

L-NGV REGULATORY UPDATE

(LNG Task Force)

*Informal Group on
Gaseous Fuelled Vehicles*

(GFV-30)

7 January 2014

Palais Nations, Geneva

Jeff Seisler, Co-Secretariat
GFV & LNG Task Force



Based on GFV 29-08 L-NGV Regulatory Update from GFV-29, 4 December 2013, The Hague, Netherlands

Amendments to ADR Regulations



Purpose: Advocate for a change in ADR regulations that prevent LNG vehicles from being ADR-certified

- ADR regulations provide an exemption related to the carriage of gases so long as the gas is used for propulsion or operating on-board equipment.

Annex A: 1.1.3.2 Exemptions related to the carriage of gases

The provision laid down in ADR do not apply to the carriage of:

Gases contained in the tanks of a vehicle, performing a transport operation and destined for its propulsion or for the operation of any of its equipment (e.g. refrigerating equipment)

- On the other hand, another provision in the regulation related to fuel leaks specifies that the leaked fuel should drain to the ground. Unlike methane at ambient temperature, which is lighter than air, LNG (below -112) is heavier than air and upon release from a container eventually fully vaporises through heat transfer with the air and the surroundings.

*Annex A: 9.2.4.3 **Fuel tanks** : The fuel tanks for supplying the engine of the vehicle shall meet the following requirements:*

*In the event of **any leakage, the fuel shall drain to the ground** without coming into contact with hot parts of the vehicle or the load;*



Education of WP15

Working Party on the Transport of Dangerous Goods

- Consideration for amendments occur bi-annually with next iteration due January 2015.
Amendments must be completed by May 2014!!
- 6 November 2013 presentations to WP15
 - NGV Global on world markets for LNG trucks
 - KIWA on LNG safety
- Formal document with amendment language due 7th February



New ADR Considerations

(Dutch delegation contribution)

- **Proposal 1.** Amend Subsection 9.2.4.3 (a) (new text in italic, replaced text stricken through) to read:
- (a) In the event of any leakage *in the normal operating conditions of the vehicle*, the fuel shall ~~not come drain to the ground without coming~~ into contact with hot parts ~~[above the auto ignition temperature of the fuel]~~ of the vehicle or ~~with~~ the load.



New ADR Considerations

(Dutch delegation contribution)

- **Proposal 2.** Amend Subsection 9.2.4.3 by adding a new paragraph (c) to read:
- (c) Fuel containers (CNG) or fuel tanks (LNG) shall comply with the provisions of ECE Regulation No. 110. Additionally tThe discharge of the (emergency) pressure relief device- or valve shall be so directed to avoid any danger to the load through heating or ignition.



New ADR Considerations

(Dutch delegation contribution)

- **Proposal 3.** Amend Subsection 9.2.4.4 (new text in *italic*) to read:
- The engine propelling the vehicle shall be so equipped and situated to avoid any danger to the load through heating or ignition. In the case of EX/II and EX/III vehicles the engine shall be of compression-ignition construction *using only fuels with a flashpoint above 55⁰C.*



LNG TASK FORCE REMAINING ISSUES



LNG TASK FORCE

REMAINING ISSUES

- Preventing LNG fuel downstream of the vaporizer...*(also finally included CNG)*

18.14 "A safety system shall be provided so components downstream of the regulator shall not be exposed to pressures higher than they were designed for. For a vehicle operating on LNG a further safety system shall be provided so that components downstream from the vaporizer shall not be exposed to temperatures lower than they were designed for."



LNG TASK FORCE

REMAINING ISSUES

- **Minimum height of LNG tank mounted on the truck: *language being debated***

18.4.3. When the vehicle is ready for use the fuel container and/or tank shall not be less than 200 mm above the road surface ***and the container and/or tank shall not touch the ground if any tyre or tyres are deflated.***

For consideration of vehicles with hydraulic systems capable of lowering and raising the vehicle an additional clause was added during LNG TF-14 as 18.4.3.1: *“Where the vehicle has “kneeling” or variable suspension height, the fuel tank shall not touch the ground in the kneeling or lowest suspension position. To avoid puncture or other damage the tank shall be adequately protected from touching the ground in the kneeling or lowest suspension position.”*



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