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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonization of Vehicle Regulations

Working Party on General Safety Provisions

Ninety-sixth session  
Geneva, 4 - 8 May 2009  
Item 11 of the provisional agenda

REGULATION No. 110  
(Specific components for CNG)

Proposal for draft amendments to the Regulation

Submitted by the expert from the International Organization for Standardization \*/

The text reproduced below was prepared by the expert from the International Organization for Standardization (ISO) in order to amend the text of the Regulation with regard to the harmonization of fuelling connectors. It is based on informal document No. GRSG-95-25 distributed during the ninety-fifth session of the Working Party on General Safety Provisions (GRSG) (ECE/TRANS/WP.29/GRSG/74, para. 50). The modifications to the current text of the Regulation are marked in bold or strikethrough characters.

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\*/ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

A. PROPOSAL

Insert a new paragraph 17.9.4., to read:

**"17.9.4. For vehicles of categories M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> and N<sub>3</sub> 1/, the filling unit (receptacle) shall comply with the drawing specifications detailed in Figure 2 of Annex 4F or with the drawing specifications detailed in Figure 1 of Annex 4F. "**

Annex 4F,

Paragraph 2.1., amend to read:

"2.1. The filling unit shall comply with the requirements laid down in paragraph 3. and shall have the dimensions of paragraph 4., ~~if applicable.~~"

Paragraph 2.2., amend to read (including the insertion of a new footnote 2/):

"2.2. Filling units designed in accordance with ISO 14469-1 first edition 2004-11-01 1/ **or ISO 14469-2:2007 2/** and meeting all the requirements therein are deemed to fulfill the requirements of paragraphs 3. and 4. of this annex."

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**2/ Road vehicles — Compressed natural gas (CNG) refueling connector — Part 2: 20 MPa (200 bar) connector, size 2"**

Paragraph 4.1., footnote 2/ should be renumbered as footnote 3/

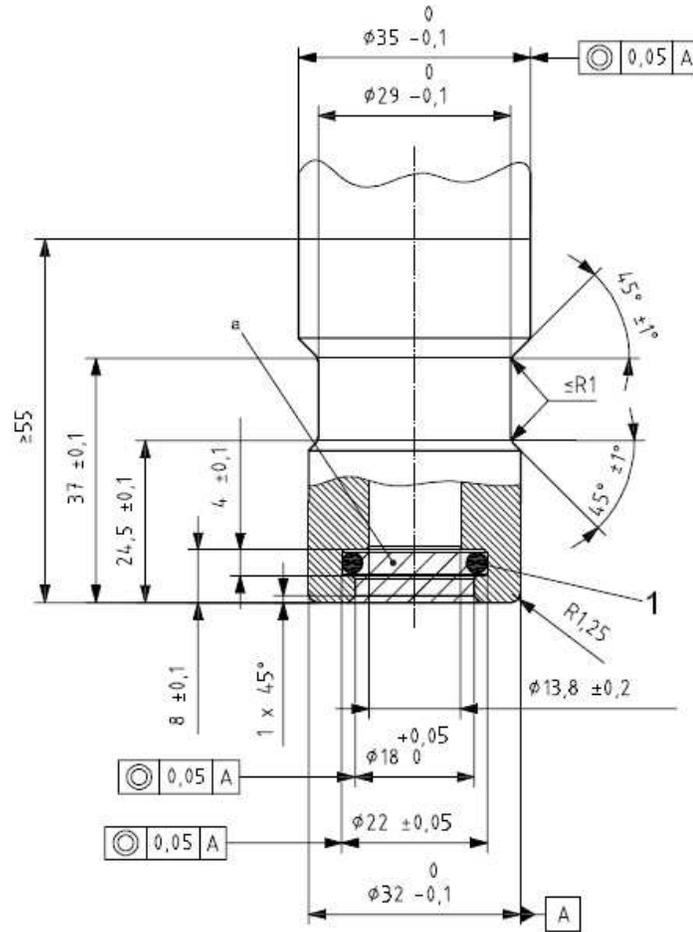
Insert a new paragraph 4.2., to read:

**"4.2. Figure 2 shows the dimensions of the filling unit for vehicles of categories M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> and N<sub>3</sub>. 3/"**

Insert a new Figure 2, to read:

**"Fig. 2: 20 MPa Filling unit Size 2 (receptacle) for M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> and N<sub>3</sub> vehicles**

Dimensions in millimetres



**Key**

1 sealing ID =  $\varnothing 15,47 \pm 0,1$  width =  $\varnothing 3,53 \pm 0,2$

<sup>a</sup> This area shall be kept free of all components 

Surface roughness < Ra 3,2  $\mu\text{m}$ .

Sealing surface finish: 0,8  $\mu\text{m}$  to 0,05  $\mu\text{m}$ .

Material hardness: 75 Rockwell B (HRB 75) minimum.

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**B. JUSTIFICATION**

Today a number of different types of filling units (fuelling connectors) are exported all around the world. Customers who travel with their natural gas vehicles in different countries as well as CNG component suppliers require the harmonization of the fuelling connectors. For drivers, it

allows easy fuelling regardless of location and eliminates the need for adaptors to fit different fuelling connectors. For equipment suppliers, it means that only one fuelling connector design can apply to all markets, thus reducing the cost of manufacturing and the cost to the customer.

This proposal for an amendment is intended to complete the harmonization procedure started with ECE/TRANS/WP.29/GRPE/2007/6 approved during the fifty-third GRPE January 2007, regarding the filling unit for light duty vehicles ( $N_1$  and  $M_1$ ), that adopted ISO 14469-1 as the standard fuelling connector for 20 MPa service pressure CNG systems.

Recently, ISO 14469-2 has been approved, regarding a 20 MPa connector – Size 2, specific for heavy-duty vehicles ( $M_2$ ,  $M_3$ ,  $N_2$  and  $M_3$ ). Such a connector offers a larger cross section than the connector in accordance with ISO 14469-1 and, therefore, permits refueling of the vehicles within significantly shorter time periods.

This amendment proposes to adopt the ISO 14469-2 as the standard fuelling connector for heavy-duty CNG vehicles, providing an opportunity to adopt a worldwide recognized and approved fuelling connector for heavy duty vehicles.

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