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Item 9 of the provisional agenda

Regulation No. 110 (CNG/LNG vehicles)**Proposal for amendments to Regulation No. 110 (CNG/LNG vehicles)****Submitted by the experts from the Netherlands and the Natural Gas Vehicles Global ***

The text reproduced below was prepared by the experts from the Netherlands and the International Association for Natural Gas Vehicles (IANGV/NGV Global) to clarify the provisions of Chapter 18 following the introduction of automatic valves (see report ECE/TRANS/WP.29/GRSG/84, para. 38). The modifications to the current text of Regulation No. 110 are marked in bold for new or strikethrough for deleted 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

Paragraphs 18.3.4. to 18.3.6., amend to read:

- "18.3.4. The LNG system shall contain at least the following components:
- 18.3.4.1. LNG tank(s) or vessel(s);
 - 18.3.4.2. LNG heat exchanger / vaporizer;
 - 18.3.4.3. LNG pressure relief valve;
 - 18.3.4.4. LNG venting system;
 - 18.3.4.5. LNG receptacle;
 - 18.3.4.6. LNG excess flow valve (excess flow limiting device);
 - ~~18.3.4.7. LNG valve (manual);~~
 - 18.3.4.8-7. LNG fuel line;
 - 18.3.4.9-8. LNG couplings;
 - 18.3.4.10-9. LNG check valve or non-return valve;
 - 18.3.4.11-10. LNG pressure indicator or fuel indicator;
 - 18.3.4.12-11. Electronic control unit;
 - 18.3.4.13-12. Natural gas detector or gas tight housing, for category M vehicles.
- 18.3.5. The LNG system may also include the following components:
- 18.3.5.1. LNG pressure regulator;
 - 18.3.5.2. LNG pressure and/or temperature sensor;
 - 18.3.5.3. LNG fuel pump;
 - 18.3.5.4. LNG level gauge;
 - 18.3.5.5. LNG automatic valve;
 - 18.3.5.6. Natural gas detector;
 - 18.3.5.7. Gas tight housing;
 - 18.3.5.8 LNG valve (manual).**
- 18.3.6. LNG vehicles components downstream of the heat exchanger/vaporizer (gaseous phase) shall be considered as CNG components."

II. Justification

1. With the introduction of the automatic valve, the manual valve should be moved to the paragraph 18.3.5.
2. The addition of the manual valve in the mandatory category while the automatic valve is in the non-mandatory category could lead to potential accumulation of gas in an enclosed area or volume in the vehicle. Therefore, the use of a manual valve shall be included in the non-mandatory category, so that each manufacturer can determine the best technical strategy to avoid Liquefied Natural Gas (LNG) trapping.