

Comments received and convener observations

Date:2017-05-05	Document commented: TC 8/SC 7/p7/N014&N015	Project: OIML TC8/SC7/p7
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MB ¹	P ar t	Clause/ Subclause	Paragraph/ Figure/ Table	Type of comment ²	Comments	Proposed change	Observations of the convener(s)
IR-1 001	1			ge	At the moment, there is not any hydrogen refuelling station in Iran. Therefore We have no comment at this stage.	-	noted
JP-1 002	1			ge	Comments and proposals from Japan are already included in the First Working Draft (1WD). Therefore, we have no additional comments to 1WD.	No changes are proposed.	noted
FR-1 003	1		Scope	ge	Revision of R139-1 for hydrogen has been built for cars fuelling. Scope is here much larger (vessels, aircrafts, rail, boats). Are the technical requirements in line with this kind of transport ?	Larger vehicles will possibly need dispensers with higher flowrates (consequence for MMQ and verification means)	Noted At the moment not foreseen. Please provide information on innovations
FR-2 004	1		Scope	ed	Word “totalizing” was added in 3 rd paragraph	Need for precision about what is meant with “totalizing” (continuous totalizing = delivery of totalizing without reset to zero ?)	The Oxford dictionary indicates: <i>totalize (also totalise)</i> ►verb [with obj.] (usu. as adj. totalizing) combine into a total. This clause refers to R 139-1: 3.2.2 of which the contents should be sufficiently clear. However considering the use of “totalizing indicating device” in the figures there is an issue and a need to distinguish between “the totalizing for one delivery and the overall totalizing of a number of deliveries. “integration” may be a better term. Amended
FR-3 005	1		Scope	ge	No reference to SAE standard which defines how a hydrogen delivery should be managed	Add a reference to SAE standard (at least for information)	Managing a delivery is generally speaking not part of metrology legislation. Reference may be made in part 2
FR-4 006	1		Scope/ Note	ed	Wording could be improved	“Except for hydrogen” instead of “excluding for hydrogen” Keep “where necessary for the different gasses”	Amended
UK-2 007	1	01		ed	A brief description of Parts 1 and 2 is given the 3 rd and the 4 th paragraph. Part 3 is not described.	For consistency, give a brief description of Part 3, e.g. “Part 3 provides a Report format for type evaluation”	Considered redundant. No change
UK-3 008	1	02		ed	R117 bibliography reference is missing	Include bibliography reference within the scope of OIML R 117 [xxx]	There is no need for a strict reference while this is independent of the version of OIML R 117 and while it

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					"within the scope of OIML R 117"	Add in bibliography [xxx] Dynamic measuring systems for liquids other than water 2007 E	is a document published in the same listing on the OIML website No change made
UK-4 009	1	02		ed	Wording correction needed in the first sentence in the Note. "Excluding for hydrogen..."	Proposed amendment "Excluding for hydrogen..."	see FR-4
ZA-1 010	1	02	Par 1	ed	No need to say "in general"	The measuring systems that are covered by this	agree.
ZA-2 011	1	02	Par 3	ed	No need to say "in principal"	This Recommendation applies to all.....	agree
FR-5 012	1	04.01.1		te	Why removing the flow control system? We don't know precisely how filling is controlled on CNG stations (constant flow rate or constant pressure ramp).	It could be preferable to keep the two possibilities : flow control system or pressure control device	During the PG meeting it was indicated that all are pressure based. Re-inserted. <u>For discussion</u>
NL-1 013	1	04.01.1		ed	It is not clear in part 139-1 which listed parts could be separately evaluated and become type approved. 139-2 provides this information	Refer to this topic in the introduction of the Recommendation.	Editorial amendment made in the introduction
DE-1 014	1	04.02	Figure 1 revised and Figure 2	te	The compressor should be not mentioned because this is not part of the fuel dispenser, in the R storage tanks are mentioned which may be drawn in the figure	Replace "compressor" by "gas supply" or draw storage tanks in the figures	DE-1; DE-2; CH-1; NL-2; FR-22 and FR-19 more or less ask for optimizing the figure(s) and delete constituents which take no further part in the legal requirements. JP convener has produced amended figure "gas flow" is changed to "gas supply".
DE-2 015	1	04.02	Figure 1 revised and Figure 2	te	The adjustment device belongs to the meter (see definition)	Change figure	see DE-1 observation
CH-1 016	1	04.02.4	2	te	The gas flow can also come from storage tanks.	Omit the compressor in the figure	see DE-1 observation
NL-2 017	1	04.02.4	Figure 1 revised and figure 2	ed	Make clear what the difference is between the two systems (figure 1 and figure 2). Probably this is only the "Heat exchanging device" and the	Add a note to 4.2.4.: Note 2: The two figures are used only to enlighten the differences in the systems,. These concern	see DE-1 observation

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					"Depressurization correction device"	only the "Heat exchanging device" and the "Depressurization correction device".	
FR-21 043	1	Page 9	figure 1 (revised)	ed	"exclusive those for hydrogen"	Replace "exclusive" by "excluding"	agree
FR-22 044	1	Page 9	figure 1 (revised)	ed	Two schemes are not needed considering few differences between 2014 version and H2 version	We suggest to keep only one scheme with notes for hydrogen specificities (heat exchanging device) Modify box "Pressure control device" in "pressure or flow control device")	see DE-1 observation
FR-19 041	1	Page 10	figure 2	te	"Compressor" is described as a "mandatory device" (continuous box) but outside the system: Note that some systems don't have any compressor	Replace "compressor" by "buffer" or "storage" and make it more clear it is not a "mandatory device" Or delete "compressor" box	see DE-1 observation
FR-20 042	1	Page 10	figure 2	te	Text of legend 2 Why "highly" ? Text "vehicles" is not coherent with scope which is much larger	Precise or modify legend text	"highly" as presented in 1WD is deleted "vehicles" will be retained as it is. It should be interpreted "transport means" according to the Latin origin
FR-18 040	1	Page 10	figure 2	te	Pressure control device can be situated downstream the meter and the heat exchanger	Keep the possibility to have the pressure control device downstream the heat exchanger. Add note 1) (as for heat exchanger)	see DE-1 observation
FR-6 018	1	05.02.1		ed	Note 3: Difference between "in-service inspection" and "subsequent inspection" Is annual verification a subsequent verification or in-service inspection ?	Clarify or make the difference more obvious between these two operations	There is no "Subsequent inspection" mentioned in this clause. OIML V1 provides the definition of subsequent verification . OIML D 16 provides the definition of "in service" "Inspection" is in general and in legal metrology not coupled to a period of time See OIML V1 A.11 Considered no change needed
FR-7 019	1	05.02.1		te	The table does not allow to apply for hydrogen a MPE value of 2% for an subsequent (or in-service ?) verification	Consider this case	in-service verification does not exist. Indeed 2 % is not mentioned as is discussed and on purpose. The notes are considered provide sufficient information to the National authorities Considered no change needed

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FR-8 020	1	05.02.1		te	Are the measurement uncertainties recommended during the type evaluation and for the other control operations relevant in all cases with the current standard means ?		Measurement uncertainty is not dealt with in this clause. By the way : Participants in the PG are asked to provide comments on clauses and to provide a proposal for changes, based on their expertise. Please omit questions.
FR-9 021	1	05.02.1		ed	Note 4: “require” doesn’t seem to be appropriate	Note 4: replace “require” by “accept”	Not agreed. National authorities (legislators) define which accuracy is required in their country.
FR-10 022	1	05.02.1		ed	Note 5 : not clear enough	Reword	Indeed; Agreed and reworded
CH-2 023	1	05.02.2		te	...fulfilling all requirements without adjustment or modification during the relevant evaluation procedure.	If alternative fluids are used during the evaluation procedure, some adjustment may be needed afterwards and should be documented, based on previous evidence.	This is a general statement (requirement) which was not modified. It does not concern the manner in which conformity to the requirement is proven during the (type) evaluation where alternative fluids may be applied for that purpose. No change
DE-3 024	1	05.02.2		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: A meter used in H2 Fuel dispenser which was calibrated by other gases or liquids may be adjusted after factory tests with hydrogen. This procedure shall be part of the of the documentation. This adjustment parameter shall be readable at the meter display.	See Observation on CH-2
DE-4 025	1	05.02.3		te	Emin is elaborated only for class 1 -2	Insert table for different classes	Amended
FR-11 026	1	05.02.3		ed	“Inserting the statements of 5.2.1”	Add ‘for General application’ because figures are different if R _{MPE} is different for hydrogen	see DE-4
UK-5 027	1	05.02.3		ed	Space is needed between the text “[g;kg]”	Amend to: “[g; kg]”	agree
FR-12 028	1	05.03.2.2		ed	CGF What is it?	Add definition of CGF or clarify it.	Is defined in 3.5 abbreviations (published R139)
UK-6 029	1	05.03.2.2		ed	“CFG” is used in one or two places in the document but giving its meaning will aid translation of the document.	Propose adding the full meaning after “CFG” Compressed Fuel Gas	It says “CGF” and is defined in 3.5 abbreviations (published R139)

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FR-13 030	1	05.03.2.3		te	MMQ 1kg is related to dispensers for cars fuelling Scope of the standard is larger	Reduce the scope or introduce the possibility for higher MMQ ?	See response on FR-1. Higher MMQ is not necessary because a higher fueling flowrate for hydrogen is not feasible e.g. while restricted by SAE J2601.
FR-14 031	1	05.03.2.3		te	The MMQ for cars fuelling is set at 1kg for a maximum delivery of about 5kg. This ratio seems important to us, even if it is explained by the limits observed on the current assemblies.		noted
NL-3 032	1	05.03.2.3		ed	Add somewhat more clarity: The maximum value of the MMQ for hydrogen is 1kg.	The maximum value of the MMQ for all types of hydrogen measuring systems is 1kg.	accept
FR-15 033	1	05.04.1		te	Modification of requirement for repeatability for CNG R139:2014 : Repeatability 0,6% New proposal : 0,66% for CNG	Require 0,6 x MPE	This is as suggested by the PG during the meeting.
ZA-3 034	1	06.01.4	Par	te	If a refueling station has more than one instrument installed on a bank, it might cause the flowrate to drop below the minimum flowrate when other instruments are being used for refueling.	6.1.4 In the case of measuring systems with a common bank of vessels, the minimum flowrate shall be maintained simultaneously by all measuring systems and the maximum flowrate shall not be exceeded by an individual measuring system when the others are switched off.	agreed; new sub clause inserted
FR-16 035	1	06.14.03		te	One of the important issues is the treatment of hydrogen counted, but not distributed to the customer because of depressurization. The document sets a limit for the need for correction.	Is this value relevant in all cases?	The text as presented is considered adequate for the moment. Note that the correction for depressurization is described in Annex B in 1CD. <u>Topic may need further discussion</u>
UK-7 036	1	06.14.04		ed	Meaning of "P _{max} " and "P _{min} " should be given, again to aid translation of the document.	Propose adding meaning as follows: "Pmax" maximum pressure "Pmin" minimum pressure	Is already defined in 3.5 abbreviations (see published R139)
KR-1 038	1	6		te	It can be used the micro-computer metering system for CNG and Hydrogen fuel systems. Adding Clause, 6.15 data transmission controlled by micro-computer device. When the abnormal conditions is occurred, for example, gas leak or explosion, micro-computer detect the gas leak, gas is automatically closed.	6.15, data transmission controlled by micro-computer device.	This Recommendation concerns the legal requirements concerning the metrology of an instrument or installation. Safety issues shall be dealt with in safety standards for this kind of installation. If changes are needed it would require a more precise proposal.
FR-17	1	11.03		te	Provide if necessary specific provisions for on-site		These are issues which probably do not concern legal

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037					verification (safety, calibration means ...)		metrology though if so are too much in detail on the testing and only to be implemented in part 2
DE-9 039	1	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.	Further discussion is needed.	Noted To be discussed (This comment concerns Part 2, not Part 1). <u>Topic may need further discussion</u>
IR-2 045	2			ge	At the moment, there is not any hydrogen refuelling station in Iran. Therefore We have no comment at this stage.	-	noted
JP-2 046	2			ge	Comments and proposals from Japan are already included in the First Working Draft (1WD). Therefore, we have no additional comments to 1WD.	No changes are proposed.	noted
FR-23 047	2		Table 5	te	Why is there any test at MMQ described in Table 5? Assume you mean "Why isn't there any test at MMQ described in Table 5?"	Add MMQ test 7 in the list	Considered not needed, the MMQ test is in table 6 and referred to in table 8 <u>Topic may need further discussion</u>
FR-24 048	2		Table 5	te	Tests with sequential control in R139:2014 are related to 3-banks station. In H2 station, only 2 banks can be available. During discussion in Yokohama only option with one bank was discussed	Adapt this paragraph (or create a new one for hydrogen specificity with 2-banks station) Need definition of specific tests with sequential control for hydrogen fuelling - modification of §2.2.7.2 or adding a new paragraph - modification of table 8 (specific column)	to be discussed
FR-25 049	2		Table 8	ge	This table is not clear from the beginning; this could be the opportunity to clarify it... Not clear for example if test 2.2.7.7 is compulsory or not No MMQ test for station with sequential control	Modify deeply this table Proposal for simplification : only precise for test 6 that is not applicable for H2	to be discussed

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FR-26 050	2		Table 8	te	Note 3	We would suggest something like: "The order of tests is not important. It can be rearranged to minimize the total duration of test (for example to perform a full defueling during night)".	agree: text to be drafted
ZA-4 051	2	02	Par 1	ed	No need to say "in general"	The measuring systems that are covered by this	agree
ZA-5 052	2	02	Par 3	ed	No need to say "in principal"	This Recommendation applies to all.....	agree
DE-5 053	2	02.02.7		ge	A H2 fuel dispenser near Yokohama uses 2 storage banks to reach finally Pv. This kind of system should be elaborated in the R. 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.	Conveners consider this change is not necessary. <u>Topic may need further discussion</u>
DE-6 054	2	02.02.7.5		te	A durability test of a meter without moving parts is not needed only if 3.2.1 q provide evidence for a sufficient long term stability and life time	Insert additional requirement	a requirement cannot be implemented in part 2. R 139-1, 5.8.1 amended instead
UK-8 055	2	02.02.7.5		ed	Wording of the first sentence could be better "...require the underneath durability test..."	Propose amending as follows: require the underneath following durability test	accepted; amended
FR-27 056	2	02.02.7.6 2.2.7.7		te	Testing meters at the limits of meter's field operation seems not possible today in laboratory	Need a more precise framework for test program and more pragmatic if we want to give possibility to certify meters for hydrogen	Please forward your proposed changes
FR-28 057	2	03.02.1		ed		Last paragraph: replace "where" by "when"	sentence amended
FR-29 058	2	03.02.1		te	R139-2 introduces a concept of "life time estimation" which is not clearly defined	Add a definition of this concept	The concept can be found in literature having a broad scope. Its use in the Recommendation concerns this broad scope and therefore should not be restricted by a definition. To further indicate the wide scope the clause has been amended by inserting the word "some" .
UK-9 059	2	03.02.1		ed	Unnecessary full stop after the last number (according to 2.2.7.5.)	Remove the full stop (according to 2.2.7.5-)	accepted; amended
DE-7 060	2	03.02.1 q		te	The life time estimation should be based on tests with increased ambient temperature of the electronics and	Insert a note	For a better overview a separate subclause is made The request to base on 2 tests would be too

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					accuracy tests after pressurisation cycles		restrictive and rather much detail. A manufacturer should provide some lifetime estimation including all evidence. Restricting to only two tests would rather weaken the statement (maybe mention these tests as examples)
DE-8 061	2	03.04.1		ge	A test of the meter for variable flow rates is not mandatory for H2 in the WD now (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 fluid calibration 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). “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 shall not exceed the value of the MPE of the complete metering system in comparison to the calibration in the whole flow rate range”	Considered not relevant for the small quantities measured by the H2 systems. to be discussed
CH-3 062	2	03.04.1	8	te	Test at variable flow rate	Not testing is envisioned, although various pressure ramps or initial temperature will lead to different flow rate. Calibration using alternative fluids should be considered.	Correct, there is no distinction between variable flow or steady flow. During testing the actual practice is simulated and this is achieved through the test procedures as described in tables 4-6.
NL-4 063	2	03.04.1	Table 8	te	Note 3: it is not clear what is meant with the word “contiguously” The goal is that the tests can be done in any order and do not have to follow each other in a defined order. This is the same with other systems than hydrogen, like CNG dispensers. Related to sub clause 3.5.3.	Indicate that: The test sequence is not defined. The tests should be performed in the best practical way maintaining similar conditions.	See FR-26 ; accepted
FR-30	2	03.05.3		ge	If a hydrogen measuring system is using a sequential	We would mention in table 8 that Test 6 is not	The sub-clause is similar formulated as 3.5.1 and 3.5.2

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064					control device, there is no need to add a dedicated part. This paragraph describes the content of table 8 (not useful)	mandatory / not applicable for hydrogen measuring system.	and indeed like these sub-clauses describe the contents of table 8.
ZA-6 066	2	04		te	If we consider including the test for multiple instruments installed on a common bank, we will need to include a test at the time of initial verification.	The test shall only be conducted during initial verification of measuring systems with a common bank of vessels or where an existing installation has been modified by the addition of a measuring system, to ensure that the installation has the capability of maintaining the minimum flowrate simultaneously through each measuring system.	In principle agreed. A more precise proposal is requested
NL-5 065	2	05		ge	This is not a requirement and should therefore be moved to R 139-1	Move to Part 1	No change needed
AT-1	1			ge	no comments		noted
CA-1	1			ge	no comments		noted
PL-1	1			ge	no comments		noted
AT-2	2			ge	no comments		noted
CA-2	2			ge	no comments		noted
PL-2	2			ge	no comments		noted

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