United Nations ECE/TRANS/WP.29/GRSP/2020/17

Economic and Social Council

Distr.: General
24 September 2020

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Sixty-eighth session
Geneva, 7-11 December 2020
Item 13 of the provisional agenda
Regulation No. 134 (Hydrogen and Fuel Cell Vehicles)

Proposal for the 01 series of amendments to UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles (HFCV))

Submitted by the expert from the Netherlands *

The text reproduced below was prepared by the expert from the Netherlands, aiming to achieve an identification of hydrogen-fuelled buses and trucks which is consistent with already existing regulated identification for Liquified Petroleum Gas (LPG), Compressed Natural Gas (CNG) and Liquid Natural Gas (LNG) fuelled busses. It is based on GRSP-66-05 and GRSP-66-40 distributed at the sixty-sixth session of the Working Party on Passive Safety (GRSP) (see ECE/TRANS/WP.29/GRSP/66, para. 42), ECE/TRANS/WP.29/GRSP/2020/10e and GRSP-67-12, distributed at the sixty-seventh session of GRSP (see ECE/TRANS/WP.29/GRSP/67, para. 24). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Contents, list of annexes, amend to read:

"Contents

		Page
Regulation		
1.	Scope	5
2.	Definitions	5
3.	Application for approval	7
4.	Approval	8
5.	Part I – Specifications of the compressed hydrogen storage system	9
6.	Part II – Specifications of specific components for the compressed hydrogen storage system	15
7.	Part III – Specifications of a vehicle fuel system incorporating the compressed hydrogen storage system	16
8.	Modification of type and extension of approval	19
9.	Conformity of production	20
10.	Penalties for non-conformity of production	22
11.	Production definitively discontinued	22
12.	Names and addresses of Technical Services responsible for conducting approval tests and of the Type Approval Authorities	22
13.	**Transitional provisions**	**23"**

Paragraph 4.2., amend to read:

"4.2. An approval number shall be assigned to each type **approved in accordance with Schedule 4 of the Agreement (E/ECE/TRANS/505/Rev.3).** ~~: its first two digits (00 for the Regulation in its initial form) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to another vehicle or component type.~~"

Insert a new paragraph 7.1.7., to read:

"**7.1.7. Identification of hydrogen fuelled vehicles.**

On vehicles of the categories M_2/N_2 and M_3/N_3, equipped with a compressed hydrogen system, labels shall be installed as specified in Annex 6.

These labels shall be placed on the front of the vehicle and on the left side as well as on the right side of the vehicle; for the side in vicinity of a front door, if available. If there is no front door available, the label must be placed on the first third of the vehicle length. In addition, for vehicles of category M_2 and M_3, a label shall be fixed to the rear of the vehicle."

Insert new paragraphs 13.1. to 13.6., to read:

"**13.1. As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying this UN Regulation shall refuse to grant or refuse to accept UN type approvals under this UN Regulation as amended by the 01 series of amendments.**

13.2. **As from [1 September 2022,] Contracting Parties applying this UN Regulation shall not be obliged to accept UN type approvals to the original version of this Regulation that were first issued on or after [1 September 2022.]**

13.3. **Until [1 September 2024,] Contracting Parties applying this UN Regulation shall accept UN type approvals in its original form that were first issued before [1 September 2022.]**

13.4. **As from [1 September 2024] Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the original version of this Regulation.**

13.5. **Notwithstanding paragraphs 13.2 and 13.4, Contracting Parties applying this Regulation shall continue to accept type approvals issued according to this Regulation in its original form, for the vehicles/vehicle systems which are not affected by the changes introduced by the 01 series of amendments."**

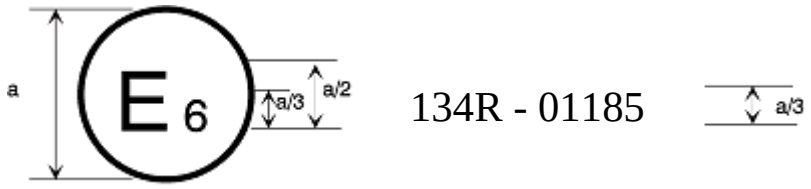
13.6. **Contracting Parties applying this Regulation shall not refuse to grant type approvals according to any preceding series of amendments to this Regulation or extension thereof.**"

Annex 2, amend to read:

"Annex 2

Arrangements of the approval marks

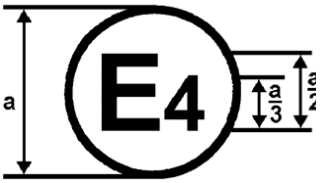
Model A
(See paragraphs 4.4. to 4.4.2. of this Regulation)



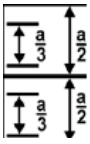
a = 8 mm min

The above approval mark affixed to a vehicle/ storage system/specific component shows that the vehicle/storage system/specific component type concerned has been approved in Belgium (E 6) for its the safety-related performance of hydrogen-fuelled vehicles pursuant to Regulation No. 134. The first two digits of the approval number indicate that the approval ~~was granted in accordance with the requirements of Regulation No. 134 in its original form~~ **already contained the 01 series of amendments at the time of approval.**

Model B
(See paragraph 4.5. of this Regulation)



100	02 2492
134	01 1628



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the road vehicle concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. 134 and 100.* The approval number indicates that, at the dates when the respective approvals were granted, Regulation No. 100 was amended by the 02 series of amendments and Regulation No. 134 was ~~still in its original form.~~ **amended by the 01 series of amendments.**"

Insert a new Annex 6, to read:

"Annex 6

Provisions for a label for hydrogen vehicles of categories M_2/N_2 and M_3/N_3.

(Paragraph 7.1.7. of this UN Regulation)

The label shall be weather resistant.

The centre zone indicates the first energy source

The upper zone indicates the second energy source

The left zone indicates the gas behaviour due to density

The right zone indicates the state of aggregation of stored gaseous fuel

Layout and symbols shall be in accordance with ISO 17840-4:2018

The colour and dimensions of the label shall fulfil the following requirements:

Colours:

Background:	**Light blue, RGB code 0, 176, 240**
Border:	**white reflecting**
Letters and symbols:	**white reflecting**

Dimensions:

Sticker width:	**≥ 110 mm**
Sticker height:	**≥ 80 mm"**

* The latter number is given only as an example.

II. Justification

1. Provisions for identification of Gaseous and Liquified fuels have been laid down in UN Regulations for Liquified Petroleum Gas fuelled M_2 and M_3 vehicles (UN Regulation No. 67, paragraph 17.1.8., including Annex 16 for details), and Compressed Natural Gas/Liquid Natural Gas fuelled M_2 and M_3 vehicles (UN Regulation No. 110, paragraph 18.1.8., including Annex 6 and 7 for details).

2. The background for the additional labelling is to help emergency services determine the approach of these vehicles in case of a fire. (In fire conditions it may be decided to cool the tanks or cylinders to prevent the activation of the thermally-activated pressure relief device or if the fire is progressed beyond this stage to take measures to mitigate the effects of a flare or explosion. Compressed and liquefied gases behave differently in fire conditions).

3. Extension of the scope to N_2/N_3 vehicles is necessary due to the wide variety of these vehicles nowadays, whereas in the past, they were usually equipped with a diesel-powered driveline.

4. For the installation of labels this proposal seeks consistency with UN Regulations Nos. 67 and 110.

5. International Association of Fire and Rescue Services (CTIF) recommends using symbols which are in line with International Standard ISO 17840-4, Part 4 Propulsion energy identification. (CTIF, historic French abbreviation for *"Comité Technique International de prevention et d'extinction de Feu"*).

6. For the appearance of the label, this proposal seeks consistency with the above mentioned ISO standard.

7. Location of stickers based upon recommendations from CTIF.