

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0001 US-1		all		gen	<p>The US has voted “yes” with comments on the 3CD of D10.</p> <p>We believe the Convener has done a good job of both considering and responding to the 27 pages of international comments received on the 2CD ... which has significantly improved the document.</p> <p>We (as a member of the PG) are willing to provide additional assistance to the Convener (if requested) as D10 moves from CD stages to the POB.</p>		
0002 US-2		2		ed	<p>Suggested editorial improvement to the first sentence of the Scope.</p> <p>(note: the word “methods” is the main part of the title of Section 6.)</p>	<p><b>The purpose of this Document is to provide guidance to laboratories on methods to determine and review the recalibration intervals of measuring equipment under their control as part of establishing the calibration program of their laboratory.</b></p> <p><del>The purpose of this Document is to give laboratories guidance on how to determine the recalibration intervals of measuring equipment under their control while setting up their calibration program.</del></p>	Accepted
0003 AU		3		ed	<p>Consider including definition of accreditation body for completeness, as the other main types of bodies are defined and accreditation body is used throughout the Document.</p>	<p>Include definition of “accreditation body”.</p>	Accepted
0004 CECIP		3		te	<p>In sections 2 and 6 the term "calibration program" is mentioned. As the word is mentioned in the scope as an important element of this document, it must be clear what is meant with this term. However, a definition of "calibration program" is missing in this document and does not exist in any other document to our knowledge.</p>	<p>Add a new definition in chapter 3: 3.xx Calibration program</p> <p>Documented procedure which serves to establish and maintain the traceability of measurement results</p> <p>Note: this can be done by means such as, but not limited to:</p> <ul style="list-style-type: none"> <li>defining calibration periodicity</li> <li>defining process control measures</li> </ul>	<p>Accepted</p> <p>Following small text modification has been carried out:</p> <p>Note: <i>Calibration program can be done by means of, but not limited to:</i> – <i>defining a calibration periodicity</i></p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
						<ul style="list-style-type: none"> <li>defining intermediate checks</li> </ul>	– defining .....
0005 US-3		3		ed	Suggested editorial improvement.	Some of the terms in <b>Clause 3</b> are listed with alternative terms which are considered to have an <b>identical</b> the same definition. The text “for D10” marks text which is not part of <b>the definition found original wording of terms as defined in the</b> referenced documents (e.g. additional explanatory notes that <b>are specifically concern terms used in for</b> this Document).	Accepted
0006 US-4		3		ed	<p>In comments on the 2CD, Australia suggested a rearrangement of the terms in Section 3 to alphabetical. We would also prefer this!</p> <p>The way it is now does not follow a logical order, and the user of this document is forced to search the entire list to find the definition that they are seeking.</p> <p>We do not believe that most users will know (or care) how the terms are ordered in reference documents.</p>		Accepted
0007 JP1		3	2 <sup>nd</sup> para.	Ed	We propose changes as shown on the right column.	Text “for D10” <i>means that it marks text which is not the part of original wording of terms as defined in the referenced document (e.g., additional explanatory notes specific for this Document).</i>	The sentence was already reworded according to 0005 US-3. Decided to keep the wording according to 0005 US-3.
0008 KR		3.6	Note 3	ge	Text “For D 10” is not needed because the Note 3 is the part of original wording of terms as defined in the VIM III.	Deletion of the text “For D 10” is proposed.	Accepted
0009 UK		3.8, 5.1, 6.2, etc.	1 <sup>st</sup> paragraph	ge	<p>Text “MPEs” representing “maximum permissible errors” is not given until further than the Document in clause 6.2.</p> <p>“Maximum permissible errors” is mentioned in earlier clauses at the beginning of the document, i.e., in 3.8 and 5.1.</p>	Proposal is to add “MPE” to the “Maximum permissible errors” definition in 3.8, or to 5.1.	<p>Accepted</p> <p>“MPE” was added in 5.1.</p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0010 ILAC		3.9		te	The definition of "measurement standard (VIM 5.1)" is wider than that of "reference measurement standard (VIM 5.6)". The VIM 5.1 is fit for purpose to the scope of this guidance document.	Substitute the definition of "reference measurement standard" with that of "measurement standard"	Partially accepted  The definition of "measurement standard (VIM 5.1)" was added. However the definition of "reference measurement standard" is kept too because of the reference to this text written in this document.
0011 JP2		3.13	Note 1	Ge	Although we appreciate acceptance of our comment to 2CD, there is another proposal. Because the term "device" is frequently used in this document, it is better to mention that it is a part of equipment. We propose changes as shown on the right column.	<i>Note 1: for D 10: A measuring instrument is a component of the measuring equipment which plays an important role for measurement. <u>A device may be also included in the equipment to provide a supplementary function.</u></i>	Not accepted  The device is already mentioned in the definition "measuring instrument". According to definition of the measuring equipment, the measuring equipment includes also the measuring instrument. We recommend to keep the wording from 3 CD.
0012 KR		3.17	Note	ge	Text "For D 10" is not needed because the Note is the part of original wording of terms as defined in the clause of 3.6 of the ISO/IEC 17025:2017.	Deletion of the text "For D 10" is proposed.	Accepted
0013 US-5		4		ed	Suggested edit to Section 4 Title.	Have the title of Section 4 just be "General" and delete "aspects" ... as aspects does not add anything (and could possibly be confusing to some users of the document). Also, the word or concept of "aspects" is <u>not</u> found anywhere in Sections 4.2 through 4.10 (only in 4.1).  <b>General aspects</b>	Accepted
0014 ILAC		4.1		ed	Typographical error. (ISO/IEC 17025 [3] or ISO 15189)	Replace "or" with "and" ISO/IEC 17025 [3] and ISO 15189	Accepted

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0015 AU		4.2		ed	Introduce the term "calibration drift" as part of clause 4, as it referred to throughout.	Include a Note which introduces and defines the concept of "calibration drift".	Not accepted  No exact text was proposed.  The calibration drift is not mentioned in the chapter 4. In the document the term "instrumental drift" is used. The definition of the "instrumental drift" is listed in clause 3.10.
0016 CECIP		4.2		ed; te	4.2 stands for <b>periodic calibration</b> . As latter disused in this D10 document, not only periodic recalibration intervals are possible, but also other ways to establish intervals are applicable. Then, the proposal is to use the term <b>recalibration</b> instead of <b>periodic calibration</b> . Even more, the title of the document uses the word <b>recalibration</b> .	Change 4.2 to say The purposes of <b>recalibration</b> of measuring equipment as a measure of maintaining metrological traceability are	Accepted
0017 CECIP		4.2		te	Not only recalibration is important to keep measurement systems under expected, required or specified limits, but also preventive maintenance, adjustment and corrective maintenance. In this sense, an additional paragraph could be introduced in part 4 of the document to emphasize that the "metrological confirmation" (ISO 10012) also comprise maintenance and adjustment in addition to calibration.	Add a final paragraph in chapter 4.2 to say:  Calibration results may suggest adjusting the instrument although they are "in specification" in order to maintain the specified limits, and then making a new calibration. . Sometimes, preventive maintenance is also required to keep measurement systems in good condition, and such maintenance activities and frequency need to be defined and reviewed in a similar way as recalibration intervals.	Not accepted  The 4.2 deals with the purposes of recalibration of measuring equipment. It is not suitable to include the adjustment and the maintenance in this point. The maintenance and adjustment is mentioned in the Chapter 6 in relation to methods of reviewing recalibration intervals.
0018 CECIP		4.2	a)	te	Referring to the purpose of recalibration, current draft says " <b>to improve</b> the estimation of the deviation between a reference value and... It would better say " <b>to allow</b> the estimation of..." as with recalibration we <i>can</i> estimate deviations; to improve such estimations the recalibration period should be shortened or whatever.	Change 4.2 a) to say to allow the estimation of the deviation between a reference value and the value obtained using the measuring equipment, and the uncertainty in this deviation, at the time the measuring equipment is actually used;	Partially accepted  For better wording, I replaced "to improve" by "to provide".  The text was reworded as follows:

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
							"a) <u>to provide</u> the estimation of the deviation between a reference value and the value obtained using the measuring equipment ...."
0019 JP3		4.2 a)	Para. A)	Ed	We consider that the expression "improve the estimation" originally means that the uncertainty of estimated value will be decreased. We therefore propose a simpler expression as shown on the right column.	a) to <del>decrease the uncertainty</del> <i>improve the estimation of the <u>estimated deviation of the measurement value obtained using the measuring equipment from the reference value</u> between a reference value and the value obtained using the measuring equipment, and the uncertainty in this deviation, at the time the measuring equipment is actually used;</i>	Not accepted  The meaning of the recalibration stated in para. a) is generally to determine the estimation of the deviation between a reference value and the value obtained using the measuring equipment. It means that the uncertainty of estimated value may not always decrease. Usually the uncertainty may increase, decrease or not change.  See 0018 CECIP for rewording of the text.
0020 ILAC		4.3		ed	Improve the wording.	Suggest amend clause as follows: The frequency between calibrations is a critical issue and is influenced by many factors. For the most important factors refer to clause 5.1.	Partially accepted (see also 0021 US-6)

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
							The second and third sentence of the clause is rewording as follows:  "The frequency between calibrations is a critical issue and is influenced by many factors that need to be taken into account by the laboratory. The most important of these factors are provided in 5.1."
0021 US-6		4.3		ed	Suggested edit to 4.3.	One of the most significant decisions regarding the calibration <b>of measuring equipment is the</b> timing and frequency of implementation. Many factors influence the time interval that should be allowed between calibrations and <b>those factors need to</b> <del>they should be</del> taken into account by the laboratory. The most important of these factors are provided in 5.1.	Partially accepted (see also 0020 ILAC)  First sentence was rewording as suggested.  The second and third sentence was rewording as is given in 0020 ILAC.
0022 ILAC		4.4		Te	Improve the wording. Also delete reference to "measurement capabilities" as it is the calibration provider's competency to establish metrological traceability confirmed through peer review (as per ILAC P10 and the Quadripartite declaration on metrological traceability and its implementation) which is the issue.	Suggest amend clause as follows: Calibration records may be used to determine recalibration intervals when calibrations are provided by, but not limited to: a) national metrology institutes and designated institutes that have been subject to appropriate peer review processes under the CIPM MRA (International Committee for Weights and Measures Mutual Recognition Arrangement); or b) laboratories that have been accredited by an accreditation body which is a signatory to the ILAC (International Laboratory Accreditation Cooperation) Arrangement or to Regional Arrangements recognised by ILAC; or	Accepted

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

# Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
						<p>c) calibration provided by national metrological institutes, designated institutes or laboratories not fulfilling conditions a) or b) and which services are suitable for the intended use, provided that conditions a) or b) could not be met for other than economic reasons (i.e. are not available). Also refer to ILAC P10 <i>ILAC Policy on Metrological Traceability of Measurement Results</i>.</p> <p>Abovementioned requirements do not preclude application of other methods providing sufficient evidence of metrological traceability is available.</p>	
0023 CECIP		4.4		ed	It can be understood that this clause wants to emphasize that calibrations are "valid" if has been performed by accredited labs or MNIs haven signed MRA. However, current wording is confusing and do not say what it wants to say.	Reformulate clause 4.4	Accepted.  See 0022 ILAC for rewording of the clause 4.4.
0024 JP4		4.4	All	Ge/Ed	<p>We appreciate the convener for accepting our comments to this clause of 2CD. However, this clause is still redundant and not clear. We propose an efficient and simple expression. Because the items from a) to c) mention different assessment schemes, the entire items may be reformed as a set of different schemes.</p> <p>In the first paragraph, the abbreviation "CMCs" defined in 3.14 should be used for simplicity. In paragraph b), the full name of ILAC is not necessary because it is explained in 1.1.</p> <p>We propose changes as shown on the right column. Although there are many changes, we believe that the revised text means the same contents with the original.</p>	<p>4.4 <i>The calibration records may be used for determining the recalibration interval, when <u>the calibrations were conducted by the laboratories (e.g., national metrology institutes and designated institutes) with the CMCs demonstrated through one of the following schemes conditions are met:</u></i></p> <p><i>a) <del>calibration and measurement capabilities are provided by national metrology institutes and designated institutes that have been subject to suitable a peer review processes. Such peer review is conducted</del> under the CIPM MRA (International Committee for Weights and Measures Mutual Recognition Arrangement); or</i></p> <p><i>b) <del>calibration and measurement capabilities are provided by the laboratories that have been accredited by an accreditation body subject to the ILAC MRA (International Laboratory Accreditation Cooperation Mutual Recognition Arrangement) or a by an accreditation body under regional arrangements recognised by ILAC; or</del></i></p>	Accepted for the request to change the wording of clause 4.4.  But for a way of rewording the clause 4.4 see 0022 ILAC.

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
					Besides above rather editorial changes, the last sentence (shown in pink) needs a reconsideration. This is a joint document with ILAC that expresses basic policy of ILAC and OIML. Therefore, it sounds inappropriate to request ILAC to accept other methods. We propose to seek opinions of ILAC. If ILAC agrees, the sentence may be rephrased such as "ILAC, OIML or other relevant international organisations <u>accept</u> such other methods".	<p><i>c) <del>calibration and measurement capabilities are provided by national metrological institutes, designated institutes or laboratories not fulfilling conditions a) or b) and which services are a suitable scheme for the intended use, provided that other schemes conditions a) and or b) are not available could not be met for an inevitable reason other than economic reasons</del> (i.e., <u>appropriate peer review or accreditation schemes</u> are not available).</i></p> <p><i>Above <del>mentioned</del> requirements do not preclude application of other methods providing sufficient evidence <del>for of</del> metrological traceability of calibration records, <del>because the requirements to as</del> metrological traceability <del>requirements</del> are subject to change. <i>Such other methods shall be considered to be acceptable for this purpose by ILAC or other relevant international organisations.</i></i></p>	
0025 UK		4.4	Last paragraph	ed	The text "Abovementioned" is given	Proposal is to hyphenate to "above-mentioned". Alternatively change to "mentioned above"	Accepted
0026 ILAC		4.5		ed	Improve the wording.	Suggest amend clause as follows: It is acknowledged that the costs associated with performing recalibrations may be higher when increased recalibrations frequencies are determined. However, these costs need to be balanced against increased measurement uncertainties or a higher risk in decreased measurement reliability which may occur with longer recalibration intervals.	Accepted
0027 CECIP		4.5		te	This paragraph explains that calibration cost has to be in balance with risk assessment. However, risk derived from bad measurement results could be a little bit developed in this part of the document, so some additional sentences could be added	Include some more sentences in clause 4.5, so it would read:	Not accepted  The clause 4.5 deals with the costs associated with performing recalibrations not with the risk from bad measurement results. This risk is mentioned for example in 5.1 b).

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial



## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
						<p>When determining the recalibration intervals, the costs of recalibrations normally cannot be ignored. However, these costs need to be balanced against risks in terms of quality of measurement. In general, longer recalibration intervals will increase measurement uncertainties and the risk of having wrong measurement results. Such risk can be evaluated paying attention to:</p> <ul style="list-style-type: none"> <li>a) The possibility of detecting wrong measurement results;</li> <li>b) The required measurement uncertainty, compared with the measurement system capabilities; and</li> </ul> <p>The consequences of having wrong measurement results.</p>	
0028 ILAC		4.6		Te	The OIML MAA and ILAC MRA prescribe ISO/IEC 17025 and not ISO 10012 (which is not a CASCO document). Hence reference to ISO 10012 should be removed completely.	Change the last 4 lines of 4.6 to be: "The methods have been published in more detail in certain standards by reputable technical organizations (e.g. [8], [9], [10]), or in relevant scientific journals."	Accepted  See also 0029 JP5
0029 JP5		4.6	The last sentence	Ed	<p>The last sentence may be mentioned as a note with rephrasing. We propose changes as shown on the right column.</p> <p>If available, we recommend providing some references of the "scientific journals".</p>	<i>Note: The methods have been published in more detail in certain standards. <del>The withdrawn standard (e.g. ISO 10012-1 [4] contained is a withdrawn standard containing useful details, which it has have been replaced with revised by standard ISO 10012 [5], containing only general information related to confirmation intervals, or by</del> There are other useful references provided by reputable technical organisations (e.g. [8], [9], [10]), and <del>or in</del> relevant scientific journals.</i>	Partially accepted  The text was given as a Note.  However, the wording of the text was changed according to 0028 ILAC.
0030 ILAC		4.10		ed	Is the term "internal tests" synonymous with "intermediate checks" specified in 4.9?	Replace "internal tests" with "intermediate checks".	Accepted

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0031 JP6		4.10	Note	Ed	<p>Because the last sentence mentions calibration interval, it may be separated as Note 2.</p> <p>In the first sentence, the order of “device” and “measuring instrument” may be reversed because the latter plays an important role (see Note 1 of 3.13).</p> <p>In the last sentence, “constituent parts” should be replaced with “measuring instruments and devices” in alignment with the 1<sup>st</sup> and 2<sup>nd</sup> sentences. The last part of the last sentence may be omitted because it is obvious that “data” is associated with “measuring equipment or its constituent parts”.</p> <p>We propose changes as shown on the right column.</p>	<p><i>Note 1: For some kinds of measuring equipment, each <del>measuring instrument</del> device or <del>device</del> measuring instrument which composes the equipment may be calibrated separately. In this case, a combined standard measurement uncertainty of the measuring equipment is calculated from the uncertainties arising from all the <del>measuring instruments</del> devices and <del>devices</del> measuring instruments.</i></p> <p><i>Note 2: It may be necessary to re-evaluate calibration intervals of whole measuring equipment, or its <del>measuring instruments and devices</del>, constituent parts based on data obtained from <del>previous</del> calibrations of <del>measuring equipment or its constituent parts</del>.</i></p>	Accepted
0032 CECIP		5.1	b)	ed, te	<p>Change the first word of this paragraph to say <del>consequences</del> instead of <del>risk</del></p>	<p>The paragraph b) then would read: <del>consequences</del> of the measuring equipment exceeding the predetermined limits (e.g. of the maximum permissible error, accuracy requirements) when in use;</p>	<p>Not accepted</p> <p>The risk analysis covers also the consequences that the measuring equipment will exceed the predetermined limits.</p> <p>I suggest to keep the wording as it is.</p>
0033 JP7		5.1	Items a), c) and e)	Ed	<p>In the item b), the word “accuracy” was added from the suggestion from Iran (IR0032). However, “accuracy” does not provide a numerical limit (see 2.13 of VIM) and it should be separated.</p> <p>In the item c), a calibration certificate usually does not specify a “due date”.</p> <p>In the item e), “suggestions from the manufacturer” is redundant.</p> <p>We propose changes as shown on the right column.</p>	<p><i>b) risk of the measuring equipment exceeding the predetermined limits (e.g. <del>of the maximum permissible errors</del>, or accuracy requirements) <del>when</del> in use;</i></p> <p><i>c) risk assessment analysis, taking into account risks related to e.g. incorrect determination of the recalibration interval, use of measuring equipment <del>for</del> a long period after <del>a</del> calibration <del>due date</del> or with <del>a</del> significant drift, or other situations which might negatively influence traceability;</i></p>	<p>Accepted</p> <p>for b) the singular “the maximum permissible error” is kept.</p> <p>c) was deleted - see 0034 ILAC</p> <p>for e) see also 0035 US-7</p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

# Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
						<i>e) manufacturer's recommendation regarding the measuring equipment (e.g. <del>suggestions from the manufacturer</del> when the measurement uncertainty is required and evaluated by the laboratory based on the accuracy of the instrument);</i>	
0034 ILAC		5.1 and 5.1 c)		ed	delete point c) completely and move the wordings "risk assessment analysis" to the main sentence of 5.1	5.1 The initial decision in determining the recalibration interval is based mainly <b>on a risk assessment analysis and should take into account</b> , but not limited to, the following factors: a) measurement uncertainty of measurement required or declared and evaluated by the laboratory; b) risk of the measuring equipment exceeding the predetermined limits (e.g. of the maximum permissible error, accuracy requirements) when in use; <del>c) risk assessment analysis ...</del>	Accepted
0035 US-7		5.1 e)		Gen/ed	Suggested edit: could be more than one recommendation ...	e) manufacturer's <b>recommendations</b> <del>recommendation</del> regarding ...	Accepted
0036 ILAC		5.1 sub-point k)		te	"Reference standard" is not defined in VIM	Substitute "reference standard" with "measurement standard"	Accepted  Reference standard is defined in VIM 5.6 (see "reference measurement standard")  For more general meaning of the sentence, the proposal is accepted.
0037 ILAC		5.1.h)		ed	Harmonize examples with the rest of the document.	Replace (etc., with "e.g.,")  (e.g., climatic conditions, vibration, ionising radiation, etc);	Accepted
0038 ILAC		6		ed	6 Methods of reviewing recalibration intervals	What is meant with "or" in this note?	Accepted

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
					Note: The methods described in this section may also be used to review the type and frequency of intermediate checks or components of the calibration program.	The methods described in this section may also be used to review the type and frequency of intermediate checks, <del>or (?) the components</del>	
0039 US-8		6.1.2		ed	Suggested edit to first sentence of 6.1.2.  (the word "range" does not seem to be the best word choice here)	<b>Several different methods are</b> available for reviewing the recalibration intervals.	Accepted
0040 CECIP		6.1.2	e)	ed, te	Change some words for better understanding writing <b>can be analysed</b> instead of <b>is considered to be important</b>	Change paragraph 6.1.2 e) to say data are available and the history of calibration of the measuring equipment (e.g. trend data obtained from previous calibration records or recorded history of maintenance and servicing of the measuring instrument) <b>can be analysed</b> .	Accepted
0041 US-9		6.1.3		ed	Suggested edit for simplification of the sentence.  (do not like the use of the word "they" as a substitute for equipment)	<b>New measuring equipment should be</b> calibrated more frequently at the beginning of its operational lifetime ...	Accepted
0042 ILAC		6.1.3 and 6.1.4		ed	Improve wording and combine clauses. The wording in 6.1.4 is quite verbal and could be read in an ambiguous way.	Suggest amend clause as follows: For new measuring equipment, it is recommended that it be calibrated more frequently to identify any trend in its performance characteristics which may indicate that a change to the recalibration interval may be warranted. Ongoing review of the recalibration interval and equipment performance is necessary and for this reason, fixed recalibration intervals are not recommended unless the interval has been specified in a normative document such as a reference measurement procedure, specified method or a consensus standard.	Accepted  The clauses 6.1.3 and 6.1.4 are combined. For initial words of the clause see 0041 US-9.
0043 JP8		6.2.1	4 <sup>th</sup> sentence and Note	Ge/Ed	We appreciate the convener for accepting our comments to this clause of 2CD.	Replace "National Conference of Standards Laboratories <b>International</b> " with "National Conference of Standards Laboratories".	See 0044 US-10

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
					<p>Regarding 1<sup>st</sup> sentence of Note, the full name of NCSL is 'National Conference of Standards Laboratories'. The word 'international' is accompanied to their international activities.</p> <p>The 2<sup>nd</sup> sentence of Note still needs some rephrasing for clarification. We propose changes as shown on the right column.</p> <p>In addition, the 3<sup>rd</sup> sentence of Note mentions "the calibration interval approaches the correct interval slowly" and the 4<sup>th</sup> sentence of 6.2.1 mentions "a similar point of view may therefore also apply to Method 1". These statements seem to contradict with the 4<sup>th</sup> sentence of 6.2.1 which refers to Method 1 that "this staircase response may produce a rapid adjustment of intervals". We cannot propose an amendment because we do not know well the Method A1 of NCSL.</p>	<p>Regarding 2<sup>nd</sup> sentence of Note, we propose the following revision.</p> <p><i>Note: ..... Although this method is inexpensive to implement, random measurement results (...) essentially drive the calibration interval to change. <u>In as due to decision rules of this method, each new calibration should lead to a change either expansion or reduction of calibration interval (without possibility to maintain current interval).</u></i></p> <p>Regarding 3<sup>rd</sup> and 4<sup>th</sup> sentences of Note, we cannot propose a revision.</p>	
0044 US-10		6.2.1	Note	Gen/ed	<p>There were six somewhat lengthy international comments received on the 2CD regarding the 6.2.1 Note.</p> <p>Although several changes were made to this note based on received 2CD comments, we believe that users of this document will still find this note somewhat confusing when they read it.</p>	Further improvement needed to the text of the Note.	<p>Agreed</p> <p>Because there are many comments to the Note and the note can be confusing to users, I proposed to delete the Note.</p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
							<p>The reference to the publication “Establishment and Adjustment of Calibration Intervals [8] from National Conference of Standards Laboratories (NCSL) is purely information that there exists the similar method to the method 1. Because the method 1 is described in clause 6.2.1, it is not necessarily needed to refer the similar method with some differences.</p> <p>Moreover, the clause 6.6 refers to other methods that can be used for the determination of recalibration intervals of measuring equipment. The clause 6.6 includes the reference to publication “Establishment and Adjustment of Calibration Intervals” [8] from National Conference of Standards Laboratories (NCSL).</p>
0045 US-11		6.3.2		Gen/ed	<p>A new term “reliability of interval” was invented and inserted into 6.3.2 in response to an Australian comment on the 2CD.</p> <p>Although several changes were made to the 6.3.2 paragraph based on received 2CD comments, we believe that users of this document will still find this section somewhat confusing when they read it.</p>	Further improvement/clarification needed to the text of 6.3.2 before going to Preliminary Ballot.	<p>Accepted</p> <p>The clause 6.3.2 was improved as follows:</p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

# Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
							<p><del>Before calculations can commence,</del>The considerable knowledge of the variability properties of the measuring equipment is required <del>to use this method.</del> Again, it is difficult to achieve the smooth workload balanced between risks and costs. A considerable variation of the recalibration intervals from those prescribed is possible <del>without invalidating the calculation results,</del> because the performance of a control chart <del>reliability of interval</del> can be calculated and in theory at least gives the efficient recalibration interval. Furthermore, the calculation of the dispersion of the results will indicate whether the manufacturer's specification limits are reasonable and the analysis of the instrumental drift found may indicate the cause of the drift.</p>
0046 JP9		6.3.2 Note	2nd para.	Te	<p>We appreciate the convener for accepting our comments to 2CD. However, the note is still not clear.</p> <p>The second sentence of Note is understood that a material measure with a single assigned quantity value (e.g., a gauge block and a standard resistor) has a large instrumental drift. We consider that the reality may be in the opposite side. Such a measure usually shows a relatively small drift.</p> <p>If we misunderstand the fact, however, please disregard this comment.</p>	<p>In the second sentence of Note, we propose adding 'not' as shown below.</p> <p><i>This method is <b>not</b> suitable for a material measure with a single assigned quantity value, e.g. calibration of a gauge block or a standard resistance.</i></p>	<p>Not accepted</p> <p>It is assumed that a gauge block or a standard resistance has a drift.</p>

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0047 US-12		6.4.1	1 <sup>st</sup> sen	ed	Suggested editorial improvement.  The word “variant” now has negative connotations because of COVID.	Method 3 is a variation of Method 1 and Method 2.	Accepted
0048 US-13		6.4.1	3 <sup>rd</sup> sen	ed	Suggested editorial improvement.	... which indicates the <b>actual “in-service” time</b> and is returned ...	Accepted
0049 ILAC		6.4.2 a)		te	passive standards	passive measurement standards	Accepted
0050 US-14		6.4.2 c)		ed	Relates to comment US-13, above.	... suitable timers for measuring the <b>“in-service”</b> <del>elapsed</del> time ...	Accepted
0051 US-15		6.5.1	1 <sup>st</sup> sen	ed	First sentence replacement suggested.  Corresponds to comment US-12, above	Method 4 is also a variation of Method 1 and Method 2, and it is especially suitable when a quick/easy check of the measuring equipment or one of its components is possible.	Accepted
0052 US-16		6.6.1	1 <sup>st</sup> sen	ed	Instruments needs to be plural in this sentence.	... groups of measuring <b>instruments</b> ...	Accepted
0053 JP10		6.6.2	The last sentence	Ed (minor)	The full name of NCSL is not necessary. It is given in 6.2.1.	Delete “National Conference of Standards Laboratories International”.	The full name of NCLS is kept, because the Note in 6.2.1 was deleted. See also 0044 US-10

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial



## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
0054 US-17		6.7.1		ed	Suggested edits to 6.7.1 (Replace paragraph)	No single method described in 6.2 to 6.6 is ideally suited for all situations, for all measuring equipment, and for all laboratories (see Table 1). The laboratory may choose the most appropriate method for each case while considering a variety of factors as discussed in Clauses 4, 5 and 6.1. There may also be additional factors that will affect the laboratory's choice of method. It should be noted that the choice of method will be affected by whether the laboratory intends to introduce a planned maintenance schedule for the equipment. It should also be noted that the method chosen will certainly affect the recalibration records that are kept.	Accepted
0055 UK		6.7.2		ed	Paragraph break missing after 6.7.1.	Proposal, insert a a paragraph break or a single line space before 6.7.2	Accepted
0056 ILAC		Bibliography			Bibliography	ILAC P10 could be included in the Bibliography	Accepted
0057 UK		Front page cover, 3, 3.6, 3.13,	2 <sup>nd</sup> paragraph	ge	Text "For D10" is not consistent with "D 10" in other parts of the Document	Proposal is to harmonise all text of "D10" by inserting a character space	Accepted
0058 ILAC		Reference		Te	The OIML MAA and ILAC MRA prescribe ISO/IEC 17025 and not ISO 10012 (which is not a CASCO document). Hence reference to ISO 10012 should be removed,	Delete references [4] and [5].	Partially accepted.  The reference to ISO 10012-1:1992 was deleted.  The reference to ISO 10012:2003 is kept because the text of the document includes references to this standard in some clauses, as suitable, (including 3.11).
0059 ILAC		Title		ge	The title of the document is changed from "ILAC G24:2007 Guidelines for the determination of calibration intervals of measuring instruments"	Do not change the original title.	Partially accepted

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial

## Template for comments and convener's observations

Date:2022-01-27

Document: TC4/P9/N028

Project: OIML TC 4/p 9

Country Code <sup>1</sup>	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment <sup>2</sup>	Comments	Proposed change	Convener's responses
					to "Guidelines for the determination of recalibration intervals of measuring equipment used in testing laboratories". That may imply the use of this document only for testing laboratories, however, the document itself is very useful in calibration laboratories and inspection bodies as well.		To be consistent with the content of the document, I suggest to change the title to <i>"Guidelines for the determination of recalibration intervals of measuring equipment"</i>
0060 Convenor						The grammar of the draft of 4 CD was reviewed by BIML staff.	

C:\Users\luis\_\Documents\comments\D10\3 CD OIML D10 Comments template\_ILAC\_final.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-AUSTRALIA-TC4\_P9\_N024-3 CD OIML D10 Comments\_AU.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-GERMANY -CECIP comments 3CD OIML D10 29112021.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-JAPAN-TC4\_D10\_3CD\_ Comments-Japan-211129.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-KOREA -R.- -3 CD OIML D10 Comments template-KR.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-UNITED KINGDOM -3 CD OIML D10 Comments template-UK.docx: Collation successful

C:\Users\luis\_\Documents\comments\D10\478-UNITED STATES-OIML D10- US Comments on the 3CD -01 Dec 2021.docx: Collation successful

Collation of files was successful. Number of collated files: 7

SELECTED (number of files): 7

PASSED TEST (number of files): 7

FAILED TEST (number of files): 0

CCT - Version 4.0/2015

<sup>1</sup> Country code (enter the ISO 3166 two-letter country code, e.g. CN for China)

<sup>2</sup> Type of comment: ge = general te = technical ed = editorial