF/TC Chapter to fill in						
mment	Neg Rea not	<i>gative:</i> Remove the parenthetical reference to the NOTE. <i>ason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are permitted in the normative portions of the document, including the numbered paragraphs.						
A	The TC Chapter agreed to do one of the following actions.							
ctio	*No motion is required in this step.							
J	X	Editorial change						

		Options for editorial		Case 1: No vote in this section:			
			for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.		
		change		Case 2: Voted in this section:			
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
		FROM: S	ectio	on/Paragraph 9.5.4.1			
Editor		9.5.4.1 Before analyzing the sample, perform a series of analyses using a source of oxygen of which the purity has been previously determined. This procedure is necessary to age the test solution properly and eliminate any air bubbles which may become trapped in the apparatus. Three consecutive analyses indicating the known purity shall be performed before proceeding with testing. (refer to Note 8).					
rial Changes	TO: Section/Paragraph 9.5.4.1 (numbering may have changed due to renumbering 9.5.4.1 Before analyzing the sample, perform a series of analyses using a source of oxygen the purity has been previously determined. This procedure is necessary to age the test solution and eliminate any air bubbles which may become trapped in the apparatus. Three consecutive indicating the known purity shall be performed before proceeding with testing. (refer to Note						
		Justificat	tion e not	(If necessary) normative parts of the document; therefore, they are removed.			
Мо	otior	1	Т	o approve above editorial change(s)			
Motion		n by/2 nd by	B	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.			
Di	Discussion		Ν	lone			
Vote		1	3 Y-0 N; Motion passed.				

Comment (Created by Handling Negative) NC – 8 (SG4-9)

Comment	*TF	*TF/TC Chapter to fill in					
	Neg Rea not Als	<i>Negative:</i> Remove the parenthetical reference to the NOTE. <i>Reason/Justification:</i> NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs. Also, NOTE 1 follows ¶9.2.4.1, not ¶9.2.1.1.					
A	Th	The TC Chapter agreed to do one of the following actions.					
ctio	*N	*No motion is required in this step.					
n	X Editorial change						
		Ontions	Ontions	Case 1: No vote in this section:			
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
		change		Case 2: Voted in this section:			
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			

		FROM: Sec	ction/Paragraph 10	
Edito		10 Analytica 10.2.4 <i>Opera</i> 10.3.4 <i>Opera</i> 10.5.4 <i>Opera</i>	Al Procedures for Grade 3.8 Oxygen (refer to Note 1 in § 9.2.1.1) atting Procedure (refer to Note 10 and Note 11) (Refer to Figure 4) atting Procedure (refer to Note 10 and Note 11) (Refer to Figure 4) atting Procedure (refer to Note 10 and Note 11) (Refer to Figure 4)	
ria		TO: Sectio	n/Paragraph 10 (numbering may have changed due to renumbering)	
Changes	1	 10 Analytical Procedures for Grade 3.8 Oxygen (refer to Note 1 in § 9.2.1.1) 10.2.4 Operating Procedure (refer to Note 10 and Note 11) (Refer to Figure 4) 10.3.4 Operating Procedure (refer to Note 10 and Note 11) (Refer to Figure 4) 10.5.4 Operating Procedure (refer to Note 10 and Note 11) (Refer to Figure 4) 		
		Justificatio	on (If necessary)	
		NOTEs are	not normative parts of the document; therefore, they are removed.	
Mo	otior	ı	To approve above editorial change(s)	
Motion by/2 nd by			By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.	
Di	scus	ssion	None	
Vo	ote		13 Y-0 N; Motion passed.	

Comment (Created by Handling Negative) NC – 9 (SG4-11)

Cor	*TF	*TF/TC Chapter to fill in							
nme	Ne Re	Negative: Delete the "or" at the end of the sentence. Reason/Justification: Correct an apparent ballot preparation error.							
A	Th	e TC Chap	ter a	greed to do one of the following actions.					
ctio	*N	o motion is	s req	uired in this step.					
n	X	Editorial c	hang	e					
		Options		Case 1: No vote in this section:					
		editorial change (check one)		Case 2: Voted in this section:					
			X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.					
		FROM: S	ectio	on/Paragraph 10.2.2.3					
Editorial Char		10.2.2.3 <i>Sample Cell Pressure</i> — appropriate pressure recommended by the cell manufacturer, e.g. 1.379 MPa (200 psig) for full scale range 0 to 20 ppm carbon monoxide or.							
	1	TO: Sect renumber	ion/F ring)	Paragraph was 10.2.2.3, now 10.3.2.3 (numbering may have changed due to					
iges		10.3.2.3 1.379 MPa	Samp (200	<i>le Cell Pressure</i> — appropriate pressure recommended by the cell manufacturer, e.g., psig) for full scale range 0 to 20 ppm carbon monoxide-or.					

	Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.		
Motion		ı	To approve above editorial change(s)
Motion by/2 nd by		n by/2 nd by	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.
Discussion		ssion	None
Vote			13 Y-0 N; Motion passed.

Comment (Created by Handling Negative) NC - 10 (SG4-13)

Co	*TF	*TF/TC Chapter to fill in				
mment	Neg des Rea	Negative: Unless it is known that all cell manufacturers recommend the same cell pressure, designate the value as an example. Reason/Justification: This was done, in other paragraphs, by the use of "e.g.", but not done here.				
A	Th	The TC Chapter agreed to do one of the following actions.				
ctio	*N	o motion is	req	uired in this step.		
n	X	Editorial c	hang	le		
		Options		Case 1: No vote in this section:		
		editorial		Case 2: Voted in this section:		
		change (check one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.		
		FROM: S	ectio	on/Paragraph 10.3.4.3		
Edito		V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to appropriate pressure recommended by the cell manufacturer, 689 kPa (100 psig). If the instrument indicates absorbance, read the absorbance of the sample and calculate the quantity of carbon dioxide, using the formula below. If the instrument indicates concentration, record the concentration. The results shall not exceed the specification in § 7 of this Standard.				
ial Changes	1	TO: Section/Paragraph 10.4.4.3 (numbering may have changed due to renumbering) 10.4.4.3 Introduce the oxygen sample into the analyzer by closing valves V1 and V3, opening valve V4 and slowly opening valve V2 until the flowrate on the flowmeter is 1000 cc/minute. Adjust the back pressure regulator to appropriate pressure recommended by the cell manufacturer, e.g., 689 kPa (100 psig). If the instrument indicates absorbance, read the absorbance of the sample and calculate the quantity of carbon dioxide, using the formula below. If the instrument indicates concentration, record the concentration. The results shall not exceed the specification in § 7 of this Standard.				
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.				
Мо	Motion		T	o approve above editorial change(s)		
Мо	Motion by/2 nd by			By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Di	scus	ssion	Ν	lone		
Vo	Vote			3 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 11 (SG4-14)

	*TF	*TF/TC Chapter to fill in				
Comment	Neg Rea not It is her	Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs. It is permissible to duplicate NOTEs 3 and 4 after ¶10.6. It is also permissible to place a NOTE here invoking other NOTEs.				
A	Th	e TC Chap	ter a	agreed to do one of the following actions.		
ctior	*Ne	o motion is	s rec	juired in this step.		
_	X	Editorial c	hang	ge		
		Options		Case 1: No vote in this section:		
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.		
		change (check one)		Case 2: Voted in this section:		
			X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.		
		FROM: Section/Paragraph 10.6				
Edito		10.6 <i>Total Hydrocarbons</i> — This procedure is for the determination of total hydrocarbons in oxygen using a continuous flow flame ionization detector-equipped total hydrocarbon analyzer. (refe to Note 3 and Note 4 in § 9.3.)				
rial	1	TO: Section/Paragraph 10.6 (numbering may have changed due to renumbering)				
Changes		10.6 <i>Total Hydrocarbons</i> — This procedure is for the determination of total hydrocarbons in oxygen using a continuous flow flame ionization detector-equipped total hydrocarbon analyzer. (refer to Note 3 and Note 4 in § 9.3.)				
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.				
Мо	Motion		-	Fo approve above editorial change(s)		
Мс	Motion by/2 nd by			By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.		
Dis	scus	sion	١	None		
Vo	Vote			13 Y-0 N; Motion passed.		

Comment (Created by Handling Negative) NC – 12 (SG-15)

	*TF/TC Chapter to fill in						
Comment	Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs. It is permissible to duplicate NOTEs after ¶10.7. It is also permissible to place a NOTE here invoking other NOTEs.						
	The TC Chapter agreed to do one of the following actions.						

Ac	*N	o motion is	s req	uired in this step.			
ť.	X	Editorial c	hange				
		Options for editorial		Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
		change		Case 2: Voted in this section:			
		(check one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
		FROM: S	ectio	on/Paragraph 10.7			
Editor		10.7 <i>Water</i> — This procedure is for the determination of trace moisture (water) in oxygen using continuous flowing, cooled-surface condensation, dewpoint/frost-point hygrometer. (refer to Note 6, and 7 in § 9.4.)					
ial Changes	1	TO: Section/Paragraph 10.7 (numbering may have changed due to renumbering) 10.7 <i>Water</i> — This procedure is for the determination of trace moisture (water) in oxygen using a continuous flowing, cooled-surface condensation, dewpoint/frost-point hygrometer. (refer to Notes 5, 6, and 7 in § 9.4.)					
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.					
Мо	otion	1	To approve above editorial change(s)				
Мс	Motion by/2 nd by		B S	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.			
Di	Discussion			lone			
Vo	te		1	3 Y-0 N; Motion passed.			

Comment (Created by Handling Negative) NC – 13 (SG4-16)

Comment	Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs. Also, I noticed that NOTE 12 is a noun phrase, not a sentence.						
A	Th	e TC Chap	oter a	greed to do one of the following actions.			
ctio	*N	*No motion is required in this step.					
n	X	Editorial c	Editorial change				
		Options		Case 1: No vote in this section:			
		for editorial change (check one)	for editorial change	To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
				Case 2: Voted in this section:			
			X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
п		FROM: S	Section	on/Paragraph 11.1.5.4			
1 11.1.5.4 Compare the average peak areas of the calibration standard to that of the sampl tested. Calculate the concentrations of impurities as shown in SEMI C3. The result shall n the specification in § 7 of this Standard (refer to Note 12).			pare the average peak areas of the calibration standard to that of the sample being the concentrations of impurities as shown in SEMI C3. The result shall not exceed in § 7 of this Standard (refer to Note 12).				

	TO: Section/Paragraph 11.1.5.4 (numbering may have changed due to renumbering					
		11.1.5.4 Con Calculate the specification i	11.1.5.4 Compare the average peak areas of the calibration standard to that of the sample being tested. Calculate the concentrations of impurities as shown in SEMI C3. The result shall not exceed the specification in § 7 of this Standard (refer to Note 12).			
		Justificatio NOTEs are r	Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.			
Motion		ì	To approve above editorial change(s)			
Motion by/2 nd by		n by/2 nd by	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.			
Discussion		ssion	None			
Vote			13 Y-0 N; Motion passed.			

Comment (Created by Handling Negative) NC – 14 (SG4-17)

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	*TF/TC Chapter to fill in						
Comment	Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to them are not permitted in the normative portions of the document, including the numbered paragraphs. It is permissible to duplicate NOTEs after ¶10.7. It is also permissible to place a NOTE here invoking other NOTEs.						
Ac	Th	e TC Chap	ter a	greed to do one of the following actions.			
tior	*N	o motion is	req	uired in this step.			
	X	Editorial cl	hang	je			
		Options		Case 1: No vote in this section:			
		editorial		Case 2: Voted in this section:			
		change (check one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
-		FROM: Section/Paragraph 11.2.5					
ditor		11.2.5 Operating Procedures (refer to Note 13)					
ial (1	TO: Section/Paragraph 11.2.5 (numbering may have changed due to renumbering)					
Chan	•	11.2.5 Operating Procedures (refer to Note 13)					
ges		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.					
Мс	otion	Ì	Т	o approve above editorial change(s)			
Мо	Motion by/2 nd by			By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.			
Dis	Discussion			None			
Vo	te		1	3 Y-0 N; Motion passed.			

Comment (Created by Handling Negative) NC – 15 (SG4-18)

	*TF	*TF/TC Chapter to fill in					
Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and pointers to not permitted in the normative portions of the document, including the numbered paragra It is permissible to duplicate NOTEs after ¶10.7. It is also permissible to place a Ne invoking other NOTEs.				ove the parenthetical reference to the NOTE. on: NOTEs are not normative parts of the document and pointers to them are no normative portions of the document, including the numbered paragraphs. o duplicate NOTEs after ¶10.7. It is also permissible to place a NOTE here DTEs.			
A	Th	The TC Chapter agreed to do one of the following actions.					
ctio	*No motion is required in this step.						
ſ	X Editorial change						
		Options		Case 1: No vote in this section:			
		for editorial		To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
		change (check		Case 2: Voted in this section:			
		one)	X	Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
Editorial Changes	1	11.2.5.4 Compare the average peak areas of the calibration standard to that of the sample being tested. Calculate the concentrations of impurities as shown in SEMI C3. The result shall not exceed the specification in § 7 of this Standard (refer to Note 17).					
		TO: Section/Paragraph 11.2.5.4 (numbering may have changed due to renumbering) 11.2.5.4 Compare the average peak areas of the calibration standard to that of the sample being tested. Calculate the concentrations of impurities as shown in SEMI C3. The result shall not exceed the specification in § 7 of this Standard (refer to Note 17).					
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.					
Мс	Motion			To approve above editorial change(s)			
Мс	Motion by/2 nd by			By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.			
Dis	Discussion			None			
Vo	Vote			13 Y-0 N; Motion passed.			

Comment (Created by Handling Negative) NC – 16 (SG4-19)

Comment	*TF/TC Chapter to fill in							
	Negative: Remove the parenthetical reference to the NOTE. Reason/Justification: NOTEs are not normative parts of the document and point not permitted in the normative portions of the document, including the numbered parts	ers to them are aragraphs.						
A	The TC Chapter agreed to do one of the following actions.							
ctio	*No motion is required in this step.							
n	X Editorial change							

		Options for editorial change (check one)		Case 1: No vote in this section:			
				To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.			
			x	Case 2: Voted in this section:			
				Original section number and at least one full sentence are required in "FROM" and "TO" fields.			
		FROM: Section/Paragraph 11.5					
Editori		11.5 <i>Water</i> — This procedure is for the determination of trace moisture (water) in O2 using a continuous flowing piezoelectric hygrometer (refer to Notes 5, 6, and 7 in § 9.4).					
al C	1	TO: Sect	O: Section/Paragraph 11.5 (numbering may have changed due to renumbering)				
hanges		11.5 <i>Water</i> — This procedure is for the determination of trace moisture (water) in O2 using a continuous flowing piezoelectric hygrometer (refer to Notes 5, 6, and 7 in \S 9.4).					
		Justification (If necessary) NOTEs are not normative parts of the document; therefore, they are removed.					
Motion		1	Т	To approve above editorial change(s)			
Motion by/2 nd by		ES	By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.				
Discussion			Ν	None			
Vote			1	3 Y-0 N; Motion passed.			

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 t	this editorial change		Commenter(s) / Comment(s) #						
	((Check one)	X	Other [changes caught during adjudication]						
	FROM: Se	OM: Section/Paragraph 9.5								
	9.5 Assay volumetric	Assay of Oxygen — This procedure describes the assay of oxygen using an 'Orsat' device. This is a metric determination of nonabsorbable/reactable gas.								
1	TO: Section/Paragraph 9.5 9.5 Assay of Oxygen — This procedure describes the assay of oxygen using an 'Orsat' device. This is a volumetric determination of nonabsorbable/reactable/reactable/reactive gas.									
	Editorial in	rial in nature, apparent typo								
Motion		To approve the above editorial change(s).								
Motion by/ 2 nd by		By: John Zawada / Swagelok Second: Yanli Chen / Applied Materials, Inc.								
Discussion		None								
Vote		13 Y-0 N; Motion passed.								

VII. Approval Conditions Check

VII. - (i). Approval Rate

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

Note: See Regulations § 9.6.2 for further information.



Globally Approved (No Ratification Ballot needed):

Line Item 4 meets the Letter Ballot approval conditions for the global technical committee.

Need a Ratification Ballot:

Line Item 4 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 <u>applies to the entire Standard or Safety Guideline</u> including all the approved Line Items. See § 15 of the *Regulations* for further information.

	x	Th is	This is not a Safety Document, when all safety-related information is removed, the Document is still technically sound and complete. (<i>Regulations</i> \P 8.7.1)				
Motior		Th te	This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (<i>Regulations</i> \P 8.7.2)				
		Safety Checklist (<i>Regulations</i> ¶ 15.3) is complete and has been included with the Docum throughout the balloting process. (<i>Regulations</i> ¶ 15.1.2)					
I	Motion by/2 nd by			By: Thomas Fritz / WIKA Instrument Corporation Second: Jeff Christian / WIKA Instrument Corporation			
	D	Discussion		None			
Vote			ote	12 Y-0 N; Motion passed			

IX. Intellectual Property (IP) Check

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

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

X. Action for This Document

Line item(s) [1] and [3] passed TC Chapter review with editorial changes and will be for the ISC A&R SC for procedural review.			(s) [1] and [3] passed TC Chapter review with editorial changes and will be forwarded to &R SC for procedural review.	
 Line item(s) [2] and [4] passed TC Chapter review with technical changes and with or we editorial changes and will be forwarded to the ISC A&R SC for procedural review. A Ratific Ballot will be issued to verify the technical changes. 				
Motion by	on by/ 2nd by		By: Max van den Berg / Festo SE & Co. KG Second: Thomas Fritz / WIKA Instrument Corporation	
Discu	Discussion None		ne	
Vote			13 Y -0 N	
Final	nal Action		X	Motion passed
r Illai F				Motion failed

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