

Proposal for amendments to Regulation No. 110 (Specific components for CNG)

The aim of this proposal is to use autonomous CNG heater for the heating of the engines before the vehicle is in service. The modifications to the current text of UN Regulation No. 110 are marked in bold for new or strikethrough for deleted characters.

I. Proposal

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., the automatic cylinder valve may stay in an open position during commanded stop phases **and may be operated for the purpose of warming up the engine cooling system.**
- 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. The CNG buses running in "cold" cities may be equipped with GNC combustion heater. This heater warms the engine cooling circuit in order to avoid it operating at too low temperature 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 10 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 a good 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 favor 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 cutout of the automatic cylinder valve.
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