

INFORMATION

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**Draft Revision of R 50-1 & -2**

Continuous totalizing automatic weighing instruments  
(belt weighers).

Part 1: Metrological and technical requirements

Part 2: Metrological controls and performance tests

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*Draft submitted for CIML postal ballot on 2013.04.08.*

*Voting closes on 2013.07.08.*



## **BIML note on the Draft revision of R 50-1 and R 50-2**

The current 1997 edition of R 50 was published in two parts:

- R 50-1 *Continuous totalizing automatic weighing instruments (belt weighers).*  
*Part 1: Metrological and technical requirements – Tests*
- R 50-2 *Continuous totalizing automatic weighing instruments (belt weighers).*  
*Part 2 : Test report format*

This revision consists of three parts:

- R 50-1 *Continuous totalizing automatic weighing instruments (belt weighers).*  
*Part 1: Metrological and technical requirements – Tests*
- R 50-2 *Continuous totalizing automatic weighing instruments (belt weighers).*  
*Part 2: Metrological controls and performance tests*
- R 50-3 *Continuous totalizing automatic weighing instruments (belt weighers).*  
*Part 3 : Test report format*

Only the first two of these are presented here for CIML preliminary ballot, in one file.

Since there are still discussion about how the different parts of Recommendations will be published, this note is to inform CIML Members that the final publication of R 50-1 and -2 may be published in one file, as presented here by the TC 9/SC 2/p 7 convener, or may be published in two separate files.

Since this is an editorial matter and does not affect the technical content of this Draft revision of R 50, the BIML is submitting it to CIML preliminary ballot in its current form. If necessary, the BIML will make whatever changes are necessary once a final decision on publication format is taken. This may involve renumbering of the clauses.

Please also note that apart from the convener's changes shown in the "marked" version, the "clean" version also contains additional BIML editorial corrections in preparation for the final publication of this revised Recommendation.

## OIML TC9/SC2 - Automatic weighing instruments

### Continuous Totalising weighing instruments - Part 1: Metrological and technical requirements; Part 2: Metrological controls and performance tests

#### Result of formal vote on the 5CD – R50 (Oct 2012)

Member or liaison group	Status P, O or L	Reply	Votes for 5CD		Comments (Y/N)
			R50 -1 & 2		
			YES	NO	
Australia	P	Y	Y		Y
Austria	P	Y	Y		Y
Belgium	P				
Brazil	P				
China P.R.	P				
Czech Rep.	P	Y	Y		N
Denmark	P	Y		Y	Y
Finland	P				
France	P	Y	Y		Y
Germany	P	Y	Y		Y
Japan	P	Y	Y		Y
Korea Rep. Of	P				
Netherlands	P	Y	Y		Y
Norway	P				
Poland	P	Y	Y		N
Romania	P	Y	Y		N
Russian Fed.	P				
Slovenia	P				
South Africa	P	Y	Abstain		Y
Spain	P				
Sweden	P				
Switzerland	P	Y	Y		N
UK	P	Y	Y		N
U.S.A.	P	Y		Y	Y
Bulgaria	O				
Canada	O				
Cyprus	O				
Hungary	O				
Ireland	O				
Serbia	O				
Slovakia	O				
CECIP	L	Y			Y
COPAMA	L				
ISO	L				

#### Summary of ballot results (September 2012)

Total P members	= 24
Total P members that vote	= 13
Total P members that vote <b>Yes</b>	= 11 exceeds the required 2/3 (9) therefore approved
Total P members that vote <b>No</b>	= 2
Total P members that <b>Abstain</b>	= 1

*Decisions shall be valid when two-thirds of the votes cast by the TC's, SC's or Project Group's P-members are in favour (OIML B006-1, clause 5.12.2).*

UK TC9/SC2 Comments on:

Date to return comments:

TC9 /SC2 Secretariat

Fifth Committee Draft R 50 : Continuous Totalising weighing instruments - Part 1: Metrological and test requirements  
Part 2: Metrological controls and performance tests

**30 October 2012**

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Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Austria	19	T.8	Wrong number of the chapter	Change "T.8" to "0.8" "T.8.1" to "0.8.1" "T.8.2" to "0.8.2"	Changed.
Austria	21	2.4	Table format	Switch to next page	The format of all Tables in the document will be edited by the BIML editor.
Austria	44	5.1.6.6	There seems to be 2 equations, which leads to misunderstanding.	Space between these 2 equations OR only one equation (referring to the comment of China)	Amended. See Denmark's proposal.
Austria	62	A.7.1.2	The fraction factor is pi.	Change "Pi" to "pi"	Changed.
Austria	62	A.7.2	All MPE in the summery of tests refer to 2.2.2 Table 2 (except Temperature effect on no load) therefore we suggest to amend (*) to all MPE.	MPE(*) for all instead of MPE	Amended.
Austria	62	A.7.2	Include MPE(*) in the table for the Damp heat, steady test (condensating), if necessary		Text Added.
Austria	62	A.7.2.1	Table format		Final format of all Tables in the document will be completed by the BIML editor in the final draft.
Austria	65	A.7.3.2.1	Table format		
Austria	67	A.7.2.3.2	Table format		
Austria	69	A.7.2.5	Table format		
Austria	70	A.7.2.6	Table format		

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Austria	72	A.7.3	<p>All Disturbance Tests mentioned in the summary of tests shall be carried out.</p> <p>The note (2) states that tests shall be conducted to the appropriate classification for electrical and mechanical tests.</p> <p>It is not clear whether it is intended to conduct these tests to the whole instrument at site, where the mechanical influences could be considered.</p> <p>From the technical point of view these tests are conducted in a laboratory and another testing site seems to be hardly possible.</p> <p>We suggest remaining the original wording.</p>	<p>Delete “and mechanical” in the note (2)</p> <p>“tests shall be conducted to the appropriate classification for electrical and mechanical tests. “</p>	Text deleted as proposed.
Austria	72	A.7.3.1	Table format		Format of all Tables in the document will be edited by the BIML editors.
Austria	78	A.7.3.5.1	Table format		
Austria	86	A.10.3.1	Amend	“The” instead of “he”	Amended.
Australia	13	0.2.12.5	<p>The Note is a repetition of the last sentence of the paragraph above.</p> <p>In any case this Note sounds more like a requirement than part of a definition.</p>	<p>Add a requirement (perhaps in 4.8) that “The software identification shall be able to be checked whilst the instrument is in use (it is acceptable if this checking can only occur whilst the belt is stopped)”</p>	Note deleted in 0.2.12.5 and inserted in 4.8

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	20	0.5.3	The second note (re IEC 60050) does not appear to be applicable here – the reference conditions are not set to minimize uncertainty, they are for comparison purposes.	Delete the second Note.	Note deleted.
Australia	22	1.2	We feel that the added “and the flow rate” is unnecessary and creates a ‘circular argument’ (the flow rate isn’t known until the mass is).	Delete this addition (possibly change to ‘speed or displacement’). We think the main point of this item (mention of gravity) is to indicate that this Recommendation would not apply where the mass is not determined using gravity (e.g. belt ‘weighers’ relying on radiation sources).	Amended. France’s proposal adopted.
Australia	23, 49	2.2.2, 5.1.6.7	<p>We understand the desire for some requirements like these– which are clearly based on R76-1.</p> <p>However Belt Weighers are quite different so that it is not necessarily the case that the same apportioning of errors is appropriate. For example:</p> <p>a) Table 4 does not take into account any aspects of the displacement transducer.</p> <p>b) Note 5 regarding compatibility checks and referring to OIMR R76-1 can not be carried out as the Belt Weigher does not have a verification scale interval (and the maximum permissible errors differ substantially).</p>		Notes 4 and 5 removed in Table 4.

<b>Member/ Organisation</b>	<b>Page no.</b>	<b>Clause</b>	<b>Comments</b>	<b>Proposed Change</b>	<b>Secretariat Comments</b>
Australia	25	2.7	We feel that the adding of this title was unnecessary (the whole document is about 'Requirements for belt weighers'). There is now a possibility that 2.7.1 and 2.7.2 could be read as being alternatives, whereas both are required.	Add the following under 2.7. "The following includes simulation requirements applying during type evaluation, in-situ requirements applying during type evaluation and verification, and durability requirements.	Heading amended as proposed, and clauses 2.7, 2.8 and 2.9 renumbered in accordance with France's proposal
Australia	25	2.6(c)	Editorial. Should not be "meters per second".	Should be "metre per second".	Amended.
Australia	25	2.7.1	The heading 'verify compliance using simulation' is not appropriate. It may result in confusion with 'Verification' of an instrument.	We feel that the arrangement without 2.7 and with just "Simulation requirements" was better. However "Simulation requirements applying during type evaluation" could also be acceptable.	Heading amended and clauses 2.7, 2.8 and 2.9 renumbered in accordance with France's proposal
Australia	27	2.7.1.5.4	As this is a requirement which is assessed in a simulation, we believe that the wording "operation at maximum belt speed" is not appropriate.	... "operation at a simulation of maximum belt speed".	Text added.
Australia	28	2.7.2	The heading 'verify compliance in a practical application (in-situ measuring test bulk)' is not appropriate. There may be confusion with 'Verification' and in any case the zero requirements are not 'measuring test bulk'.	We suggest "In-situ requirements applying during type evaluation and verification".	Heading changed.
Australia	29	2.8	The inclusion of specific mention of electronic components may imply that durability is only related to electronic components.	Reword to "...due to wear and tear or decay over time shall not be greater than ....". This could cover decay of any aspect (including e.g. plastic parts perhaps).	2.8 amended in accordance with Netherlands proposal.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	30	3.3.1	We do not agree with the added sentence regarding 2 or more load cells. If there is to be a requirement to detect load cell faults this should apply to all systems (including single cell systems), and it would also be necessary to clarify what sort of faults should be detected.	Delete this sentence.	Third paragraph removed. This was requested by P.R China in the 5CD consultation. However, majority of TC9/SC2 do not support this requirement. In addition, it is considered that this requirement is already covered by “accidental breakdown ... without the effect being evident” in the first paragraph.
Australia	30	3.3.1	We do not feel that it is necessary that idlers etc would need to be sealed.	Remove reference to 3.3.7.	Reference removed.
Australia	31	3.3.7.1	We believe that it is important that the heading revert to Securing and sealing. These are not alternatives. Securing prevents (or makes difficult) alterations, whereas sealing gives a means to determine whether alterations have occurred (tamper evidence). Similarly for 3.3.7.2.	Revert to Securing <b>and</b> sealing ... (also in 3.3.7.2)	Agreed. Heading changed.
Australia	32	3.4.1	We believe that a belt weigher with an analogue totalization indicating or printing device would likely ‘be in a museum’. Hence we suggest removing item (a)	Remove item (a).	Such instruments might still be in use in some developing countries. Netherlands’ proposal adopted.



Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	37	3.8.1.6	It would be important that if the belt weigher stops operating (e.g. due to a changed slope angle) the product delivery should also stop – otherwise there would be unweighed product delivered.	The belt shall normally be installed in a fixed position.  If the slope angle of the load receptor in the running direction of the belt can change: a) the belt weigher shall be fitted with a device to compensate the effect of the change, and b) the belt weigher shall not operate, and delivery shall not be possible, when the limits to the slope angle set by the manufacturer are exceeded.	Amended. Combined with proposal from the USA.
Australia	37	3.8.1.6	We agree with the comments of others regarding the need for further consideration of issues regarding instruments with changeable slope angle (and the need for specific tests).  However we would not wish this issue to delay finalisation of this revision of R50. Consequently we have suggested that these issues be left to national regulations at this time.	Add to the 'slope angle' paragraph above. "In either case careful assessment of the possible influences of alterations of slope angle between or during weighing operations is necessary, together with consideration of influences on the zero setting of the instrument. These issues have yet to be fully considered in this Recommendation, and are left to national regulations.	3.8.1.6 amended. See also the USA's proposal.
Australia	42	4.7	We do not agree that measurement data must be stored ("shall" indicates this). Data storage is optional.	Commence the point with 'If the instrument has a data storage device, measurement data shall ...'	Text added.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	44	5	We are concerned that the changes made in regard to the durability wording risk undoing the compromise reached at our previous meeting. In particular the inclusion of 'shall' rather than 'may' (we note that there is other language in this clause using 'may' and 'should'). The addition of "in compliance with 2.8" also does not quite seem appropriate.	Revert to the wording in 4CD.  Perhaps amend "measures to ensure durability ..." to say "measures to ensure durability (see 2.8) ..." to create the link to this clause.	The wording in the 4CD was amended to make it more of a recommended requirement than an advisory statement.  Amended. The meeting agreed that we all support some form of durability in R50 with the final decision left to national requirements.
Australia	47	5.1.6.4	See comment on 5.1.6.5.		$\mu$ V/e deleted. 5.1.6.5 amended in accordance with Denmark's proposal.
Australia	48	5.1.6.5	This clause relies on "verification scale interval" which is a NAWI parameter that does not have a direct equivalent (and is not defined) for a Belt Weigher.	Delete unless a more applicable requirement for Belt Weighers can be determined.	Proposal from Denmark adopted.
Australia	48	5.1.6.6	The note in regard to the formula mentions 'control scale interval'. This term was in an earlier draft but was removed.	Remove the note.	Footnote deleted.
Australia	49	5.1.6.7	See 2.2.2 (p 23) above.		Notes 4 and 5 deleted from Table 4 in 5.1.6.7
Australia	51	5.2.3	Verification may be confused with 'Initial verification'.	Perhaps "Assessment of conformity"	Changed to "Assessment"

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	56	6.7.2	The addition of “Modules shall be examined separately in accordance with 5.1.6” is too strong (particularly in view of our comments on 5.1.6.5. and the ‘subject to agreement’ aspect of 5.1.6). There may well be situations where separate evaluation of modules of a belt weigher may not be possible or appropriate.	Suggest “Modules may be examined separately (subject to agreement with the metrological authority, see 5.1.6)”.	Note inserted. Module is defined in accordance with R76.  See comments from South Africa.
Australia	57	A.3.1	Word order is incorrect.	Suggest “...prior to each test the EUT is to be switched on and kept energized ...”	Amended. See comment from USA.
Australia	58	A.3.7.2	We believe this clause, as is A.3.7.1 and A.3.7.3 is in regard to the scale interval (d) of the control instrument [not the belt weigher].	Amend to make clear these items are related to the d of the control instrument.	A.3.7.2 Amended. Also reverted back to symbol, d, as in R50 1997E. Provides more clarity. Deleted d <sub>t</sub> and d <sub>e</sub> from this draft.
Australia	60	A.5.2	Not just the indication and transmission should be stopped during warm-up time – the product delivery should also be stopped.	Suggest “... checked that the operation of the instrument is inhibited (including no indication or transmission of the result) ...”	Amended.
Australia	65	A.7.1.2	See comments re 5.1.6.5 and 5.1.6.7. The appropriateness of the uV/d mention is not clear.		uV/d deleted from draft. Denmark’s proposal adopted for 5.1.6.5.
	78	A.7.3	The mention of mechanical tests, vibration and shock is inappropriate as the document does not have tests in regard to these disturbances.	Remove these mentions.	Text deleted. See comments from Austria.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Australia	95	Annex B	We believe that this should be mandatory rather than informative (other clauses, 4.8 and 5.1.3 indicate this).	Make Annex B mandatory	Amended as proposed.
Australia	99	C.1	As this Annex is informative, we believe its language should be softened.	Change “Belt weighers shall be categorized ...” to “Belt weighers <b>may</b> be categorized ...”	Changed.
Australia	100	C.2	Some wording is needed before “For example ...”.	Testing for related characteristics should be carried out on a single EUT – for example, it is not acceptable ...	Text added.
Australia	100	C.2	As durability testing is somewhat contentious it may be advisable to revise the paragraphs mentioning this.	e.g. “... a subsequent test be performed to establish that performance is maintained with a reduced number of idlers. “	Changed as proposed.
DENMARK	10	0.2.11	In the table below figure 1 add brackets around 3 in the first row in order to cover analog load cells.		Brackets added.
DENMARK	31/32	3.3.1	The inserted third paragraph is already covered by “accidental breakdown ... without the effect being evident” in the first paragraph, so it should be removed again. Alternatively it should in order to cover all belt weighers be changed to: “A belt weigher shall be constructed and installed so that a load cell fault can be identified.”		Agree that requirement in first paragraph adequately covers this. Hence, third paragraph removed. This new requirement was requested by P.R China in the 5CD consultation. However, majority of TC9/SC2 do not support this requirement.
DENMARK	43	4.5.1	This clause should include the relative humidity of 93 % (condensing) as an alternative requirement to the stated 85 % (non-condensing).		“relative humidity of 93 % (condensing)” inserted as an alternative test.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
DENMARK	52	5.1.6.5	This point was original initiated by Denmark, but it has no meaning in its current form, as it has not been possible to define verification scale intervals for neither the electronics nor the complete belt weigher. There is on the other hand still a need for some requirement to the electronic corresponding to the requirement to the load cells in 5.1.6.6, if analog load cells are used.	Suggestion to new wording: 5.1.6.5 Minimum input voltage of electronics for Max. An analogue data processing device or indicator intended for analogue load cell(s) shall be tested at a minimum input voltage signal - specified by the manufacturer - for a load equal maximum capacity. This is assumed to be the worst case for performance tests and for the disturbance tests. A complete belt weigher shall not be configured in such a way that its input voltage signal for a load equal to maximum capacity is below the value used at type testing.	5.1.6.5 amended as proposed. Similar comments from Australia
DENMARK	52	5.1.6.6	The changed formula is not correct.	It shall be $v_{min} \leq \text{Max} / (S \times R / \sqrt{N})$	Amended as proposed.
DENMARK	53/54	5.1.6.7	Note 4 & 5 under Table 4 shall be removed as there are no references to them. Furthermore give the referred items in R76-1 no meaning for belt weighers.		Notes removed.
DENMARK	63/64	A.3.7.1	This section should be removed! It has no relevance for a continuous totalizing belt weigher for which scale interval is not defined.		This requirement is taken from the R 50 1997E, clause A.11.1.2. It references clause A.10.2 "Control Method". Title is now changed to "Greater resolution of the control instrument" as in R50 1997E.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
DENMARK	64	A.3.7.2 A.3.7.3	Change 'scale interval' to 'totalization scale interval' and change 'd' to 'd <sub>t</sub> '.		<p>A.3.7.1 and A.3.7.3 is in regard to the scale interval for testing (see 0.3.1.2) of the control instrument [not the belt weigher].</p> <p>See comments from Australia.</p> <p>Reverted back to symbol, d, as in R50 1997E. Provides more clarity. Deleted d<sub>t</sub> and d<sub>e</sub> from this draft. d<sub>e</sub> is rarely used in this draft anyway..</p>
DENMARK	64	A.3.7.3	As section A.3.7.2 covers the equal sign, the heading should be changed to 'Indication with a totalization scale interval greater than 0.2 d <sub>t</sub> ' and the first line should start: 'If a device with a totalization scale interval smaller than or equal 0.2 d <sub>t</sub> is ...'		Amended.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
DENMARK	73/74	A.7.1.2	This section is a mess. It has been taken from some other recommendation, which operated with $\mu\text{V}$ per scale interval, and where it solely referred to a load cell simulator. Scale interval in that sense is not defined in R50, so it gives no meaning neither does $\mu\text{V}/\text{d}$ . For belt weighers it is also common to use simulator for the transducer signals. Furthermore it now also include load cell(s).	Split the section into three sections: <ul style="list-style-type: none"> <li>- Using load cell(s) and standard weights</li> <li>- Using load cell simulator</li> <li>- Using simulator for belt speed</li> </ul> And as traceability is applicable for all reference equipment used in testing please removed the last two paragraphs of the present A.7.1.2	Sentence amended in line with other comments from members. Reference to $\mu\text{V}$ per scale interval removed.
DENMARK	80/81	A.7.2.3.2	This is <b>not</b> a 'Damp heat, steady-state' test. It is a 'Damp heat, cyclic' test (ref. OIML D11:2004 section 10.2.2). It should be corrected throughout this clause.  The lower temperature is specified to 25 °C in table 6a, but later under Temperature it is stated as 'Reference temperature (20 °C or the mean value of the temperature range whenever 20 °C is outside this range)'. The 25 °C should be corrected to reference temperature, so it is in line with of other weighing instrument testing. It is not clear, when the testing should be performed.	Suggestion: Test 1. At reference temperature and 50 %R.H. immediately before the cyclic humidity test start. Test 2. At reference temperature and 95 %R.H. immediately after the last cycle has ended.	Changed to full title 'Damp heat, cyclic' test.  Lower temperature for cyclic tests is 25 <sup>0</sup> C as specified in D11.  Statement about 25 °C reference is deleted.
DENMARK	83	A.7.2.5	Change reference 'A.7.4' to 'A.7.2.4'.		Amended.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
DENMARK	85	A.7.2.6	This test is the only one in the recommendation that specifies 'Test equipment'. Either it should be removed, which we recommend, or a specification of test equipment should be inserted in all the other tests.		Removed.
FRANCE	6/117	0.1.9 (audit trail)	1/ "audit trail" is already defined in OIML D31 (3.1.2). Reference to this paragraph should be made 2/ The proposed definition is not in line with what is expected from the definition in D31	We suggest to write definition as it is in OIML D31 and include reference to D31 in brackets. If there is a need to adapt to beltweighers, a note should be added with amended wording of this 5th CD.	D31 definition and reference added.
FRANCE	11/117	0.2.11.1 (load cell)	R60 is also under revision. In the 1 <sup>st</sup> CD of R60-August 2012, the proposal is : "transducer that, in response to an applied load will produce a proportional and measureable output. This output may be converted into units such as mass." The goal is to avoid limiting the definition to a particular technology of load cells.	We suggest to delete 0.2.11.1 and in the table following Figure 1, in the first line, change the reference to 0.2.11.1 with reference to R60.	Bibliography [7] states the date of R60 publication. Once the R60 revision is completed and published, users of R50 will be aware that 0.2.11.1 references the old R60. For the time being, its best to keep the existing definition.
FRANCE	12/117	0.2.11.9 (Digital display)	Only editorial. One of the changes of this draft is to delete the repetition of the title at the beginning of the definition	At the beginning of the paragraph, the words "A digital display (device) is an" should be deleted	Deleted.
FRANCE	14/117	0.2.12.5 (software identification)	The sentence "It can be checked on an instrument whilst in use" is written twice in 0.2.12.5	Delete the sentence in the paragraph and keep as a note.	Deleted. Note inserted in 4.8 as proposed by Australia.



Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
FRANCE	20/117	0.4.5.6 (durability error)	“durability error” is defined in OIML D11 (3.11). Reference to this paragraph should be made D11 refers to a difference “ <u>after</u> a period of use”, not “ <u>over</u> a period of use”	We suggest to make reference to OIML D11 and change “over” to “after”	Amended and referenced to D11
FRANCE	21/117	0.5.3 (reference conditions)	Is note 2 useful for the purposes of this recommendation? If we refer to reference conditions for product testing, we wonder how we can assess the conditions for having the smallest uncertainty.	We suggest to delete note 2	Note 2 deleted.
FRANCE	22/117	0.7 (Abbreviation s and symbols)	Only editorial. There are a symbol for the speed and symbols for $v_{\min}$ and $v_{\max}$ that should be grouped together.	We suggest to move $v$ from the 8th line to the line just above $v_{\min}$	Amended as proposed.
FRANCE	23/117	1.2 (Application)	In 1. it is made reference to the flow rate. A reference to the belt speed would be more in line with a definition.	We Suggest to change the end of 1. by replacing “and the flow rate” by “combined with the belt speed”	Amended as proposed.
FRANCE	26/117	2.7 (Requirements for belt weighers)	Editorial Title not appropriate. Are the other clauses of the recommendation not dealing with belt weighers?	We suggest to : - delete existing title 2.7 - re-number existing 2.7.1 in 2.7 - re-number existing 2.7.2 in 2.8 - re-number existing 2.8 in 2.9	Amended as proposed.
FRANCE	28/117	2.7.1.5.1 (Repeatability)	In the note, it should be added that the approximation should be taken into account when calculating the error.	In the note, we suggest to add “In such cases, the approximation should be taken into account when calculating the error”	Text inserted. See proposals from Netherlands, and comments from USA.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
FRANCE	32/117	3.3.1 (Accidental breakdown and maladjustment)	There is an added paragraph that introduces new requirement with belt weigher which utilizes 2 or more load cells. We understand it is introduced as a safety measure to cover the fact that the measurement is not repeatable, however this new requirement is not common and has to be more detailed to explain what is considered "a fault"	We suggest to further discuss to specify this new requirement.	Third paragraph removed. This was requested by P.R China in the 5CD consultation. However, majority of TC9/SC2 do not support this requirement. In addition, it is considered that this requirement is already covered by "accidental breakdown ... without the effect being evident" in the first paragraph.
FRANCE	40/117	3.9.1 (Markings shown in full)	The markings include "designation of type(s) of product to be weighed". Not grouped with this, there is a new line with "product description". We don't understand this new line useful.	We suggest to delete the new line "- product description"	"- product description" deleted.
FRANCE	48/117 and 104/117	5.1.3 Examinations and tests and Annex B	There is an added paragraph that states "For software-controlled instruments, the additional requirements in 4.8 and in Annex B shall apply". However, Annex B is defined as "informative".	We suggest to make things clear. Annex B shall be mandatory.	Annex B changed to mandatory.
FRANCE	48/117	5.1.3.3.b Place of testing		We suggest to change "metrological authority" to "evaluation authority"	Metrological authority is a generic term intended to cover all possible authorities responsible for metrology regulation and evaluation.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
FRANCE	49/117	5.1.4 Type approval certificate classes	Editorial only	We suggest to : - change the title to “Classes stated in type approval certificate” - change the text to “The type approval certificate shall state the applicable accuracy classes 0.2, 0.5, 1 or 2, as specified to which the approved type has been verified to comply during type evaluation”	Amended as proposed.
FRANCE	51/117  and 52/117	5.1.6.4 Summary of relevant metrological characteristic s and 5.1.6.5 Minimum input per verification scale interval of electronics (e)	“e” and “d” are both used in this document. We are not sure that this is easily understandable.	We suggest to include their definitions in Terminology to make the situation clearer.  We suggest to add of these definitions in 0.3.1.	Amended as proposed. Definitions included in 0.3.1 and 0.3.2.
FRANCE	52/117	5.1.6.6 Requirement to the minimum scale interval (v <sub>min</sub> ) of the used load cell(s).	Editorial only We think the formula needs to get more clarity.	We suggest to replace with the following presentation : $v_{\min} \leq \frac{\text{Max}}{S \times \frac{R}{\sqrt{n}}}$	Formula amended. See proposal from Denmark.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
FRANCE	54/117	5.1.6.7 Apportioning of errors	In Note 5 of Table 4, the compatibility of modules relates to OIML R76-1, Annex F. There is just one criteria that can't be handled with R76 ; this is the criteria about classes.	As classes of R50 relate on performance of product testing, we suggest to add some words in Note 5 : "The compatibility check of the weighing instrument and the modules shall be considered in accordance with OIML R 76-1 (Annex F), <u>with the exception of the accuracy classes</u> "	Notes 4 and 5 removed.
FRANCE	56/117	5.2.6 Application of accuracy class	To avoid difficulties problems of initial verification, e.g an authority may refuse an instrument with class 1 marked where there is only class 0,5 mentioned in the certificate, type approval certificates may indicate several classes (e.g 0,5 and 1). Therefore, the paragraph should be lightly modified to avoid stating that only 1 class (the best one) is in the certificate.	We suggest to amend the paragraph : "The accuracy class marking required in accordance with 3.9 shall show <u>an</u> accuracy class as for which the type was approved and which was included <u>among those</u> laid down in the approval certificate"	Amended. "Class" changed to "class(es)" in the second line of the paragraph. This should make the requirement clearer.
FRANCE	66/117	A.5.3 Product tests control method	In the 2nd paragraph, the 2nd sentence refers to the same control instrument as in the first one with the addition of the word "separate".  In the 3rd paragraph, it is made reference to the separate control method. For belt-weighers, there is no integral control method	We suggest to begin the 2 <sup>nd</sup> sentence with "This separate control instrument..." instead of "The separate control instrument..."  We suggest to replace "separate verification method" with "in-situ tests"	Amended as proposed.
FRANCE	75/117	A.7.2 Influence factor tests	This is a good idea to plan humidity testing for cases where condensation may be important. According to D11, this should be "cyclic", not "steady state"	We suggest to replace "steady state" with "cyclic" in the added line. As this is an influence factor, the criteria should be a "MPE".	Amended.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
FRANCE	80/117	A.7.2.3.2 Damp heat, steady state (condensing)	The same as above, the title should read : “Damp heat, <u>cyclic</u> (condensing)”	We suggest to change the title.	Amended.
FRANCE	81/117	A.7.2.3.2 Supplementary information to the IEC test procedures	OIML D11 indicates that an OIML recommendation should give, among others, an information for “Intermediate measurements”	We suggest to indicate when measurements should be made during the 2 cycles.	Denmark’s proposal adopted.
FRANCE	81/117	A.7.2.3.2 Condition of the EUT:	As this test relates to condensing the sentence “The handling of the EUT shall be such that no condensation of water occurs on the EUT” is not appropriate at all.	We suggest to delete the sentence or replace it by words from OIML D11 “Condensation should occur on the EUT during the temperature rise.”	Amended as proposed.
FRANCE	87/117	A.7.3 Disturbances	In note (2), words have been added, i.e “...with significant or high levels of vibration and shock...” We are surprised by this add because this kind of disturbances are not dealt with anywhere.	As in situ tests are already foreseen, we suggest to delete these words or discuss to specify these disturbances and the conditions of test to check them. In any case if something is added it should first refer to manufacturer’s specification for a specific foreseen environment	Text “...with significant or high levels of vibration and shock...” deleted.
FRANCE	109/117	C.2 Other metrological features to be considered	Editorial In the next to last paragraph, we deal with a fewest number of idlers. Therefore, the wording “...to establish that the reduction of the number of idlers has not resulted...” is surprising because it suggest that the fewest number may be reduced.	We suggest to replace “...to establish that the reduction of the number of idlers has not resulted...” with “...to establish that this reduced number of idlers has not resulted...”	Amended.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Germany	32	3.3.1	The last paragraph suggests that there has to be a checking facility for each single load cell. Please, do be aware that in this case standard strain gauge load cells cannot be used any more or the analogue output signal of each single load cell must be digitized in order to perceive significant problems of the individual load cell. This idea is in line with the old concept of "Durability protection features" of the old 1988 version of R76. TC9/SC2 has abolished that concept with the 1992 version of R76. As a consequence the principle of durability protection by means of checking facilities is now missing in R51, R61, R106, R107 and R134. Are we going to reinstate the good old "durability protection features"? This might be reasonable on several grounds, however, think about the consequences, before adopting this approach.	If there is a significant number of reported failures of load cells, then we would perhaps agree to adopt the concept. If not, however, leave 3.3.1 as it has been before. Cyclic re-verification and regular maintenance should be sufficient (2 years). If in some countries problems have been observed, then these should be recommended to reduce the period of time between verifications. In Germany a 2 year verification period has revealed to be sufficient. So ask to delete the recently added paragraph.	Third paragraph removed. This was requested by P.R China in the 5CD consultation. However, majority of TC9/SC2 do not support this requirement. In addition, it is considered that this requirement is already covered by "accidental breakdown ... without the effect being evident" in the first paragraph.
Germany	74	A.7.2.3.2	A cyclic damp heat test is not required for any other weighing instrument covered by OIML recommendations. If we introduce such a test, we might limit the use of modules (mainly "SH" marked load cells as per R60) or have to re-test them.	Either delete test A.7.2.3.2 or mark that test A.7.2.3.1 or A.7.2.3.2 may be performed alternatively, the option chosen being mentioned in the type approval certificate.	Appropriate text inserted in A.7.2.3, and also in 4.5.1. Comments from Denmark (4.5.1) and France (A.7.2).

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Japan	p.5	0.1.1	Please make a correction as shown on the right column.	Replace "OIML <u>R</u> 28" with "OIML <u>D</u> 28".	Amended.
Japan	p.10	Figure 1 (the following table)	The terms in the table should match the terms used in the main text (for example: <b>weighing unit</b> defined in clause 0.2.11.8.). Therefore, please make a correction as shown on the right column.	Replace " <b>weighing module</b> " with " <b>weighing unit</b> ".	Amended.
Japan	p.10	Figure 1 (the table below the figure)	Please make a correction as shown on the right column.	Change the upper case of " <b>Terminal</b> " to a lower case " <b>terminal</b> " in the row title of the table.	Amended.
Netherlands	general		Although we still have many comments on the draft most can be considered editorial. For reasons of not delaying the project too much and with the expectation that our comments will be taken into account by the secretariat before forwarding to the approval stage a positive vote will be cast on this 5CD.		Thank you.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	general	Term	Note the general rules for definitions: When copied from Vocabularies definitions should be an exact copy keeping the definition generic applicable. This means that it is not allowed to change “measuring instrument” to for example “belt weigher” It should always be possible to replace a term by its definition. This implies for example that an adjective expression cannot be the definition for a substantive expression or noun.	Amend terminology accordingly (see the comments on the specific terms)	Thank you.
Netherlands	general	All applicable	Correction to the Netherlands comment on CD4: Flow rate should be mass flowrate (or bulk flow rate) because Flowrate (Q) relates to volumetric flow rate. For the quantity mass flow rate the symbol $\dot{m}$ (m dot) is applied	Change the wording “flowrate” to “mass flowrate” and use the symbol $\dot{m}$ instead of Q (or alternatively “bulk flowrate”)	“volumetric flowrate” is not used anywhere in the draft. Flowrate (Q) has been the accepted norm in R50 for many years, and mass flowrate ” $\dot{m}$ is not an SI unit. It is best to consider the issue of mass flowrate ” $\dot{m}$ in the next revision of R50.
Netherlands	6	0.1.7	Linguistic mistake. The term cannot be replaced by the definition. An adjective expression cannot be replaced by a noun	add “device” to the term resulting in: <b>metrologically relevant device</b>	Amended.
Netherlands	6	0.1.8	Linguistic mistake. The term cannot be replaced by the definition. An adjective expression cannot be replaced by a noun	add “part” to the term resulting in: <b>legally relevant part</b>	Amended.
Netherlands	7	0.2.1.2	Linguistic mistake. An attribute of an expression cannot be replaced by a noun	add “load receptor to the term resulting in: <b>load receptor inclusive of conveyor</b>	Amended.



Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	7-8	0.2.3.1 0.2.3.2 0.2.3.3	Definitions will change in D11	At least delete the definition 0.2.3.3 being nonsense (concerning the physics)	Definitions are kept for use in R50. However, references to D11 removed since the definitions are not included in the new D11.
Netherlands	9	0.2.6	Incorrect definition, with this device the indication of the instrument is set to zero when no load is on the instrument. Put the current text in a note.	Change to: “device enabling the indication to be set to zero when there is no load on the load receptor” Note : usually obtained over a whole number of revolutions of the empty conveyor belt	Changed as proposed.
Netherlands	9	0.2.7	Obsolete definition	Suggest to delete	Cannot delete at this Final Draft stage.
Netherlands	9	0.2.8	Obsolete definition.	Delete this definition and delete “..(such as an operation checking device, 0.2.8)..” from 6.3 d where the kind of device is explained	Agreed. “operation checking device” deleted. Only used twice and possibly superfluous.
Netherlands	9	0.2.11	The note: “The modules of a weighing instrument are subject to specified partial error limits” creates the impression that it is generic applicable for all weighing instruments but is insufficiently generic formulated for a definition.	Amend to: Modules of a weighing instruments <b>may be</b> subject to specified partial error limits	Amended.
Netherlands	10	0.2.11 Figure 1	“Weighing unit” is a module which will lead to misunderstanding and confusion (will be understood as weighing module) and does not cover the purpose (see also R76). Propose to just refer to it as “further data processing” to keep it equivalent to R76	Replace “Weighing unit” by “further data processing” and modify the definition 0.2.11.8 accordingly	Weighing unit as a module is in line with other AWI Recommendations, e.g. R51.  Definition of Weighing unit amended to be more appropriate.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	11	0.2.11.3	Move this definition to a suitable place. It is not a module of the instrument.	Move to 0.6 <b>Tests</b>	"displacement simulation device" moved to 0.1.11.
Netherlands	11	02..11.7	definitions are to be kept generic and not specific if not absolutely needed	Revert the change from "instrument" to "belt weigher" or change to "weighing instrument"	Changed to "weighing instrument"
Netherlands	12	0.2.11.8	Delete this clause (see comment above)	Delete this clause	Weighing unit is in R50 1997E and also in other AWI Recommendations.
Netherlands	13	0.2.13	Linguistic mistake. The term cannot be replaced by the definition	Add " <i>device</i> " after " <i>storage</i> " in the definition or delete " <i>device</i> " in the term	" <i>device</i> " added in the definition. "Storage device" is used throughout the document.
Netherlands	14	0.3.1.1	An "interval" cannot be replaced by "value"  No need to refer to: " <i>general and partial totalization devices</i> "	Change to: difference between two consecutive indicated values, expressed in units of mass, with the instrument in its normal weighing mode.	Changed as proposed.
Netherlands	14	0.3.1.2	An "interval" cannot be replaced by "value"	Change to: difference between two consecutive indicated values, expressed in units of mass, with the instrument in a special mode for testing purposes.	Changed as proposed.
Netherlands	14	0.3.1.2 second sentence	The second sentence does not concern the definition but is a decision criterion	Move second sentence to the specification of criteria (requirements)	Sentence amended. Moving it to requirements might constitute a technical change.
Netherlands	14	0.3.2	The text is difficult to understand	Add a figure	Not sure of how to illustrate this definition.
Netherlands	14	0.3.7	missing word	Start definition: <b>totalized</b> quantity...	Text added.
Netherlands	15	0.3.8	Delete "The"	Amend to: " <i>quotient <b>between</b> the maximum capacity of the weighing unit and the weigh length</i> "	Amended.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	17	0.4.1	Amend to the exact wording of VIM 4.1. No deviations are allowed (resolution CIML 2011)	Amend to: <i>"quantity value provided by a measuring instrument or a measuring system"</i>	Amended.
Netherlands	18	0.4.3	No really need for this definition (it is used in R76 but not defined)? If yes it should be a definition not using the original term	Suggest deletion the definition or change to <i>"a representation of the weighing result in electronic format on a physical medium such as paper"</i>	Definition amended as proposed.
Netherlands	18	0.4.5.1 0.4.5.2 0.4.5.3	Do not amend referred definition	Change to exact copy of definition	Amended as proposed. Referenced to new D 11 clauses.
Netherlands	19	0.4.5.4	Do not amend referred definition and do not include the specific criterion value in the terminology part	Change to exact copy of definition and Include the criterion in the specifications of criteria (requirements)	This definition is specific to R50 and was approved by the working group. Amending this now at the final draft would cause problems.
Netherlands	19	0.5.1.1	Do not amend referred definition	Change to exact copy of definition	This is another definition specific and appropriate to R50.
Netherlands	20	0.5.3	In contrary to the general remark concerning exact copy it is allowed to not implement a note where this note is not applicable or even may lead to confusion.	Delete Note 2	Note 2 deleted.
Netherlands	21	0.7	Units of measurement are defined in SI and are Abbreviations nor Symbols	Delete V/m; kV and MHz	Deleted.
Netherlands	23	2.2.1	"Automatic weighing" is not defined as such	Replace title to "MPE in full operational mode" or in terms of "MPE in automatic mode using real bulk"	Changed. Reverted to definition from R50 1997E.
Netherlands	23	2.2.1 and 2.2.2	"appropriate"	Change to "applicable"	Changed.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	23	2.2.2	Still title incorrect. Concerns the requirement (MPE) for the specific Class. Part 1 does not concern "test"	Suggest change title to "MPE in zero mass flow mode "	Changed to definition from R50 1997E.
Netherlands	24	2.2.2 last paragraph	This paragraph is superfluous and not correct (for an indicator pi = 0.5, not 0.7)	Delete last paragraph	This paragraph is taken from R50 1997E and at this final draft stage removing it can cause problems.
Netherlands	25	2.6 c)		Delete "And" (first word of the sentence)	Deleted.
Netherlands	25	2.7.1	The manner of verification of compliance should be dealt with in part 2. So this title is incorrect. Moreover most requirements which are tested using simulated load still apply when using bulk load in situ. In our comment on CD4 we suggested in conclusion: <i>2.7 to read: "Requirements for belt weighers"</i> and the subs of 2.7 - <i>Allowed to verify compliance using simulation</i> - <i>To be verified in a practical application (in-situ measuring real bulk)</i>	Change titles to: - 2.7.1 Requirements <i>allowed to verify compliance using simulation</i> - 2.7.2 Requirements <i>to be verified in a practical application (in-situ measuring real bulk)</i>	2.7 retitled and clauses 2.7, 2.8 and 2.9 renumbered in accordance with France's proposal.
Netherlands	27	2.7.1.5.1 Note	If approximately the same load is used the result should be corrected for the difference between the loads	Add: <i>“, the difference between the loads shall be corrected”</i>	Changed. See proposals from Netherlands, and comments from USA

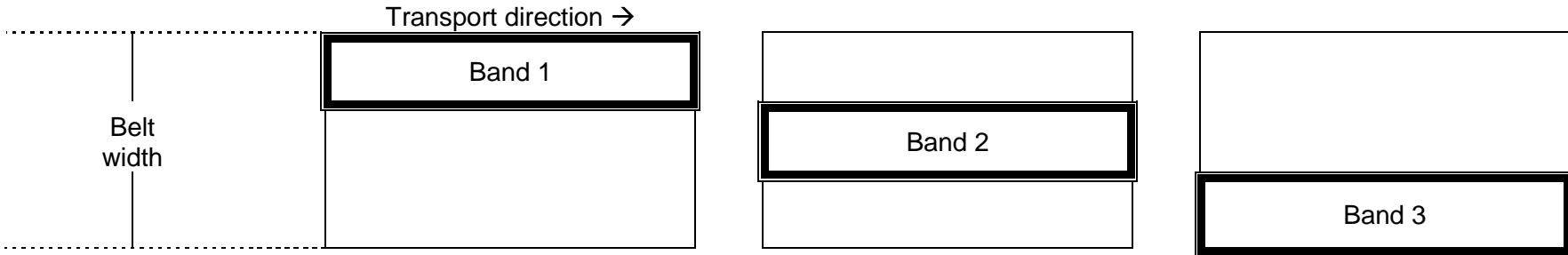
Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	27	2.7.1.5.3	Concerns a requirement. The word “tests” should not be applied	<i>Suggest to reedit as follows</i>  <i>“When a load is either deposited on the non loaded receptor or a load is removed from the loaded receptor there shall be a visible difference between the indications obtained in a period equivalent to 3 minutes equal to the following percentages of the maximum capacity:”..</i>	Amended. Worded differently using text from R50 1997E.
Netherlands	28	2.7.2.3	It is in our opinion not necessary to require the requirement to be verified once again under practical operational conditions	Delete clause (also note the comment on 2.7.1)	This requirement is from R50 1997E and has been agreed by stakeholders. Removing it at this stage can halt the revision progress.
Netherlands	29	2.7.2.5	This clause is not formulated correctly	Improve wording Belt weighers may include a means of permitting totalized loads to be obtained only over a whole belt revolution (see 0.4.2.7). When such a facility is present it shall meet the requirements in section 3.6 (b) <b>When active in full operational mode using real bulk</b> the minimum totalized load shall comply 2.4 (a) or (c) but need not fulfil the requirement in 2.4 b).	Amended as proposed.
Netherlands	29	2.8	Including the examples of causes may lead to the misinterpretation that any other cause of durability error is not to be taken into account.	Delete “due to wear and tear, or the decay of the properties of electronic components”	Changed as proposed.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	30	3.3.1third paragraph	This is a too severe requirement. This means that each load cell needs to be measured separately. Even then it is not so easy to detect a faulty load cell	Delete third paragraph	Third paragraph removed. This was requested by P.R China in the 5CD consultation. However, majority of TC9/SC2 do not support this requirement. In addition, it is considered that this requirement is already covered by “ <b>accidental breakdown ... without the effect being evident</b> ” in the first paragraph.
Netherlands	31	3.3.7 3.3.7.1 3.3.7.2	In legal metrology there is no choice between securing and sealing. Restricting to sealing only could be sufficient as this covers the securing and the evidence of an intervention. However in other R's the term is “securing and sealing”	Replace “or” with “and”	Amended.
Netherlands	32	3.4.1	Add coverage factor to standard uncertainty without mentioning a coverage factor results in an inadequate statement	<i>..the standard uncertainty (<b>k=2</b>) <b>contribution from the reading...</b> “</i>	New text inserted.
Netherlands	32	3.4.1	Should there not be a minimum height of the figures? For example 9.5 mm like in R76.	Add to the end of b) “ <i>the height of the figures shall be at least 9.5 mm</i> ”.	Text added.
Netherlands	32	3.4.2	Form of the indication	Suggest amend to: Form <b>at</b> of the indication	Amended.
Netherlands	34	3.4.3.3 second sentence	Shouldn't in all cases it be prohibited to use supplementary indicating devices for legal measurements?	Delete “ <i>when both general ... totaled load</i> ”	Deleted. Provides more clarity.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	41	4.5.4	Incorrect amendment. At this clause the <b>mains electrical power</b> is concerned. Only when referring to for example variations or fluctuations in the mains electrical power supply the term <b>“voltage”</b> should be applied	Change to: Mains electrical power supply failure	Amended.
Netherlands	41	4.5.5	A belt weigher that operates from a battery voltage supply shall, whenever the voltage drops below the...	Change to: <i>“A belt weigher using a battery power supply shall, whenever the voltage drops below the..... “</i> (so keep the second “voltage”)	Amended.
Netherlands	42	4.6.1 a)	Interference is usually referring to electromagnetic phenomena. Use “intervention”	Replace <i>“interference”</i> by <i>“intervention”</i>	Changed.
Netherlands	47	5.1.6.4	The symbol “e” is new here. Shouldn’t this be “d <sub>t</sub> ”?		µV/e deleted in accordance with comments from Denmark and others.
Netherlands	48	5.1.6.5	See comment on 5.1.6.4		5.1.6.5 amended in accordance with comments from Denmark and others.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
Netherlands	53	6.2.1 third paragraph	<p>The requirement for re-verification (subsequent verification?) should be that the uncertainty is at least 1/3 of MPE. The combined error is not relevant while this error can be compensated.</p> <p>Further from our comments on 4CD:  <i>"3rd paragraph 6.2.1 Reconsider the absolute need of verification of the control instrument after completion, while this could take unnecessary commitment of resources. Suggest to add "if necessary" "re-verification" should be "subsequent verification"</i>            Although stated <i>"Corrected as proposed"</i> in the secretariat comments such amendment cannot be detected in the 5 CD</p>	<p>Delete last sentence "For re-verification tests ... the control instrument"</p> <p>Further correct like previously indicated by the secretariat</p>	Amended. Last sentence deleted.
Netherlands	59	A.3.7.3	The method does not take into account that there could be an error in the displacement measurement	Add a remark about this	Note Added: Any error in the displacement measurement should be taken into account.
Netherlands	62	A.5.4.2	For clarity add a figure illustrating the manner of dividing the belt in bands	Add Figure 3, See below proposal	Proposed figure 3 added.
Netherlands	85	A.7.3.5.1 Table 15	Note 1) is confusing.	Delete the first note and add to the second note: <i>"In this case for the frequencies from 26 MHz up to 80 MHz the similar test method as described in IEC 61000-4-3 is to be applied"</i>	Changed as proposed.
Netherlands	95	Annex B Title	Annex B should be mandatory, not informative	Change "Informative" to 'Mandatory'	Changed.



Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
<p style="text-align: center;">Netherlands Proposal for Figure 3</p> 					
RSA	17	0.3.15	Not a definition of a module	identifiable part of an instrument that performs a specific function or functions, and that can be separately evaluated according to specific metrological and technical performance requirements. The modules of a weighing instrument are subject to specified partial error limits. (for more info see R76-1 T.2.2)	Amended in accordance with comments from Australia, Netherlands and Japan.  Module moved to 0.2.10.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
RSA	33	3.3.7	Do not understand the reason for the change as the sealing point could be visible but not accessible to reseal or check the data on an existing seal.	If no valid reason suggest restoring to “accessible”.	A change was proposed by Netherlands in the 4CD consultation “Consider replacing “ <i>accessible</i> ” by “ <i>visible</i> ”. (Would be no problem when they are, for whatever reason, behind a glass window.)”  However, after RSA comments, have reverted back to “accessible”
RSA	97	A.8.1a), b), c), and d)	This gives an option of totalization load without an indication of which one to select. Does this mean that either can be used at the discretion of the test officer or should the greater or lesser of the two be used?	Clarify if possible.	The option of totalization load can be either: (1) Totalization of $\sum_{min}$ , or (2) The method specified in A.3.7.3 (If a device with a totalization scale interval smaller than or equal to 0.2 d is not available)
RSA	102	A.10.1	The word “speed” is missing in the first sentence.	Change to “single speed belt weigher”.	Could not see where the text “single speed belt weigher” is appropriate in A.10.1.
RSA	104	Annex B	These are requirements and the Annex should be normative.	Change Annex B from informative to normative.	Changed to “mandatory”
RSA	107	Annex C	As this Annex is only informative the word “shall” should not be used as this indicates a normative requirement,	Change “shall” where ever it occurs to a word that does not indicate a normative requirement such as “should” or “might”, as applicable.	Amended as appropriate.
RSA	109	Annex D	This Annex contains requirements and should be normative.	Change Annex D from informative to normative. Change the word “should” in the first line of D1 to “shall”.	It was agreed at the working group meeting to make Annex D informative.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	General	Document footer	Footer to be updated to reflect current draft	Change reference of R50-1 4CD to: R50-1 <u>5</u> CD in footer	Amended to Final Draft (FD)
USA	7	0.2.2.1	The term “carrying rollers” as typically used in the U.S. refers to the center position rollers in idler sets that include the carrying roller and two “wing” rollers - all of which comprise a single idler assembly. Is the terminology used here intended to describe a set or assembly of rollers that are those other than the weighing rollers/idlers?		The terminology is taken from R50 1997E and is a generic term intended to describe the means by which the conveyor belt is supported on a fixed frame.  Weighing rollers (0.2.2.2) is a generic term intended to describe the means by which the conveyor belt is supported on the load receptor.
USA	16	0.3.10	The language of the paragraph conveys the intent that the electronics of the belt-weigher be given sufficient time to warm-up, however it is not mentioned in R50 that the conveyor structure and belt should also be “warmed-up” prior to testing.	Although paragraph A.10.3.1 states that the conveyor shall operate for at least 30 minutes prior to test, it is recommended that the following be added to 0.3.10:  This warm-up time ensures that both the electronic based components and the mechanical components of the conveyor system have reached a state of equilibrium and will support performance stability.	The current terminology seems generic enough to cover the US’s proposal.  Appropriate wording added to A.5.2.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	25	2.4 & 2.7.2.5	It is questionable whether or not a test performed in which a partial loading of the belt as opposed to a test where the entire belt is under load will provide adequate evaluation of the system. If an exception is made (under 2.7.2.5) where a test could be conducted without complying with 2.4 (b) with less load than would be obtained at maximum flow during one revolution, the potential exists that this test would not consider the difference in belt tension when the entire length of conveyor is under a fully loaded or partially loaded condition.	It is recognized that a significant difference in belt tension may produce a significant variation in test results and this could be a problem in cases where the length of the conveyor is exceedingly long. Recommend that minimum totalized load comply with all (a, b, and c) statements under 2.4	Proposal is not implemented as this is considered to be a major technical change and departure from previous drafts, and also has been agreed by TC9/SC2.
USA	28	2.7.1.5.1	The note at the end of the clause is a contradiction of terms. How will this prove repeatability when this characteristic of a weighing device is understood to be the ability to provide consistent indications for the same test load? It is understood that under actual in-situ test conditions the exact same test load may be difficult to achieve however, during a simulated test the test load applied to the weighing element should remain the same.	Strike the note at the end of clause 2.7.1.5.1.	Note amended in accordance with proposals from France and Netherlands.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	28-29	2.7.1.5.4	Section 2.7.2 defines values for a beltweigher as actually installed and are related to the beltweigher class and MTL. A Class 0.5 beltweigher for example must have a zero variation less than or equal to 0.05%, as defined in 2.7.2. How do the test values of 2.7.1.5.4 relate to beltweigher accuracy?		To determine that the short and long term stability of zero is within the mpe, i.e the difference between the smallest and largest indications in a series of tests over a defined period of time.  Headings amended in line with R50 1997E for more clarity.
USA	32	3.3.2	Should there be any exceptions for systems that maintain an audit trail where the totalization values from immediately before and immediately following the totalization process are recorded?		As a minimum the beltweigher is expected to satisfy this requirement. There are various methods by which this can be achieved, including by audit trail systems.
USA	32	3.3.6	For instances where relatively brief periods of conveyor operation are used (i.e. operations filling individual railway cars or highway motor trucks), a series of alarms would be necessary because the delivery of product to each container would begin and end in a flow rate of below the minimum value.	Add note:  For installations where the conveyor system operates for relatively brief periods (e.g. systems used for loading individual RR cars or individual highway motor vehicles) this alarm may be disabled during the periods at the start (ramping up) and the conclusion (ramping down) of the conveyor operation when the flow of material is below the minimum flowrate.	Adding an exception at this stage of the revision work may halt the progress.  Note 1 reworded slightly.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	37	3.6	It seems as though statement a) should read:  a). either be permanently in operation, or permanently disabled (any ability to enable or disable shall be sealed against user access), <del>or</del> <b>and</b> incorporate a mechanism...	Replace “or” with “and” as shown	Changed.
USA	39	3.8.1.6	This language would not prevent the operation of the belt weigher during the period that the conveyor slope is being changed. Is this intentional? Even when a “device” is incorporated to compensate for the effect of the change of slope, what safeguards are in place to verify that this change in slope did not result in an undesirable effect to the performance of the weighing device? Can it be ruled out that the movement of the conveyor could have changed the physical dynamics of the conveyor system, including the belt tension, idler alignment, etc.? See also comment regarding paragraph A.10.1.1.	Add the following statement to 3.8.1.6: 3.8.1.6 Belt slope  The belt shall normally be installed in a fixed position. <b><u>When the conveyor system is equipped with means to change the slope, totalization will be disabled during the period when the slope of the conveyor is in transition.</u></b> If the slope angle of the load receptor...  Also see comment for paragraph A.10.1.1	3.8.1.6 amended. See proposal from Australia.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	45	4.8	Under the second bulleted item in the paragraph, the wording in parenthesis reads: “(e.g. programming modes)” The use of the phrase “programming modes” is not understood in this context.		Deleted.
USA	A.3.2	62	Definition of “test” is critical in this statement. Paragraph reads that zero shall not be readjusted during the test. If a “test” would include two or more individual weighments (either at the same or at different flow rates) the zero should be adjusted if needed between those two weighments.	More specific definition under 0.6 would be helpful	“Test” is referring to the “performance test” as defined in 0.6.2.  “Performance test” inserted and A.3.2 amended in accordance with comments from Australia.
USA	A.5.2	65	Although references are made in other sections to run the conveyor for at least 30 minutes prior to any test, this paragraph (as well as A.3.5) recognizes the importance of warming the electronic indicator up to operating temperature, it says nothing about the importance of doing the same for the conveyor belt however. The changes to zero due to the elasticity and tension of the belt attributed to temperature changes would warrant a warm-up for the belt as well.	As listed above under 0.3.10: Insert statement which conveys the importance of ensuring the stability of the conveyor belt by allowing it to warm-up as well as the electronic instrument in 0.3.10	A.5.2 and A.10.3.1 amended.
USA	A.5.4.2	67	The explanation of load placement for testing eccentric loading would benefit from an illustration.	Recommend that a similar illustration to the one used as Figure 2 under 6.3 be used to illustrate load placement for this test.	Netherlands Proposal for Figure 3 adopted.

Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
USA	C1	107	Second paragraph, third bullet: the statement “Isolated from load cell and with check rods or flexures” needs to be clarified	Recommend the following changes:  – <u><del>Isolated from</del></u> load cell <u><del>isolated from forces not directly derived from the weighed mass</del></u> and with check rods or flexures.	Changed as proposed.
CECIP	General		In our opinion the definition means a limitation for ways of continuously totalising weighing not being belt weighers. For certain this never can be the intention of recommendations. An opening can easily be created without major changes in the document and its specifications, but in the definition and by means of small changes in the wording. Where the word belt is mentioned, “continuously totalizing” should be used instead		R50 deals specifically with “belt weighers” only.  The member’s proposal is considered a major change not recommended at this DR stage.  If there is a need to cover other types of continuously totalising weighing then a separate project can be proposed in the future to review the technical contents for the applicability for other technologies without a <u>belt</u> conveyor.  Amendments to this draft include aligning general terms with D11 and VIM and only using “belt weigher” where appropriate.
	1		Change the name in: Continuous totalizing automatic weighing instruments (such as belt weighers).		See response as above.



Member/ Organisation	Page no.	Clause	Comments	Proposed Change	Secretariat Comments
	5	T1.3	Change the name in: Continuous totalizing automatic weighing instruments (such as belt weighers). Continue with: An automatic weighing instrument for continuously weighing a bulk product, by example on a conveyor belt, without systematic subdivision of the mass and without interrupting the material flow.		See response as above.
CECIP	7	T2.1	Remove the words “belt conveyor”.		See response as above.
CECIP	7	T2.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	12	T2.11.8	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	18	T4.6.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	18	T4.6.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	18	T4.6.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	18	T4.6.4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	20	T7	Under symbols, I = indication remove the word “belt”.		See response as above.
CECIP	22	2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	24	2.5, a and b	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	25	2.7.4.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	27	2.8.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	28	2.8.5	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	29	3.2	Replace the word “belt” by “continuously totalizing”.		See response as above.

<b>Member/ Organisation</b>	<b>Page no.</b>	<b>Clause</b>	<b>Comments</b>	<b>Proposed Change</b>	<b>Secretariat Comments</b>
CECIP	29	3.2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	29	3.2.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	29	3.2.4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	31	3.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	34	3.5	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	35	3.7	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	35	3.7.2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	36	3.7.2.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	36	3.7.2.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	36	3.7.2.4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	36	3.7.2.5	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	39	4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	39	4.1.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	40	4.5.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	40	4.5.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	40	4.5.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	40/41	4.5.4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	41	4.5.5	Replace the word “belt” by “continuously totalizing”.		See response as above.

<b>Member/ Organisation</b>	<b>Page no.</b>	<b>Clause</b>	<b>Comments</b>	<b>Proposed Change</b>	<b>Secretariat Comments</b>
CECIP	41	4.6	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	42	4.8	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	43	5	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	44	5.1.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	45	5.1.3.3	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	49	5.2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	50	5.2.2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	53	6.3	Replace the word “belt” by “continuously totalizing”, twice.		See response as above.
CECIP	55	6.7.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	55	6.7.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	60	A.5.4	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	60	A.5.4.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	61	A.5.4.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	63	5.5.3, 1)	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	64	5.5.3, 5)	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	64	5.5.4	Replace the word “belt” by “continuously totalizing”, three times.		See response as above.
CECIP	89	A8.1.1, Test A	Replace the word “belt” by “continuously totalizing”, four times.		See response as above.
CECIP	89	A8.1.1, Test B	Replace the word “belt” by “continuously totalizing”, twice.		See response as above.

<b>Member/ Organisation</b>	<b>Page no.</b>	<b>Clause</b>	<b>Comments</b>	<b>Proposed Change</b>	<b>Secretariat Comments</b>
CECIP	90	A.8.2.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	91	A.8.2.1, a)	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	91	A.8.2.3.1	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	92	A.8.2.3.2	Replace the word “belt” by “continuously totalizing”.		See response as above.
CECIP	92	A.8.2.3.3	Replace the word “belt” by “continuously totalizing”.		See response as above.