



R117-2 Technical and General Comments Compilation

Previous (mostly unresolved) Non-editorial International Comments on OIML R 117-2 received in 2014

“Measuring Systems for Liquids other than Water;

Part 2: Metrological controls and performance tests.”

(note: these comments are from both the 2CD (Mar 2014) and the Preliminary Ballot (Jul 2014))

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Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
			<p>Convener's Notes:</p> <p>A. Comments on the 2CD of R117-2 were received in March 2014 from Australia (AU), Austria (AT), Czech Republic (CZ), Denmark (DK), France (FR), Japan (JP), Netherlands (NL), Poland (PL), Sweden (SE), Switzerland (CH), United States (US) and CECOD.</p> <p>B. Comments on the Preliminary Ballot of R117-2 were received in July 2014 from Australia (AU), France (FR), Japan (JP), Netherlands (NL), Sweden (SE), and UK (UK).</p> <p>C. It is planned that many of these comments will be discussed at the R117 Project Group meeting that is scheduled for 04-06 July 2016 in Delft.</p>			<p>Several comments received in 2014 on R117-2 were not incorporated into the published R117-2 document – often because it was decided that these comments would significantly alter the recommendation.</p> <p>It was decided to hold these comments until the immediate revision of all three parts of R117.</p>
AU	-	Gen.	2CD comment: It has been generally noted by Australian stakeholders that this document will necessitate amendments to OIML R 117 Part 1, and amendment or removal of OIML R 118.	No change is proposed, however the project group, sub-committee 3, technical committee 8, the respective secretariats and CIML should give due consideration as to how the publication of this recommendation will impact on existing documents. Strategies should be developed and implemented to ensure consistency across all OIML documentation following the publication of OIML R 117-2.		<p>Convener (Apr 2014): Totally agree.</p> <p>Convener (Dec 2015): OIML R105 and R118 have now been “superseded” on the OIML website ... and the complete set of R117 documents are now under revision.</p>

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
FR-1	All	Gen	<p>2CD Critical comment</p> <p>Test levels are considered as metrological requirements of measuring instruments and should remain in OIML R117-1</p> <p>See also §4.9 of document OIML B6-2</p>	<p>Remove paragraphs §4.8.2, 4.8.3, 4.8.4, 4.9.1.1 in OIML R117-2</p> <p>Add an explanation at beginning of R117-2 to explain link between R117-1 and R117-2</p>	A	<p>Discussed in Chicago.</p> <p>Proposal is to leave everything in R117-1 Annex A as is.</p> <p>Chapter 4 of R117-2 will also not change based on this comment.</p> <p>Added a note in explanatory note of R117-2 that explains that until the completion of the immediate revision (an interim period), the testing requirements in R117-1 Annex A (based on D-11:2004) are still accepted, but it is strongly advised to apply the testing requirements of R117-2, Chapter 4 (based on D-11:2013).</p> <p>In the immediate revision of all three parts, the R117-2 Chapter 4 testing requirements will be the only testing requirements accepted and test level definitions will be moved from R117-2 to R117-1.</p> <p>The concept is to fully harmonize R117-1 and R117-2 in the immediate revision.</p> <p>Convener (March 2016) Agreed, the test level should be in Part 1 (as a requirement). For all EMC, Climate and Vibration testing the test level will be in part 1 and how to test in part 2. This needs amendment of the tables in part 1 and 2.</p> <p>Further accomplishing this task will be done by “Special Team 4” between the 1CD and the 2CD.</p>

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
FR-2	All	Gen	2CD comment: Will an annex S “Software” be added in another version of R117-2 ?			<p>Convener (Mar 2016) As a starting point of adding software requirements into R117 ... the new Annex A of R117-1 (borrowed from R139-1:2014) was added as (new) R117-1 Annex A.</p> <p>Also need to add sections on software into R117-2.</p>
NL-1	General	gen	NL is of the opinion that publication of this part of the Recommendation should be established as soon as possible and if necessary by concentrating on type evaluation and at least implement the Annex on fuel dispensers Nevertheless this part should be as complete as possible This includes that it should be avoided to produce a publication giving the impression that it is far from complete.	Delete on all or most places the indication that clauses are missing but indicate which future extensions could be possible if needed.		Understood.
NL-2	General	gen	In the following comments it is assumed that in accordance with the ToR of the project the contents of R 117-2 will substitute the ANNEX A of OIML R 117-1, which may at that time be interpreted being obsolete.	Provide such indication in the introduction		<p>Response changed based on discussions in Chicago.</p> <p>See response to France above.</p> <p>A new project will be proposed in New Zealand that will put all 3 parts of R117 into an immediate revision after publication of R117-2 and R117-3. This will bring full harmonization to all three parts.</p> <p>Convener (Mar 2016): Now done.</p> <p>Also need to ensure that the contents of R117-1 Annex B are covered in R117-2.</p>

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
NL-3		Gen. /Techn.	In Clause 4 a copy is made of OIML D 11 .Choices shall be made on the applicability of test levels to the specific installations while specific installations can for technical reasons only be applied in specific environments. E.g. residential environment is probably not applicable to fuel dispensers and surely not to the installations mentioned in Annex F and Annex G. This implies that there is no complete free choice regarding the applicable test levels.	It is accepted that this part of R 117 requires specifying different test levels, even per installation. The Annexes however should be more restrictive. Select for each Annex the applicable environmental classifications (Mx, Ex and Hx)	A	Discussed in Chicago. Feel it is OK as is – the manufacturer should be able to choose environmental class. Classes are clearly defined in the tables. Will leave this comment to be discussed in the immediate revision. (Possibly discuss adding in Annex X at that time.) Convener (Mar 2016): Perhaps can give some advice restrictions on this in each annex, maybe a min and max value or a minimum spread value.

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AU	Explanatory Note. & Clause 5.4	Gen.	<p><u>Prelim Ballot Comment:</u> Australia strongly objects to the introduction of an exemption from endurance testing for meters “without moving parts”. Instead, such a change should be considered as part of the immediate revision of all 3 Parts of R117. This is for 2 reasons:</p> <p>Firstly, we believe this would require a significant change to Part 1, necessitating a formal revision of that Recommendation, which will not occur outside of the project to immediate revise all 3 parts.</p> <p>Second, little guidance has been provided, and little agreement reached within the TC, on what exactly constitutes a meter “without moving parts”. Does a coriolis meter really have moving parts? Please refer to Annex D (D.3.6) of OIML R 139 which explicitly states that coriolis meters do have moving parts.</p> <p>Regardless, from our experience, the error curve of all meters will shift over time to lesser or greater degrees, and not necessarily on the basis of technology.</p> <p>As a result of this lack of clear definition, we are concerned that the Recommendation will be interpreted very differently from country to country for a significant test, which in turn will result in confusion for manufacturers and suppliers.</p> <p>We strongly recommend that the exemption is not introduced at this time and instead given due consideration as part of the immediate revision.</p>	Remove exemption for meters without moving parts from whole document.		<p>Key issue.</p> <p>However, this issue has already been <u>thoroughly</u> discussed within the project group (and discussed some more).</p> <p>No change to the document at this time.</p> <p><u>Two additional points on this:</u></p> <ol style="list-style-type: none"> 1. For the purposes of this document – as clearly stated in Chapter 5 – Coriolis, ultrasonic, and electromagnetic meters are not required to be tested under section 5.4. 2. Australia is welcome to raise its concerns on this issue for additional discussion during project group work on the immediate revision of all three parts of R117. <p>Convener (Mar 2016): R117-1 was changed to include the exemption from endurance testing for meters “without moving parts” (like R117-2).</p> <p>This could possibly be a topic of discussion at the first PG meeting.</p>

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
SE		gen	In the next revision of the documents (R117-2 and R117-3) it is important to align the documents to definitions in OIML B3. As we stated in our comments to the last CD the use of “type evaluation”, “type approval”, “type evaluation report” and “test report” is confusing. The definitions in OIML B3 should be used. In our opinion the outcome of the tests described has more of a test report character (see B3 Annex C). The combination of constituent components should be described in a type evaluation report.			As suggested, this can be fully discussed during the immediate revision. No change to the document at this time. Convener (2016): Effort was made to fix all of these issues. Please check this.
SE		gen	Reference list is missing			2014: No change to the document at this time. Convener (Mar 2016): Agree that the project group should revise the reference list (currently found in Annex C of R117-1) as part of the immediate revision of all three parts.
FR	Explanatory note	Tech	Please could you confirm that annex B will be kept in OIML R117-1	Keep annex B in OIML R117-1 except B.A.6.2 and B.A.6.4		Confirmed. Convener (Mar 2016): all information in Annex B will be kept, it will be decided during the next PG meeting if the contents of annex B is kept or if the information is implemented in part 1 and 2 elsewhere.
NL-6	1		Scope as written is the scope of the complete Recommendation	Delete (maintain in part 2) or concentrate on part 2 only (see comment on 1.5)		Probably will be done when all three parts are revised together. Not now. Convener (Mar 2016): Scopes of Part 1 and Part 2 are now harmonized.

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AU	1.2	Gen.	There appears to be a methodological turnaround regarding prior advice that cryogenics would be included in R117. The scope of R117 quite clearly removes cryogenics and positions this into R81, which Australia supports.	Due to the specific physical properties and characteristics of cryogenics, and the product transfer variables relating to reliable metering process, Australia supports cryogenic liquids including LNG be retained under R81.		No change now ... LNG is not part of this R117-2, but may be added during the immediate revision after publication. This was briefly discussed in Chicago. Decision to wait for immediate revision. PG will also wait on bunkering systems. Convener (Mar 2016): As decided by the CIML in 2014 (and by the conveners of R117 and R81): cryogenics are out of the scope of R 117, but LNG is in the scope. This will be aligned with R 81 which will exclude LNG. LNG is now covered in R117-1 (Section 5.14) and R117-2 (Annex L).
AU	-	Gen.	There is no bibliography or reference included in the document.	Please include a bibliography and provide appropriate references for the documents cited.		No ability to do this before the vote on the 3CD. This effort will be done during the immediate revision. Convener (Mar 2016): Updated references and bibliography will be done in R117-1 Annex C.
SE	2	gen	The use of “type evaluation”, “type approval”, “type evaluation report” and “test report” is confusing. The definitions in OIML B3 should be used. In our opinion the outcome of the tests described has more of a test report character (see B3 Annex C). The combination of constituent components should be described in a type evaluation report.	Align the whole document to definitions in OIML B3.		Will be discussed in the immediate revision. Convener (Mar 2016): this is worked on.

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JP	2.2	Gen.	Prelim Ballot Comment: The scheme of initial verification is usually specified by the national authority in each member country. We therefore propose adding a note about the initial verification.	Add a note as proposed below for example. <i>Note 2: Requirements and procedures for the initial verification may be specified separately by the national authority.</i>		No change at this time. This can be discussed during the immediate revision. Convener: possible discuss this at the PG meeting.
NL-13	3	Gen.	Confusing having certain symbols mentioned (defined) more than once	Suggest to at least split up symbols, units and equations in 3 sub clauses		Convener: Plan to work with NL in immediate revision.
NL-14	3	Gen.	Added Symbol Viscosity is wrong see: http://ciks.cbt.nist.gov/~garboz/SP946/node20.htm	Apply correct symbol for viscosity η or ν plus definition		Work with NL in immediate revision.
NL-16	3	Gen.	“Range” is a too generic word to restrict the definition only to an error range	If necessary to define it is suggested to apply “Error range”		Work with NL in immediate revision.
AU	4.2	Tech.	<i>In the calculation of the uncertainty, the resolution of the EUT shall be taken into account. This should refer to actual or internal resolution rather than displayed resolution.</i>	The resolution of the display (indicating device) may be showing rounded figures suitable for financial transactions (That is the displayed dollars must equal the displayed litre amount at the displayed price), but the price is only shown to one cent so the display values do not show the actual resolution of the instrument). The actual resolution of the instrument can be much greater and the internal values used in the instrument should be used for determining the uncertainty.		MS (Dec 2015): to discuss during PG meeting In that case, the higher resolution must be used during testing. The uncertainty should be based on the resolution <u>used</u> . To be saved for the immediate revision. Convener (Mar 2016): Would like to discuss this at the PG meeting.
NL-20	4.2	Gen./ edit	$k = 2$ does not necessary mean a 95 % coverage. It only applies for normal distribution and no dominant component of uncertainty having a different distribution curve.	Change $k = 2$ to 95 % coverage	B	Leave for now. Will be discussed during the immediate revision. NL – OK.
NL-25	4.8 ; 4.9	Gen.	Some additional work has to be done on the tables concerning road vehicle batteries	E.g. from some tables the (non referred to) some non bold values have to be deleted (4.10.1, 4.10.2, etc.)		Discussed in Chicago. Leave as is for now – do this in the immediate revision. NL – OK.

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FR	4.8.5 4.8.6	Tech	“Test shall be performed at a minimum of one flow rate”	We propose maximum flowrate should be the one (because the risk not to count a pulse is higher at maximum flowrate)		Probably not critical ... leave for the immediate revision. (Mar 2016) Convener Proposal: change text to: “When using simulated inputs, the test shall be performed at a minimum of one flow rate.” Not changed yet, but discuss in PG meeting.																
SE	4.8.6	techn	“The power to the EUT shall be switched off before the temperature is raised.” This is not correct, the EUT shall be powered during the complete test.	Change to “The power to the EUT shall be switched on.” or delete the sentence.		Think there might be a misunderstanding ... discuss in the immediate revision. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139.																
JP	Some tables in 4.8 - 4.10	Tech	Only test level (index) 3 of OIML D 11 is specified in some tables. Levels 1 and 2 should be also added to the tables because part 1 (2007) already permits using these lower levels. The other tables, such as table 4.8.5 (dry heat), already include the lower levels.	If test levels 1 and 2 are permitted in part 1, add these levels also to the corresponding tables in part 2 in which only level 3 is specified in present.		See response to French comment (FR-1) earlier.																
AU	4.9.1.1 Test Severity Table, page 26	Techn.	<u>Prelim Ballot Comment:</u> Regarding the test severity table on page 26 of the marked version: The evaluation condition for the “Surges on AC and DC mains power lines” test should be NSFd, not NSFa. Or at least an option for both NSFa and NSFd should be provided depending on whether intervention is required. See test procedure 4.9.10.	Change NSFa to NSFd. Or provide both options depending on intervention.		Agree. However, will wait to change this until the immediate revision. Convener (Mar 2016): To be considered by Special Team 4 (compare to R137 and R139)																
JP	4.9.1.1 (Second table)	Tech, Edit	<i>Prelim Ballot Comment:</i> <i>‘Test Level for class’</i> for the row 4.9.2.2 of the second table should conform to the requirement in <i>‘Applicability’</i> in Table 4.9.2.2 for <i>DC mains voltage variation</i> (p.29).	Change the test levels of the row 4.9.2.2 as shown below (in bold). <table><tr><td colspan="3">Test Level (Severity Level) for class</td><td>Test</td></tr><tr><td>E1</td><td>E2</td><td>E3</td><td>R117-2 Section</td></tr><tr><td>1</td><td>1</td><td>--</td><td>4.9.2.1</td></tr><tr><td>1</td><td>1</td><td>--</td><td>4.9.2.2</td></tr></table>	Test Level (Severity Level) for class			Test	E1	E2	E3	R117-2 Section	1	1	--	4.9.2.1	1	1	--	4.9.2.2		Will wait to discuss this in the immediate revision. Convener (Mar 2016): To be considered by Special Team 4
Test Level (Severity Level) for class			Test																			
E1	E2	E3	R117-2 Section																			
1	1	--	4.9.2.1																			
1	1	--	4.9.2.2																			

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AU	4.9.2.1	Tech.	It is now common to use super capacitors with a charge of many Farads to act as a standby power source for electronics during a power failure. This section should make it clear that these charge storage devices should be treated in the same way as general rechargeable batteries.	The title and scope of the section should be enlarged to cover other charge storage devices. In the first section (b) should be amended to cover general rechargeable batteries and super capacitors.		To be discussed in the immediate revision. Convener (Mar 2016): discuss during PG meeting and compare to R 137 and R 139.
SE	4.9.5	edit. techn?	Only direct application for electrostatic discharge is included.	Add indirect discharge to horizontal and vertical coupling plane.		To be discussed in the immediate revision. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139.
FR	4.9.7	Tech	Lengths for cables are not coherent between paragraph Applicability and Restrictions.	Clarify the point.		Leaving as written for now (restricted to cable length exceeding 30 m) – but to be discussed in the immediate revision. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139.
SE	4.9.7	Techn.	Severity level 3 for surge in signal lines is too severe.	Change back to severity level 2, as in R117-1.		See response to French comment (FR-1) earlier. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139.
JP	Table 4.9.10	Tech	This test should not be applied to indoor DC power supply networks as it is already specified in A.11.10 of part 1 (2007).	Add a statement "this test is not applicable to indoor DC power supply networks" to this table as it is specified in part 1.		See response to French comment (FR-1) earlier. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139.
SE	4.9.11.2	Edit. techn?	Note 2 include a reference to “indexed 4”, which is lacking.	Add severity level4=indexed 4, corresponding to 30 V/m in table 4.9.11.2.		To be discussed in the immediate revision. Convener (Mar 2016) discuss during PG meeting and compare to R 137 and R 139. I think that we decided that 30 V/m is too high and 3 or 10 is enough.

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UK	4.10, 4.10.2, 4.10.3,etc.	Edit	<u>Prelim Ballot comment:</u> The references [aa], [bb], [yy] are not defined in any bibliography.			This will be added in the immediate revision. Convener (Mar 2016): The references will be in R117-1 Annex C which will be fully updated and revised before publication.
AU	5.1	Gen.	In response to the Temporary Convener Note 1:- We would suggest that the table could be retained as part of an informative annex, however it should be edited such that any contentious boxes (currently generally marked with some combination of “Y” & “N”) be marked with TBA or a “U” for “Undetermined”. It is also suggested that the strikethrough font used for the table be removed as it will create confusion. (Also see AU comment on X.5.4.)	The table should be retained in an informative Annex using a conventional font, but only marking a box with “N” or “Y” were true consensus exists. All other boxes should be marked with a “U” (undetermined) or “TBA”.		Agreed in Chicago to remove the table (Table X.5.4) -- but revisit bringing it back it during harmonization of all parts of R117. Convener (Mar 2016): Discuss during the PG meeting.
AU	5.1 and 5.4	Tech.	Endurance testing. We do not believe that the document should exempt meters without moving parts from endurance testing. Firstly, as pointed out by the NOTE, this would represent a significant change from the endurance testing requirements of Part 1. The structure of OIML Recommendations does not allow additional requirements to be introduced in Parts 2 & 3 that do not already exist in Part 1. As such, if such a change to requirements is proposed it should be considered as part of a normal revision of Part 1. Such a change would probably be too significant to allow as part of a ‘minor amendment’ to Part 1. Secondly, the “technology table” in Annex X with the contents struck out clearly indicates that there is a lack of agreement regarding the applicability of certain tests to different meters types. None more so than endurance testing. Thirdly, we have received advice that even with devices that have no moving parts the effect of flow through the device over time cannot be determined. As such, at this time there appears to be insufficient justification for the proposed exemption for meters without moving parts and thus it should not be included.	Please delete clauses which provide exemptions for meters without moving parts from endurance testing.	A	Sweden/KM: Do not agree. We have to start changing somewhere, let’s start in part 2. All meters change over time, also meters without moving parts, but probably not due to 100 h at Q_{max} . PG in Chicago: No Endurance testing for meters without moving parts.

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NL-28	5.1; 5.3.5 5.3.5.6; 5.3.6.4; 5.4	Gen	Concerning this sub clause most of the decisions made concerning the comments by NL, (CA and SE) as presented by the convener in the last column of the compilation of comments on the 1CD have not yet been implemented.	Please implement as indicated in this last column of the compiled comments in the 1CD		To be implemented in the immediate revision. Convener (Mar 2016): To be implemented by Special Team 5.
UK	5.3.4, X.A-I.7.1.6.2, X.A.6.4.6.1 X.A-I.7.1.6.3	Edit	<u>Prelim Ballot Comment:</u> “Alt 1”, “Alt 2”, “Alternative 1”, “Alternative 2”, “Method 1” and “Method 2” are used in various parts of the draft. Propose standardising or using a different text such as “Option 1”, “Option 2”.			Changed to “Alternative Method 1” and “Alternative Method 2” in the Section 5.3.4. Other sections are in the informative annexes and will be discussed during the immediate revision. BIML will check for other places (outside of Annex X sections) before publication. Convener (Mar 2016): Believe this has been completed. Please verify that it is OK now.
AU	5.3.5.1	Tech.	OIML R 22 is rather outdated. Suggest instead to reference ASTM tables, either ethanol or special products (e.g. table 54C).	Replace reference to OIML R 22 with ASTM table 54C.		Sweden/KM: Is the world ready to deviate from R117-1 (3.1.10.3)? If so, ask the meeting what the best reference is, I am not an expert in this area. PG in Chicago: Could use ASTM tables, PTB also created formulas; CZ/Milan thinks R 22 may be still OK. No change at this time. Convener (Mar 2016): Possible discussion item at the PG meeting.

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FR	5.3.6.1 5.3.6.2	Gen	Critical comment Functional tests and requirements are considered as metrological requirements of measuring instruments and should remain in OIML R117-1	Remove theses paragraphs	A	<p>OK -- Both Sections 5.3.6.1 and 5.3.6.2 removed for the 3CD and the prelim ballot ... but need (plan) to add test procedures in the immediate revision of all three parts.</p> <p>Sweden/KM proposals (agreed by the Project Group):</p> <p>Rephrase 5.3.6.1 from a requirement to a test: Change headline to “Test of adjustment device”. Change text to “If the meter....check that the resolution permits an adjustment...”. May be transferred to the checklist in R117-3.</p> <p>Rephrase 5.3.6.2 from a requirement to a test: Change headline to “Test of correction device”. Change text in 2nd paragraph to: “If the meter includes a correction device, compare the difference between the corrected and non-corrected quantity indicated by the meter in 5.3.2 and 5.3.3 to the applied correction declared by the manufacturer.”</p> <p>Convener (Mar 2016): Believe this has been completed. Please verify that it is OK now.</p>

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AU	5.4	Tech.	<p>The endurance test is poorly defined. The endurance test objective outlined on page 50 is to determine the long-term stability of the meter sensor/measuring device. This test is only relevant for meters with moving parts. The information contained in the table on page 44 indicates</p> <ul style="list-style-type: none"> Only for meters with moving parts/parts under mechanical stress. Only for those sizes of a model for which the highest wear is expected. <p>This leaves much interpretation as to what constitutes models for which the “highest wear” is expected, and calls into question exactly what is the purpose of the test as it is not defined in part 1 of R 117. A significant change such as this should not be introduced into Metrological controls and performance tests section of the standard. Noting this it can be considered in future reviews subject to supporting studies of meter types and the usages which define “highest wear” and how a 100 hour endurance test is able to identify potentially out of specification meter types.</p>	<p>Highest wear is not defined in R.117-1 and the requirement should not be included in R117 Part 2: Metrological controls and performance tests, before it has been addressed in Part 1 of the R117 series. There is no supporting studies and documentation to support the need for a change.</p>		<p>Do not agree. The test is in A.7 of R117-1; “Endurance test of a meter...”, and also in R118.</p> <p>Sweden/KM: I know the problem of stating the highest wear, but the approving authority (like OIML Issuing Authority) shall declare the reasons for including/omitting meter sizes from testing (R117-2 2CD 5.1). In my opinion, if the size with the highest wear cannot be identified, all meter sizes are tested.</p> <p>Project Group in Chicago: Regardless of measuring technology, highest fluid velocity and therefore highest pressure drop (all other influences fixed), will induce the highest stress/wear on the meter sensor. Based on sample testing, such meter size can be identified.</p>
FR	6	gen	<p>§6.2.2 / §6.3.1.2 / §6.3.2.2/§6.4.2 AC/DC mains voltage variations aren’t considered as influence factor. Damp heat is an influence test.</p>	Correct the point.		<p>Agreed in Chicago</p> <p>Amended, but not in accordance to the comment. DH is a disturbance test.</p>
SE	6.1.3	techn	<p>Prelim ballot comment: Chapter 6.1 is a general chapter. Delete the text ”...of the deliveries and associated measuring instruments..” since AMI may be part of the EUT.</p>			<p>To be discussed in the immediate revision.</p> <p>Convener (Mar 2016): Possibility to re-phrase ... can be discussed at the PG meeting.</p>

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SE	6.1.4	techn	Prelim Ballot comment: Chapter 6.1 is a general chapter. Delete the text "...of the deliveries and associated measuring instruments.." since AMI may be part of the EUT.			To be discussed in the immediate revision. Convener (Mar 2016): Possibility to re-phrase ... can be discussed at the PG meeting.
AU	6.2.3 and throughout	Tech n.	The acceptance criteria for the Damp Heat Cyclic test in both table 4.7.8 of Part 2 and clause A.4.3 of Part 1 is that: <ul style="list-style-type: none"> All functions operate as designed; and All errors shall be within the MPEs. It appears as though in several sections of Part 2, the acceptance criteria for this test has been changed to the change in error not exceed the significant fault value. For example, clause 6.2.3.	Correct all acceptance criteria to align with the requirements of Part 1 and Clause 4 of Part 2.		No change at this time. To be discussed in the immediate revision. Convener (Mar 2016): Agree that everything needs to be aligned between Parts 1 and 2. This will be reviewed by special team 4.
SE	7.2.1.1	edit	<u>Prelim Ballot Comment:</u> Change reference to R117-1 from 2.10.1 to 2.10.8 where "added gas up to the values.." is described or change text to "...allowed influence up to values in 2 10 1".			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss this in the PG meeting.
SE	8	Techn.	If an ancillary device is mandatory, any malfunction due to influence factors will result in a non-operating device. Is this acceptable?	Add influence tests.	A	No change needed at this time Convener (Mar 2016): Propose to discuss this in the PG meeting.

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
CECOD	8.1.1	gen	purely digital device	Definition is needed. Is a printer or a hard disk a purely digital device which is based on the construction a combination of mechanical and electrical parts?		<p>PCL suggestion: would suggest we define purely digital device as “an electronic device contributing to a measurement without doing time dependent data acquisition. By nature, this would exclude devices that are</p> <ul style="list-style-type: none"> - Doing Analog to Digital conversion (obvious time dependent information as it is only valid at the time it is taken) - Doing “on the fly” conversion of information with non recallable/memorized information - Acquiring pulses <p>Note: purely digital device is a WELMEC concept explained in relevant WELMEC guide</p> <p>This comment will be saved and fully considered during the revision of all three parts of R117 – probably belongs in R117-1.</p> <p>South Africa/Jaco: Maybe this comment should NOT be retained.</p> <p>Convener (Mar 2016): Propose to discuss this issue in the PG meeting. A reference in the discussion might be WELMEC guide 10.9.</p>
SE	8.5.2	edit	<u>Prelim Ballot Comment:</u> For second approach, change reference to 6.3.2.2. and 6.3.2.3.			To be discussed in the immediate revision. Convener (Mar 2016): Agreed. Change made.

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
FR	A.6.1	Tech	We should act a requirement about dispensers that have two maximum flowrates (e.g. : cars and trucks)	As a test method, - test the minimum and maximum flowrate of the MS when 1 meter - test the intermediate flowrates when several meters.		Agreed in Chicago. Agreed with the comment but no change at this time. This will be covered at first verification. Convener (Mar 2016): Agree in principle ... this will be reviewed/implemented by Special Team A.
SE	A.6.4.5	Techn.	One test is not enough.	Repeat twice=3 tests.		Agreed in Chicago Amended. Convener (Mar 2016): Agree in principle ... this will be reviewed/double-checked by Special Team A. (Section numbering has changed on this.)
AT	Annex A, A.6.4.3, A.6.4.4	tech	When it is once proven that the meter meets R117-1, table 2, line B over the flow range, then it is not so essential to test the fuel dispenser exactly at Qmin and Qmax, as required in a).	Cancel each a) and state in each d) "Perform the accuracy test at an approximate flow rate of Qmin / Qmax."		From CECOD/Phil: Almost OK with me. Would rather say Qmin +/- 5% and Qmax +/- 5% or something similar ...Qmax available Convener (Mar 2016): Propose to discuss this item during the PG meeting ... what needs to be tested during type approval, during initial verification and what can also just be evaluated. (ALL of the Annexes need to be aligned on this issue.)

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
AU	A-L.6.4.8.1 and A-L.6.4.8.2		To comply with OIML R117-1 clause 5.5.2 does not necessarily require an air separator. The test in A-L.6.4.8.2 should be identified as the test for air separators if they are fitted.	There should be a reference to having a control valve that closes as soon as vapour is detected and only reopening when the LPG has pressurised enough for it to be in a liquid state.		From CECOD/Phil: Such reference is called a differential valve, only proven way to refer to saturating pressure of fuel actually in the dispenser. To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss this item during the PG meeting ... what needs to be tested during type approval, during initial verification and what can also just be evaluated. (ALL of the Annexes need to be aligned on this issue.)
CECOD	B.3.2	tech	Complete emptying of the compartment of a road tanker (single compartment trucks only)	This test has to be done for every type of road tanker, delete (single compartment – trucks only). For multiple compartment trucks the test has to be done on one compartment.	B	Now covered by new solution in Section 7 Check this again in the immediate revision Convener (Mar 2016): Propose to discuss this item during the PG meeting.
CECOD	B 3.5	tech	Complete emptying of the hose (empty hose measuring system only)	Delete the complete paragraph. The empty hose is not under legal control because the point of transfer with a sight glass is direct downstream of the meter. Furthermore the hose is not fixed mounted to the measuring system and can easily replaced.	A	Leave for immediate revision. Convener (Mar 2016): Propose to discuss this item during the PG meeting.
AT	Annex B, B.3.5	tech	Acc. to R117-1, 2.14 the residual quantity shall not exceed ½ Emin. I doubt that the test method (by delivering MMQ with MPE = Emin) is capable to identify the applicable MPE = ½ Emin for the residual quantity.			Leave for immediate revision. Convener (Mar 2016): Propose to discuss this item during the PG meeting

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
SE	B.3.5	edit	In R117-1 2.1 the demand is a residue of liquid in the hose of max half of MSQD, no demand of repeatability.			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss this item during the PG meeting.
FR	Annex X – Ch. 2	tech	It could be good to add the gas separator / extractor to the drawing, in order to indicate it is not part of the meter.	Add the gas separator / extractor to the drawing.		Planned for the immediate revision. Convener (Mar 2016): This figure (that was in R117-2, Section X.2) ... has been moved ... and is now in R117-1 (Advice annex B.1.3). Agree to add the gas elimination device to the figure before the 2CD.
AU	Annex X.2.1	Gen.	The diagram showing what elements constitute the meter and what constitutes the measuring system could be included in the main body of the document. The same diagram is included in the OIML R 139 DR up for CIML vote.	Suggest moving the diagram into the main body of the document.		To be discussed during the immediate revision Convener (Mar 2016): See comment above.
NL-40	X.5.3.4	Edit.	Concerning this sub clause, referring to the comments by NL as presented by the convener in the last column of the compilation of comments on the 1CD, most of these decisions made appear not yet been implemented.	Please implement as indicated in this last column of the compiled comments ion the 1CD		Most incorporated Convener (Mar 2016): Please verify OK now.
AU	Annex X.5.4	Gen.	We appreciate the desire to retain the table, however could the references “N y”, “Y,n”, “N y n” or other combinations of “N” and “Y” which are a little confusing, be deleted and replaced with TBA or a “U” for “Undetermined”.	Please delete combinations of “N” & “Y” and replace with TBA or “U” for “Undetermined” or similar.		OK PG in Chicago: Agreed to remove the table but revisit it during harmonization of all parts of R117 Convener (2016): See comment below.

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JP	Table X.5.4	Tech	Table X.5.4 still remains with a strike-through. We agreed to delete this table at the meeting in 2013.	Delete table X.5.4 and it should not be reinstated.		<p>Prefer the AU proposal</p> <p>PG in Chicago: Agreed to remove the table but revisit it during harmonization of all parts of R117</p> <p>Convener (Mar 2016): The table that was found in (the old) section X.5.4 of R117-2 was very controversial – and consensus could not be reached on its contents. It was therefore decided in Chicago to remove it before publication (which was done).</p> <p>Plan to discuss it again (at least briefly) in Delft.</p>
AT	Annex XA, XA.6.4.6	tech	<p>The temperature conversion test for a fuel dispenser should be made in coincidence with R117-2, 6.3.1.1 (first approach) and 6.3.2.1 (second approach), that means that the respective test steps here shall be related to what is required in 6.3.1.1 and 6.3.2.1.</p> <p>It is quite unusual (disregarding here Coriolis meters) to generate the V_t-signal in another way than by pulse-simulation. It shall be born in mind that the tests shall be carried out at t_{max}, t_{middle}, t_{min} which is hardly feasible when generating the signal by the liquid itself which passes through the meter.</p> <p>There is no need for denoting the MPE as “MPEC”, if one follows strictly the concept of MPEs applicable for conversion.</p> <p>It shall be born in mind that line C is for the conversion device only. The converted indication shall comply with line A; an extra MPE (when the non converted indication is at the limit of A) for the converted indication in the sense of A+C is not admissible; in order to cope with that, the non converted indication has to meet (A-C), when conversion is present.</p>			<p>To be discussed in the immediate revision.</p> <p>Convener (2016): Propose to discuss this at the PG meeting.</p>

Country Code/ Organization	R117-2 Section	gen./ edit./ techn.	COMMENT	PROPOSED CHANGE	Priority	OBSERVATIONS OF THE CONVENER/ PROJECT GROUP
SE	X.A.6.4.6.2 g	Techn.	MPE for temperature reading is 0,5C according to R117-1, 2.7.2.2.1	Change to 0,5C.		To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.1	Techn	Add check of software version. Tests X.A-I.7.1.3 to X.A-I.7.1.7(and -9) belong to pattern approval not initial verification.			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.1.2 c and f	techn	Where does the demand of 5 sec at zero indication come from? Delete!			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.1.3 d	techn	Where does the demand of 5 sec at zero indication come from? Delete!			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.2.3 c and f	techn	Where does the demand of 5 sec at zero indication come from? Delete!			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.2.4 d	techn	Where does the demand of 5 sec at zero indication come from? Delete!			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
SE	X.A-I.7.2	Techn	Add check of software version. Tests X.A-I.7.2.4 to X.A-I.7.2.7 belongs to pattern approval not initial verification. Testing SSD together with the dispenser on site make more sense, but should not be necessary. If the SSD has passed pattern approval, these features have been tested. An alternative would be to check that all necessary parts for the payment modes are present.			To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.
AU	Annex X.A LPG	Tech.	Under the definition of measuring standard, the wording “Properly assess the ratio” is not specific enough. LPG blends used for Autogas applications can be broad. Field staff do not benefit from knowing the blend ratio, it is product density which has greater value.	Replace this text with “Special care shall be taken to properly determine the density of any Butane and Propane mix for it can influence accuracy of measuring standards”		To be discussed in the immediate revision. Convener (Mar 2016): Propose to discuss at the PG meeting.