ISO/TC 197
Hydrogen technologies

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ISO DIS 14687 Collated Comments

Document type:	Other committee document
Date of document:	2018-09-24
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No. of pages:	8
Background:	Here are the collated comments for the ISO DIS 14687 as per the ballot results in N 1022. Date of vallot closing is 03-Sept 2018. There are 8 pages exclufint title page.
Committee URL:	https://isotc.iso.org/livelink/livelink/open/tc197

Template for comments and secretariat observations

Date:2018-09-19	Document:	Project:

Line number	MB/ NC[1]	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
1.	**	General		ed	An edited file of the DIS has been prepared by ISO/CS.	Please use the DIS edited file as a basis for any further drafting.	
2.	AR	Foreword		Ed	The plural of annex is “annexes”, therefore the word should be corrected in the following paragraph: “The Annex A and C of ISO 14687-2 were removed and the contents were integrated respectively into the Annex A and Annex C of ISO 19880-8;”	Correct the paragraph to be read as follows: “The Annexes A and C of ISO 14687-2 were removed and the contents were integrated respectively into the Annex A and Annex C of ISO 19880-8;”	
3.	FR Sec. corrected	Foreword		ed	“ISO 14687 was prepared… Part3: xxx”	This document was prepared by combining and revising the following three standards: -ISO 14687-1, Hydrogen fuel - Product specification - Part 1: All applications except proton exchange membrane (PEM) fuel cells for road vehicles -ISO 14687-2, Hydrogen fuel - Product specification - Part 2: Proton exchange membrane (PEM) fuel cell applications for road vehicles -ISO 14687-3, Hydrogen fuel - Product specification - Part 3: Proton exchange membrane (PEM) fuel cell applications for stationary appliances” To be checked with Secretariat but maybe the year of the publication of these three standards should be given	
4.	FR Sec. corrected	Foreword	All	ed		Think about giving the year of publication of the standards, in particular when sections or annexes are quoted.	
5.	FR Sec. corrected	Introduction	2	ed	What is “Pt-loading”	Explicit the term “Pt”	
6.	FR Sec. corrected	Introduction	5	ed	Not so common to have this kind of text in ISO standards. Rephrase	“This document reflects the state of the art at the date of its publication. It will be revised if needed.”	
7.	JP	Introduction	1st PP	ed	Typo: “a combination the three former standards”	a combination of the three former standards	
8.	JP	Forward	1st bullet in the last PP	ed	Typo: “ISO 14687-1, 2 and -3”	ISO 14687-1, -2 and -3	
9.	JP	2	2nd PP	ed	“Fueling” has been unified to “Fuelling” in the series	Change “Fueling” to “Fuelling”.	

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					of station standards.	Request the WG28 convener to change the title of ISO 19880-8 and its contents for this wording.	
10.	US	2		TE	Why isn't ISO 21087 a normative reference? Add to section 2. Without this document, 14687 is not usable. If necessary delay 14687 until 21087 is published.	ISO/DIS 21087, *Gas analysis -- Analytical methods for hydrogen fuel -- Proton exchange membrane (PEM) fuel cell applications for road vehicles*	
11.	**	3		ed	If the definition for one term refers to other terms in Clause 3, the referred terms should be italicized and the entry numbers should be indicated in a pair of brackets that follow. Example: **3.3** **contaminant** impurity that adversely affects the components within the *fuel cell system* (3.8) or the hydrogen storage system	Please add indications of cross-references in the definitions.	
12.	FR Sec. corrected	3.1		ed		Explicit PEM or add a section for Symbols Then the Note 1 below Table 1 is not needed.	
13.	JP	3.13		ed	No word set of "irreversible effect" is in the main document.	Change "irreversible effect" to "irreversible (effect, degradation)".	
14.	**	3.13 & 3.18		ed	ISO/IEC Directives, Part 2, 2018, 16.5.4 "Only terms which are used in the document shall be listed in the terms and definitions clause."	Please add usage of the terms or remove them from Clause 3.	
15.	JP	3.17		ed	Need clarification for the stationary application	Add "a fuel cell or" before "a fuel cell system" which reads; "solid or liquid such as oil mist that can be entrained somewhere in the delivery, storage, or transfer of the hydrogen fuel entering a fuel cell or a fuel cell system"	
16.	US	3.17		ED	Re-word to improve understanding.	solid or liquid such as oil mist that can be entrained somewhere in the generation, delivery, storage, or transfer of the hydrogen fuel to ~~entering~~ a fuel cell system	

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17.	JP	3.18		ed	No word set of “reversible effect” is in the main document.	Change “reversible effect” to “reversible (effect, degradation)”.	
18.	JP	3.20		ed	The wording of this term is not in the main document. Also, the definition is not clear.	Chang the term to “fuel cell power system (PEM fuel cell for stationary applications) and move the sub-clause to 3.9. Align the following sub-clause numbering. Change the whole sub-clause as following which reads; “3.9 fuel cell power system (PEM fuel cell for stationary applications) self-contained assembly of integrated PEM (proton exchange membrane) fuel cell systems used for the generation of electricity which is fixed in place in a specific location, and which is used in applications such as: distributed power generation, back-up power generation, remote power generation, electricity and heat co-generation for resident and commercial applications, typically containing the following subsystems: fuel cell stack, air processing, thermal management, water management and automatic control system Note 1 to entry: For the purposes of this standard, the PEM fuel cell power system does not contain a fuel processing system due to the location of the boundary point.”	
19.	FR Sec. corrected	3.4		ed		“(PEM fuel cell for stationary applications)” should be in bold.	
20.	JP	5.1	Table 2	Ed	Numerical expression of 0.2 before µmol/mol in line c in the bottom box is not in line with the ISO rules.	Replace 0.2 with 0,2.	
21.	FR Sec. corrected	5.3		ed	“utilizing”	Replace by “in accordance with”	
22.	FR Sec. corrected	5.4		ed	If you quote the Clause 9 of ISO 19880-1, then the year of publication of the standard shall be added	Do not quote the Clause or add the year of publication.	
23.	AR	5.5		Ed	Correct the error in the paragraph changing the	Rewrite as follows:	

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					word Grace D: "The quality assurance methodologies to define the quality assurance plan for assuring the quality of the gaseous hydrogen as required by this standard (Grace D) at the fuelling stations is given in ISO 19880-8."	The quality assurance methodologies to define the quality assurance plan for assuring the quality of the gaseous hydrogen as required by this standard (Grade D) at the fuelling stations is given in ISO 19880-8.	
24.	JP	5.5		ed	Grace of (Grace D) is a typo for Grade D.	Change "(Grace D)" to "(Grade D).	
25.	FR Sec. corrected	6.1	Note 1	ed	As written, the Note contains a requirement and Annex A is informative.	Replace by "Annex A gives a guidance for the selection of the boundary point"	
26.	FR Sec. corrected	6.1	Table 3 NOTE	ed	The Note cannot contain a requirement	Rephrase the sentence. "shall" cannot be used in the notes.	
27.	FR Sec. corrected	6.2			This clause does not bring useful information for the user of this document.	Delete	
28.	FR Sec. corrected	6.3.1	1	ed	The term "Subclause" is not needed.	Just use "specified in 6.4"	
29.	FR Sec. corrected	6.3.1	2	ed		Replace "(Table 3)" by "as specified in Table 3"	
30.	FR Sec. corrected	6.3.1	1	ed	Is it acceptable according to ISO rules to have a requirement "shall" with alternatives subject to "written agreement between the supplier and the customer"	To be checked with ISO and reworded if needed	
31.	FR Sec. corrected	6.4.3	last §	ed	"Measures shall be taken to avoid hazardous situations as per ISO/TR 15916" As written, this sentence makes the use of ISO/TR 15916 mandatory and therefore it should be a normative reference which is probably not the intent.	Rephrase, as an example the following sentence is proposed: "Measures shall be taken to avoid hazardous situations. Guidance is given in ISO/TR 15916"	
32.	US	6.4.3	Note	ge	The note includes requirements, which is not per ISO drafting requirements. Also, current text needs to be reworded for clarification and guidance would be appreciated by users of this standard.	Reformat note to regular text. "Attention shall be paid to ensure that the sampled hydrogen is not contaminated with residual gases inside the sample container by **cleaning and** evacuating it. If evacuation is not possible, ~~the~~	

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						~~sample container shall be cleaned using~~ repeated purge cycles **may be used to remove contaminants**. For additional information on cleaning procedures, see ISO/DIS 19880-1 and ASTM D7606-17."	
33.	US	6.4.3	2nd pp		High pressure & possible asphyxiation are also hazards of sampled gases, but not toxicity. Surprised to not see a reference to ISO DIS 19880-1 where the sampling hardware and procedures are defined/discussed. It seems far more applicable than ISO 15916.	Revise wording to read: "Sampled gases are pressurized, flammable and potentially asphyxiants. Measures shall be taken to avoid hazardous situations in accordance with ISO/DIS 19880-1."	
34.	JP	7.1	Table 4	Ed	Numerical expression of 20.000 and 1.000 in the Total gases line is not in line with the ISO rules.	Replace 20.000 and 1.000 with 20 000 and 1 000 respectively.	
35.	JP	7.1	Table4、b	ed	In Table 4, all units of total gases in impurities are expressed in µmol/mol. But only b is expressed in %. In order to compare the constituents easily, it is better to use the same unit (µmol/mol) as others.	Add (19 000 µmol/mol) and read: "b Combined water, oxygen, nitrogen and argon: maximum mole fraction of 1,9 % (19 000 µmol/mol)."	
36.	FR Sec. corrected	7.2.1		ed		The term "Subclause" is not needed.	
37.	FR Sec. corrected	7.2.1			Is it acceptable according to ISO rules to have a requirement "shall" with alternatives subject to "written agreement between the supplier and the customer"	To be checked with ISO and reworded if needed	
38.	FR Sec. corrected	7.2.1		ed	the ISO 21087 is not done for the specifications of table 4	delete the note	
39.	FR Sec. corrected	7.2.3		ed	"Lot" is usually referred to as "batch" in other documents related to H2 in TC197	replace "lot" by "batch"	
40.	AR	7.2.3.2		Te	Lot definitions are missing. According to the preparatory stage of this document, the following points should be used here: Lot acceptance tests shall be performed on the	Add the following points within this clause: Lot acceptance tests shall be performed on the hydrogen in accordance with one of the following: a) no specific quantity, or any quantity of hydrogen agreed upon between the supplier and the	

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					hydrogen in accordance with one of the following: a) no specific quantity, or any quantity of hydrogen agreed upon between the supplier and the customer; b) all of the hydrogen supplied, or containers filled, during the contract period; c) all of the hydrogen supplied, or containers filled, during a calendar month; d) all of the hydrogen supplied, or containers filled, during seven consecutive days; e) all of the hydrogen supplied, or containers filled, during a consecutive 24-h period; f) all of the hydrogen supplied, or containers filled, during one continuous shift; g) all of the hydrogen supplied in one shipment; h) all of the hydrogen supplied in one delivery container; i) all of the hydrogen in the container(s) filled on one manifold at the same time.	customer; b) all of the hydrogen supplied, or containers filled, during the contract period; c) all of the hydrogen supplied, or containers filled, during a calendar month; d) all of the hydrogen supplied, or containers filled, during seven consecutive days; e) all of the hydrogen supplied, or containers filled, during a consecutive 24-h period; f) all of the hydrogen supplied, or containers filled, during one continuous shift; g) all of the hydrogen supplied in one shipment; h) all of the hydrogen supplied in one delivery container; i) all of the hydrogen in the container(s) filled on one manifold at the same time.	
41.	FR Sec. corrected	7.2.3.2		ed	no text in the paragraph	delete it or add a sentence	
42.	**	7.3.2 & A.3		ed	TECHNICAL MANAGEMENT BOARD RESOLUTION 70/2018 For all ISO deliverables, statements that include an explicit requirement or recommendation to comply with any specific law, regulation or contract (such as a normative reference to such requirements), or portion thereof, are not permitted.	Such statements/expressions removed in the DIS edited file.	
43.	AR	Foot note c	Table 2	Ed	The value under point “c” should be expressed using comma instead of decimal point c Sum of measured CO, HCHO and HCOOH shall not exceed 0.2 µmol/mol.	Rewrite the text of point “c” as follows: c Sum of measured CO, HCHO and HCOOH shall not exceed 0,2 µmol/mol.	
44.	AR	Foot note f	Table 2	Ed	Avoid redundant verbs in the following paragraph: “Particulate includes solid and liquid particulates including oil mist. “	Change the word “includes” by “comprises”: “Particulate comprises solid and liquid particulates including oil mist. “	

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45.	FR Sec. corrected	A.2	3	ed	"cylinders or tubes trailers" Do we talk about cylinders (as single cylinders) or cylinder trailers?	If we talk about cylinder trailers, remove the "s" at the end of "cylinders"	
46.	**	A.3	Figure A.2	ed	**ISO/IEC Directives, Part 2, 2018, 28.5.3** "Figures shall be language neutral in order to facilitate translation, using key references or figure footnotes instead of textual descriptions (in accordance with ISO 6433)."	Redraft Figure A.2 in compliance with the rules in Directives Part 2.	
47.	AR	ANNEX B		Ed	"Rational" is wrongly used and should be replaced by "Rationale"	Replace "Rational" by "Rationale" in the title of this Annex	
48.	FR Sec. corrected	Annex B	title	ed		Replace "Rational" by "Rationale"	
49.	JP	Annex B	B.3	Ed	Numerical expression of 100.000 before hours in the last line is not in line with the ISO rules.	Replace 100.000 with 100 000.	
50.	JP	Annex B	B.7	Ed	Numerical expression of 100.000 before hours in the last line is not in line with the ISO rules.	Replace 100.000 with 100 000.	
51.	US	B.3	1	ed	The following statement seems a bit odd to be in this annex. "In the future, if long-term durability such as 100.000 hours is desired, it is necessary to review the value."	Delete this sentence.	
52.	**	Figures		ed	Please provide revisable files for all figures.	Guidelines for the submission of text and graphics to ISO/CS are available in the Drafting standards section on iso.org: https://www.iso.org/drafting-standards.html	
53.	**	Bibliography		ed	It's not a rule, but it's good practice to only list references in the bibliography that have been mentioned in the text.	Please removed references that are not mentioned in the text if possible.	
54.	FR Sec. corrected	Bibliography	[41] [45] [47]	ed	At the end of the references there is "</edb>" or "</jrn>"	Remove "</edb> and "</jrn>"	

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55.	US	Bibliography		te	ASTM D1945-03 and ASTM D1946:1990 are listed in the bibliography; however, ASTM D7833-14 is not listed. ASTM D7833-14 is a companion standard test method to Test Method D1945 and Practice D1946 differing in that it incorporates use of capillary columns instead of packed columns and allows other technological differences. It is likely that test laboratories will opt for the capillary column based test method as it incorporates use of more modern technology and provides better analytic performance than the older methods. I strongly suggest adding use of D7833-14 as an option to this and ISO 21087.	Add: "ASTM D7833-14 *Standard Test Method for Determination of Hydrocarbons and Non-Hydrocarbon Gases in Gaseous Mixtures by Gas Chromatography*	
56.	FR Sec. corrected	Table 4	Column constituents	ed		Add the formula (epl N2 for nitrogen) since they are given in some other tables such as Table 3 to make consistency.	

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