

1	2	(3)	4	5	(6)	(7)
MB <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
JP			ge	It is recommended to gather the information regarding the actual H2 fuel quality for FCV in the market among the countries		
JP	4.3	Table 1	te	FC test data on halogenated compounds are needed to determine their specifications for the DIS preparation.  0.05 ppm should be unrealistic because it is much lower than the limit of quantification even for the highest analysis technologies among the countries.		
JP	4.3	Table 1	te	FC test data on particulates concentration are also needed to determine its specification for the DIS preparation.		
JP	4.3	Table 1	te	It is suggested to revise the specification of the total hydrocarbon. The exemption should be applied to other inert hydrocarbons if there are data to support those.  H2 storage system using organic hydride may generate C2, C3 hydrocarbons.		
JP	4.3	Table 1	te	There is no specification for oil mist. Input from fuel supplier is needed to limit this item in table 1.		

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**NOTE** Columns 1, 2, 4, 5 are compulsory.

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FR	4.3 Limiting characteristics  Table 1		TE	As the table contains many not measured components by the gas suppliers or components for which the effective effect on fuel cells is not really known, the table should be changed	Introduction of two types of components.  1 “Critical components”: Are critical for the application (i.e. leading to degradations at threshold values) and must be measured by a traceable method (i.e. using traceable standards)  2. “Significant components”: Not proven to effect fuel cell performance at threshold level. Measured in order to confirm that they fall below a certain threshold.  • Measured by an indicative method (not traceable), usually not using standards.  • If they go above the threshold level, then they must be measured by a traceable method	
FR					The fuel grade is defined by  - the H2 fuel index (requested)  - the critical components (requested)  - the significant components (recommended)	
FR					Regarding Table 1, could defined as  Critical component: H2S (or total sulphur compounds?), CO, NH3, particulates?  Significant components: CO2, Formaldehyde (HCHO), Formic acid (HCOOH), Total halogenated Compounds	
FR	4.3 Limiting characteristics  Table 1		TE	There is no reference on how the values in the tables have been defined (from experience, measurement limits...)	Precise in annexe the rational of the defined values of the different components in the table	

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AR	5.1.2.1		Ed	In the second paragraph: "The analytical requirements..." the word the after a comma is written in capital letter	Change the capital letter in the word "The" by lower case character	
AR	6.3		Ed	The word "contaminated" in not properly written	Correct the spelling	
AR	7		Ed	The following paragraph should be corrected:  "Analytical methods not indicated below are also acceptable if their performance are equivalent to the methods indicated below."	The word "performance" shall be written in plural form	
FR	7. Test methods		ED	Following previous comments on table 1, the components no more mentioned should be removed		
US	7.4 part b		te	The measurement method should be more specific	Such as: electric- or acoustic-resonator type	
US	7.4 part a		te	Editorial	Dew-point analyzer may be changed to chilled-mirror hygrometer. The sentence may be revised since an observation of the formation of condensation might be subjective.	
AR	7.9		Ed	Correct the following paragraph:  "Use a catalytic methanizer gas chromatograph equipped with a flame ionization type detector such as that described in 7.5 b)."	Replace "ionization" by "ionization"	
AR	7.14		Ed	Correct the following paragraph:  "The ammonia shall be removed	Change the word "determine" by "determined"	

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				completely by absorption in the appropriate absorbing solution and determine with an ion chromatography such as that described in 7.13.”		
AR	7.15		Ed	Correct the following paragraph: “The total halogenated compounds shall be removed completely by absorption in the appropriate absorbing solution and determine with an ion chromatography such as that described in 7.11.”	Change the word “determine” by “determined”	
AR	7.17		Ed	The word “flown” should be check it	Use the right past participle	
JP	Annex A		ge	It only describes the H2 production process utilizing the SMR/PSA process for natural gas.  It is necessary to cover the process that applies to the hydrocarbon feedstocks other than natural gas.		
AR	A 1		Ed	The structure of the following paragraph should be reviewed for better understanding:  “The purpose of this recommended practice is to provide a guideline to prove the hydrogen fuel quality meets the impurity limitations listed in Table 1...”	Rewrite the paragraph	
AR	B 9		Ed	Review how the following paragraph is written:  “If a more sensitive standardized methodologies become available, revised threshold values should be used after	Rewrite the paragraph as follows:  “If more sensitive standardized methodologies become available, revised threshold values should be used after validation.”	

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<b>Compilation of comments received on the committee draft ISO/CD 14687-2 Hydrogen Fuel — Product Specification — Part 2: Proton exchange membrane (PEM) fuel cell applications for road vehicles</b>	Date: 2009-07-16	ISO/TC 197 <b>N437</b> Annex A
	Document: ISO/CD 14687-2 (ISO/TC 197 N417)	

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				validation.”		
AR	C 2		Ed	Probably Table 2 should be renamed	Rename Table 2 as Table C 2 Change Table 2 by Table C 2 when appropriated within the text	
JP	Annex C		ge	Information regarding the limits of detection and quantification need to be gathered among the countries to reach consensus for the numbers in Table 2.		
AR	Bibliography		Ed	Correct the title of the Technical Report: "Basic consideration for safety of hydrogen systems"	Change the title as follows: "Basic consideration for the safety of hydrogen systems"	

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