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Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on General Safety Provisions****109th session**

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Item 11 of the provisional agenda

Regulation No. 110 (Specific components for CNG)**Proposal for amendments to Regulation No. 110 (Specific components for CNG)****Submitted by the expert from the International Organization of Motor Vehicle Manufacturers^{*}**

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA) allowing the use the autonomous Compressed Natural Gas (CNG) heater for the heating of the engines before the vehicle is in service. It is based on document GRSG-108-29 and takes into account the comments received at the 108th session of the Working Party on General Safety Provisions (GRSG) (see report ECE/TRANS/WP.29/GRSG/87, para. 44). The modifications to the current text of UN Regulation No. 110 are marked in bold characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Part II, paragraphs 18.5. to 18.5.1.4., amend to read:

- "18.5. Accessories fitted to the CNG container(s)
- 18.5.1. Automatic cylinder valve
- 18.5.1.1. An automatic cylinder valve shall be installed directly on each CNG container.
- 18.5.1.2. The automatic cylinder valve shall be operated such that the fuel supply is cut off when the engine is switched off, irrespective of the position of the ignition switch, and shall remain closed while the engine is not running. A delay of 2 seconds is permitted for diagnostic.
- 18.5.1.3. Notwithstanding the provisions of paragraph 18.5.1.2.
- (a) the automatic cylinder valve may stay in an open position during commanded stop phases, **and**
 - (b) **in the case a fire alarm system is installed in the autonomous CNG heater compartment, one automatic cylinder valve may be opened for a maximum period of one hour for the purpose of permitting its operation to warm the engine coolant.**
- 18.5.1.4. If the automatic cylinder valve is closed during commanded stop phases, the valve shall comply with paragraph 2.2.4. of Annex 4A."

II. Justification

1. CNG buses running in "cold" cities may be equipped with GNC combustion heater. This heater warms the engine cooling circuit to avoid its operation at low temperatures and to provide sufficient heat in the vehicle passenger compartment.
 2. A combustion heater may also be used to preheat the engine before it is running. If not, the engine runs at very low temperature during more than ten minutes while the bus is parked before starting its tour. If the combustion heater is used when the bus is parked with its engine stopped, the engine can reach an appropriate temperature before starting-up. The comparison of pollutant emissions between a combustion heater and a cold "big" engine running at idle speed during the same time is in favour of the combustion heater. The current UN Regulation No. 110 does not permit to deliver CNG if the engine is not running due to the cut-out of the automatic cylinder valve.
 3. A parallel amendment to UN Regulation No. 107 shall ensure that the automatic fire suppression system be activated when the autonomous CNG heater is operating.
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