

Collated comments, conveners and meeting participants observations

Date:2017-11-16

Document: TC 8/SC 7/p7/N034/CC

Project: OIML TC 8/SC 7/p7

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0001 AT					Austria has no further comments on the 1 CD of the Revision of R 139 "Compressed gaseous fuel measuring systems for vehicles".		noted
0002 DK					No comments!		noted
0003 AU	1	4.2.3	1	te	Why is it necessary to limit the number of meters in a measuring system? There may be advantages in designing a system that incorporates a dual metering arrangement; i.e. for high and low flows that results as part of a typical re-fuelling process. Also, does this prevent the use of a metered return line? At the very least it would appear that a metered return line would be considered a separate system, potentially requiring a separate approval.	We suggest removing the clause but retaining the associated note as guidance for 4.2.	1. This is a original, not amended clause 2. There is probably no system having dual metering arrangement for one hose Suggestion to PG not to amend PG decided not to amend. Leave this issue as the subject of the future revision if such systems come on the market.
0004 FR	1	5.2.1		te	<u>Follow-up comment FR-7 019</u> In-service verification depends on each national regulation. It would be preferable to define the instrument classes in relation to the applicable MPEs at type evaluation or initial verification, rather than in relation to in-service verification (which depends on each national regulation).	So, we propose to change the classes from 2; 3; 5 to 1,5 ; 2 and 4.	To be considered to use different class indications. Maybe Roman numerals or other characters Be aware classes in OIML are not exclusively coupled to percentages Japanese comment: Class 2, 3, and 5 are more understandable for users, because these values are actual errors for users. PG decided to change to : class 1.5, class 2 and class 4 (In OIML R 24 it is indicated that Roman numerals should only be used for classes related to absolute values)
0005 FR	1	5.2.1		ed	<u>Follow-up comment FR-9 021</u> Refused by convener. No additive comment.		noted
0006 FR	1	5.2.1		ed	<u>Follow-up comment FR-10 022</u> Note 5 reworded. No additive comment.		noted

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0007 AU	1	5.2.1	Table 1	ed	Under the column “Accuracy Class”, it is suggested that “General applicable” is change to “General Application”.	Under the column “Accuracy Class”, it is suggested that “General applicable” is change to “General Application”.	Suggested to leave to the BIML editor
0008 DE	1	5.2.2		ge	meter shall be capable of fulfilling all requirements without adjustment” need to be explained in more detail (see also comment to 3.4.1 of Part 2)	Insert a requirement: After the adjustment of the meter with hydrogen in accordance to 8.2 h) if necessary the adjustment parameters shall be set in the meter and shall be unchanged during all tests. The adjustment parameters shall be readable at the meter display without tools.	Part 1 (requirements) is not the place to specify the manner in which way the fulfilling of the requirement is to be verified/tested. It shall offer the requirement in rather general terms in which way Part 1 can be fit in national legislation. The way of testing is defined in part 2.This comment is dealt in part 2 sub clause 3.4.1 PG decided to amend Part 2, 3.2.1 g) to g) for measuring systems and meters a description of - all legally relevant parameters and their corresponding ranges, if applicable and if the system or meter comprises correction devices - the information on how the correction parameters are determined
0009 FR	1	5.3.2.3		te	<u>Follow-up comment FR-14 31</u> MMQ 1 kg looks acceptable for France whereas ratio between MMQ and maximum delivery is quite low (1:5)		noted
0010 AU	1	5.3.2.2 and 5.3.2.3	1	te	It is not clear why an exception has been made for Hydrogen here. While at present hydrogen system would be most applicable for vehicles, it is feasible that larger systems may be developed in future. I quote from clause 2 of this recommendation: “The Recommendation should not hinder innovation”.	Amend clause 5.3.2.2 and delete clause 5.3.2.3.	R 139 in its title and scope is applicable only for vehicles. It is feasible that the 1 kg MMQ can be met. Larger MMQ is considered not necessary for prevention of hindering future innovations. Suggested no change PG decided no change for hydrogen MMQ. Add “(not applicable to hydrogen measuring systems)” to the caption of Table 2.
0011	1	5.4.1		te	<u>Follow-up comment FR-15 33</u>	Ask for discussion in the next meeting in Delft.	This is a simplification considered having almost

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FR					Repeatability 2/3 MPE is different from repeatability requirement in R139:2014		no impact since it concerns a slight relaxation for the repeatability of the meter. The repeatability requirement of the system has not changed. It was agreed during the PG meeting in Yokohama. To be explained in the meeting During the meeting it was explained and France accepted after explanation PG: Not to amend
0012 AU	1	5.8.1	1	te	Australia supports the approach to provide exemptions for meters without moving parts. However, what would prove to be sufficient documentation to provide evidence of durability? Consideration should be given to including examples in order to aid national authorities in making consistent decisions regarding the application of the Recommendation.	Could some examples include: <ul style="list-style-type: none"> In-service histories of similar meter models and technologies; In-service durability testing of the model under examination (which may require provisional approval of the meter/system to allow it to be installed and used); Material and component durability testing; Theoretical analysis based on component testing or material characteristics; Computer simulations; Etc. Ideally these would need to be expanded upon with some actual examples provided.	This addition sounds useful It is suggested to discuss in the meeting whether to include these and/or similar examples. PG: - Add note to Part 2, 3.2.4 based on this proposal. - Amend the scope.
0013 FR	1	6.14.3		te	<u>Follow-up comment FR-16 35</u> When not corrected there is obviously a systematic deviation (displayed quantity always greater than delivered quantity). Contradiction with Note 1. Depressurized quantity looks great compared to MPE (for example for MMQ and class 3 : $\frac{1}{2} * E_{min} = 20 \text{ g}$ compared to MPE at MMQ = 40 g)	Ask for discussion and clarification during next meeting in Delft Proposal : Require either evaluation or measurement of depressurized quantity and removing depressurized quantity from the final display.	This comment needs to be explained at the meeting while there is seen no difference between the actual text of the sub clause and this request from France. There is seen no contradiction between the note and the sub clause continue discussion PG: Amend the second paragraph of 6.14.3 for CGF system and insert a third paragraph for hydrogen system.
0014	2		Table 5	te	<u>Follow-up comment FR-23 047</u>	Add MMQ test 7 in the list	Suggest to put Test 7 in separate sub clause, refer to

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FR					Table 5 and table 6 are not coherent since table 5 do not mention MMQ test n° 7		test 3 as well as to test 6 and to adapt table 8 by separation of test 7 from tests without sequential control PG: Make a separate table for Test 7. Delete Test 7 from Table 6. Make a correction in the caption of Table 5. <u>Implementation as mentioned above: Test 7 (MMQ) moved to new separate Table 7. Row added in Table 8 referring to Test 7 All Tables beyond Table 7 renumbered (old number + 1)</u>
0015 FR	2		Table 5	te	<u>Follow-up comment FR-24 048</u> No additive comment	To be discussed in Delft	noted; will be amended PG Same as above <u>Implementation</u> : Table 8 amended during the PG meeting to meet the contents of the proposed change.
0016 FR	2		Table 8	ge	<u>Follow-up comment FR-25 049</u> No additive comment	To be discussed in Delft	noted; to be amended PG: Amend Table 8. <u>Implementation</u> : Table 8 amended accordingly
0017 AU	2	2.1.2	Table 1	te	The footnote 1) indicates that DFA, CIWT and SMT are generally not applicable. Why would such methods be made applicable based on the availability of the software code? This simply provides motivations to design systems such that software is not accessible in the first place. Either DFA/CIWT/SMT are necessary methods or they are not, the accessibility of the software should not dictate the test methodology. We believe AD and VFTSw are sufficient methods and generally applicable. Although VFTSw could be replaced with VFTM.	Since DFA/CIWT/SMT are generally not applicable, it is suggested to remove them from table 1. This will provide greater consistency in understanding and application of the Recommendation.	This clause (note) was not amended during the present revision of R 139. Probably there is some misinterpretation while the software downloading to the instrument does not concern the accessibility of the code by the user or test engineer. It concerns the placing/uploading of new software/firmware on the instrument via a communication network. Probably some editorial solution can be found PG Sufficiently clear. Not to amend.
0018 FR	2	2.2.7.6 2.2.7.7		te	<u>Follow-up comment FR-27 056</u> Meters manufacturers consider that annex B is not detailed enough, (to develop meters and ask for certification).	Need for a more precise framework of the test program for the certification of hydrogen meters Proposal should come from manufacturers or meters	The Recommendation is not intended as a design standard for developing meters. It should be restricted to legal requirements and

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					AIR LIQUIDE will encourage manufacturers to participate to OIML discussion. <u>Example of rated conditions for certifying meters :</u> T° Before exchanger -20 / +40 °C T° After exchanger : -40 / +40 °C Pressure 0-875 bar or 1050 bar These conditions are today not reachable	testing laboratory. AIR LIQUIDE will try to encourage manufacturers to participate to OIML discussion	tests. The first two sentences of 2.2.7.6 provide sufficient information about how tests could be performed. This clause was not amended compared to the published version of OIML R 139 PG: Not to amend. Leave this issue as the subject of the future revision.
0019 DE	2	2.2.7		ge	H2 fuel dispenser uses 2 storage banks to reach the final Pv. This kind of system should be elaborated in the Recommendation. It is also to expect to have different H2 banks with different pressure levels in order to save energy costs in future.	Insert in clause 2.2.7 an appropriate statement and in table 8 tests for such cases.	To be amended to allow 2 storage bank testing PG: Not to amend. Two storage bank testing is already allowed. Table 8 amended accordingly
0020 AU	2	2.2.7.1	Table 4	ed	While Pst is defined in Part 1, Pstl, Pstm and Psth are not. Could these be defined for clarity?	Please define Pstl, Psstm and Psth.	agreed to add definitions
0021 FR	2	3.2.1		te	<u>Follow-up comment FR-29 058</u> Concept Life time estimation is not defined	The concept remains unclear. For a relevant estimate of the lifetime, factual elements and rated conditions (pressure, temperature) should be defined. (see also DE-7 060 comment)	The general specifications of the manufacturer apply PG: Avoid using “lifetime estimation” Amend Part 1, 5.8.1 and Part 2, 3.2.4 to describe the requirements in alternative expressions.
0022 AU	2	3.2.4	1	te	See AU comment regarding Part 1, clause 5.8.1.		See 0012 AU response Same as 0012 AU.
0023 DE	2	3.4.1		ge	A test of the meter for variable flow rates is not mandatory for H2 in the CD1 (see table 8), but different pressure ramps are possible (depending on ambient temperature for instance). Hence very different flow rates may occur during the filling process.	A maximum adjustment for the application of a meter in a hydrogen fuel dispenser in comparison to a calibration with other fluids may be used as an alternative to flow rate tests of the meter with hydrogen. This may avoid an unjustified adjustment which leads to a fulfilling of the MPE under certain ambient conditions (that means only the condition during the adjustment).	To be discussed during the meeting . Probably Table 8 needs some modifications in order to better indicate the applicable tests PG: Amend Table 8. Same as 0016. The test is applicable to all types of meters. however a note is added to indicate that the minimum delivery per filling phase should be more

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						“A meter used in a H2 fuel dispenser shall be calibrated in the whole rated operating flow rate range by a gas or liquid. After the factory tests with hydrogen the change of the meter results by an adjustment in accordance to part 1 8.2h) shall not exceed the value of the MPE of the complete metering system in comparison to the calibration results in the whole flow rate range by a gas or liquid.”	than 1 kg.
0024 CH	2	4.6.7.1		ed	Either of gravimetric method or master meter method should be used	Either the gravimetric method or master meter method should be used.	to be corrected to Either <i>a</i> gravimetric method or master meter method should be used.
0025 DE	2	Annex B		ge	A temperature test of a Coriolis meter by checking the zero point stability does not provide reliable results about the meter behaviour in the rated operating temperature range. The test provides only a hint of correct working but not evidence. Tests of the meter behaviour at the lowest density and lowest flow rate shall be mandatory in the complete temperature range. Such test provides more severe evidence that a meter works correctly under all ambient and gas temperatures	The manufacturer shall provide results of temperature test using gas at the lowest density and lowest flow rate which is relevant during the filling process.	There has not been made any changes to Annex B during the present project. The actual valid version of the Recommendation has been approved by CIML Specifying the obligation for manufacturer to provide test results is not a general accepted approach in OIML After the first paragraph of B.1, insert a sentence regarding 2.2.7.6. and tests using other fluids and conditions.
0026 JP	N/A	N/A	N/A	Gen.	Comments and proposals from Japan are already included in the First Committee Draft (1CD). Therefore, we have no additional comments to 1CD.	No changes are proposed.	noted
During the PG meeting CECOD input	2				CECOD has concerns about the vibration tests and the difference between R 117 and R 139 on this issue. This could result in the calculator of one dispenser system assembly combining e.g. diesel and CFG require to withstand a higher level of vibration for CGF than for diesel.	I is suggested to include both classes of vibration (M1 and M2) in OIML R 139 and harmonize on this issue with OIL R 117	PG: The PG is positive on harmonizing with OIML R 117 on this issue The implication of the requested harmonisation was reached by insertion of the option for an additional class M1 marking which implies no need for a vibration test This had to be inserted in the

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							requirements rated operating conditions table (R 139-1 table 2) in 5.5.2.f note 5 in 7.3 markings as well as in the related test in R 139-2 Table 15

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