

Proposal for supplement 3 to the 04 Series of Amendments to UN Regulation No. 67 (LPG Vehicles)

Submitted by the expert from the Kingdom of the Netherlands on behalf of the Task Force on Automated Vehicles Regulatory Screening*

The text reproduced below was prepared by the Task Force on Automated Vehicles Regulatory Screening (TF-AVRS), with the aim to amend and supersede document ECE/TRANS/GRSG/2025/25. The modifications to ECE/TRANS/GRSG/2025/25 are marked in **(bold) red** for new or ~~strikethrough~~ for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2025 as outlined in proposed programme budget for 2025 (A/79/6 (Sect. 20), table 20.6), 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

Insert new paragraphs 0. and 0.1. to 0.1.3., to read:

"0. Introduction

- 0.1. Supplement 3 to the 04 series of amendments is introduced to take into account vehicles of categories X and Y ¹, as well as conventional vehicles which are equipped with an Automated Driving System ~~Feature of Type 2 (ADSF 2)~~ (ADS) ¹.
- 0.1.1. The Regulation was originally drafted for vehicles with driver's compartment and manual driving controls. It is the intention of this new amendment to keep the spirit of the Regulation and to extend its application to vehicles without a driver, a driver's compartment and without manual driving controls in the vehicle. In the absence of driver/driver's compartment/manual driving controls in the vehicle, provisions related to them shall not be taken into account if not already covered by this amendment.
- 0.1.2. In case of vehicles equipped with an ADS ~~other than vehicles of categories X and Y, in the manual driving mode~~ no special provisions or exemptions apply. ~~In a mode where an ADS feature is active, basically the same requirements apply.~~
- 0.1.3. The new paragraph 14.1.4. aims to clarify the provisions for vehicles in case of a separate driver's compartment."

Paragraph 1, footnote 1, amend to read:

- ¹ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.68, para. 2 -
<https://unece.org/transport/standards/transport/vehicle-regulations/wp29/resolutions>
<https://unece.org/transport/vehicle-regulations/wp29/resolutions>"

Paragraph 5, footnote 2, amend to read:

- ² The distinguish numbers of the Contracting Parties to the 1958 Agreement are reproduced in Annex 3 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.68.
<https://unece.org/transport/standards/transport/vehicle-regulations/wp29/resolutions>
<https://unece.org/transport/vehicle-regulations/wp29/resolutions>"

Paragraph 6, footnote 3, amend to read:

- ³ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.68, para. 2.
<https://unece.org/transport/standards/transport/vehicle-regulations/wp29/resolutions>
<https://unece.org/transport/vehicle-regulations/wp29/resolutions>"

Paragraph 6.17.2.1., amend to read:

- "6.17.2.1. The electrical connections inside the boot and ~~passengers~~ **occupant** compartment shall comply with at least the minimum protection degree class IP 40 according to IEC Standard 60529-1989+A1:1999+A2:2013 or IP40 according to ISO20653:2013."

Insert new paragraphs ~~14.1.4. to 14.1.6.~~, to read:

- "14.1.4. "Occupant compartment" means the space for occupant (driver and/or passengers) accommodation bounded by the roof, floor, side walls, doors, outside glazing, front bulkhead, and the plane of the rear compartment bulkhead or the plane of the rear seat back support;
- ~~14.1.5. "ADS feature of type 1 (ADSF 1)" means an ADS feature which includes an ADS fallback response requiring a fallback user~~

~~14.1.6. "ADS feature of type 2 (ADSF 2)" means an ADS feature which does not include an ADS fallback response requiring a fallback user."~~

Paragraph 16, footnote 4, amend to read:

- "⁴ The distinguishing numbers of the Contracting Parties to the 1958 Agreement are reproduced in Annex 3 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.68
<https://unece.org/transport/standards/transport/vehicle-regulations/wp29/resolutions>
<https://unece.org/transport/vehicle-regulations/wp29/resolutions>"

Paragraph 17, footnote 5, amend to read:

- "⁵ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.68, para. 2.
<https://unece.org/transport/standards/transport/vehicle-regulations/wp29/resolutions>
<https://unece.org/transport/vehicle-regulations/wp29/resolutions>"

Paragraph 17.1.7.1., amend to read:

- "17.1.7.1. Notwithstanding the provisions of paragraph 17.1.7. above, motor vehicles of categories M₂, M₃, N₂, N₃ and M₁ having either a maximum total mass > 3500 kg or a body type SA¹, may be fitted with a heating system to heat the ~~passenger~~ **occupant** compartment (if fitted) which is connected to the LPG system."

Paragraph 17.8.8., amend to read:

- "17.8.8. In ~~an passenger~~ **occupant** compartment or enclosed luggage compartment the gas tube or hose shall be no longer than reasonably required; this provision is fulfilled when the gas tube or hose does not extend further than from the fuel container to the side of vehicle."

Paragraph 17.8.8.1., amend to read:

- "17.8.8.1. There shall be no gas-conveying connections in the ~~passenger~~ **occupant** compartment or enclosed luggage compartment with the exception of:
- (a) The connections on the gas-tight housing; and
 - (b) The connection between the gas tube or hose and the filling unit if this connection is fitted with a sleeve which is resistant against LPG and any leaking gas will be discharged directly into the atmosphere."

Paragraph 17.10.2., amend to read:

- "17.10.2. When the LPG container is installed in the ~~passenger~~ **occupant** compartment or enclosed (luggage) compartment the filling unit shall be located at the outside of the vehicle."

Paragraph 17.11.4., amend to read:

- "17.11.4. Electrical cables shall be adequately protected against damage. The electrical connections inside the boot and ~~passengers~~ **occupant** compartment shall comply with protection degree class IP 40 according to IEC Standard 60529-1989+A1:1999. All other electrical connections shall comply with protection degree class IP 54 according to IEC Standard 60529-1989+A1:1999."

Paragraph 17.13.2.3., amend to read:

- "17.13.2.3. Means shall be provided to prevent that flows of petrol into the LPG fuel container could lead to a content of petrol higher than 16 per cent of the actual volume contained in the LPG tank.

This measure shall be demonstrated in accordance with the procedures laid down in Annex 20.

The present requirement shall be fulfilled also in case of faults by use of a malfunction indication to the driver **or sent as a logic signal to ADS**, and optionally activation of limp home mode. "

Annex 14, paragraph 6., amend to read:

- "6. When the Electronic Control Unit (ECU) is intended to be fitted as a component of an interconnected LPG-system, it shall inhibit, by controlling the fuel selection system, the vehicle operation in petrol mode after each switch-over operation to LPG mode until a volume of liquid fuel equivalent to that flown into the LPG tank during such an operation is consumed.

Notwithstanding this, the ECU may permit the switch over to petrol mode if a fault in the LPG-system determines the inoperability of the system. Such a fault shall be clearly indicated to the driver **or sent as a logic signal to ADS**.

In case of the inoperability of the LPG-system, a remotely controlled shut-off valve complying with the requirements of paragraph 6.17.3.3. shall be installed along the flow line in order to prevent any flow of petrol into the LPG container after switching-over to petrol mode."
