

13 August 2008

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48
(Installation of lighting and light-signalling devices)

The text reproduced below was prepared by the GRE Operating Voltage Informal Group, in order to clarify the discrepancies between electrical supply conditions during the type approval test and the electrical supply conditions in the vehicle in service and to avoid glare and reduction of the life time of filament lamps by high vehicle voltages.

The modifications to this text are marked in bold characters.

A. PROPOSAL

This proposal refers to vehicles of the categories M and N.

Insert a new paragraph 3.2.7., to read:

"3.2.7. a description of the electric power supply conditions for the devices indicated in paragraphs 2.7.9, 2.7.10, 2.7.12, 2.7.14 and 2.7.15 above, including, if applicable, information on a special power supply/electronic light source control gear, or variable intensity control."

Insert new paragraph 5.27. to read:

"5.27. The applicant shall demonstrate to the Technical Service responsible for type approval testing that the electric power supply conditions for the devices indicated in 2.7.9, 2.7.10, 2.7.12, 2.7.14 and 2.7.15 above comply, when the electrical system of the vehicle is in a constant voltage operating condition, representative for the relevant category of powered vehicle as specified by the applicant, with the following provisions:

5.27.1. The voltage supplied at the terminals of devices which, according to their type approval documentation, have been tested by the application of a special power supply/electronic light source control gear, or in a secondary operating mode or at a voltage requested by the applicant, shall not exceed the voltage specified for the relevant devices or functions as they have been approved.

5.27.2. In all cases of electric power supply conditions not covered by paragraph 5.27.1, the voltage at the terminals of the device(s) or function(s) shall not exceed 6.75V (6 Volt-Systems), 13.5V (12 Volt-Systems) or 28.V (24 Volt-Systems) by more than 3%."

5.27.3. The provisions of paragraphs 5.27.1. and 5.27.2. shall not apply to devices which include an electronic light source control gear or a variable intensity control being part of the device.

5.27.4. A report shall be attached to the approval documentation describing the methods used to demonstrate compliance and the results obtained."

Insert new paragraphs 12.xx and 12.xy to read:

"12.xx As from [48] months from the entry into force of Supplement [x] to the 04 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by Supplement [x] to the 04 series of amendments.

12.xy Contracting Parties applying this Regulation shall not refuse to grant extensions of approvals to all previous versions of this Regulation which remain valid."

Insert new paragraph 10.6. in Annex 1, to read:

"10.6 Comments regarding the electrical supply conditions (according to paragraphs 3.2.7 and 5.27 of the regulations)."

B JUSTIFICATION

At its fifty-sixth session GRE agreed on the need to establish an informal group on operating voltage issues for lighting and light-signalling devices (OVIG) and invited the expert from Germany to prepare a proposal regarding the terms of reference and the rules of procedure for this informal group (ECE/TRANS/WP.29/GRE/56, para. 17). WP.29 gave its consent for the establishment of this informal group at its one-hundred-and-thirty-ninth session (ECE/TRANS/WP.29/1052, para. 27).

In document ECE/TRANS/WP.29/GRE/2007/3 the terms of reference are stipulated.

The planned working program of the informal group is related to all vehicle categories covered by the scope of Regulation No. 48 whereas the final discussion concludes to vehicles of the categories M and N.

The reason for restricting the requirement to M and N class vehicles is that it would not be easy to approve a trailer to this requirement unless it has an independent power supply, which is still not yet defined. Most trailers, of course rely on the power supply of the towing vehicle, which may vary and is not under the control of "the applicant" - i.e. the trailer manufacturer. So it is up to the discussion in GRE how to handle this question.

In the fourth formal OVIG meeting on the 16th July, the proposal developed by a small Drafting Group in a meeting in Paris on the 25th February 2008, was reviewed again and resulted in the proposed text as presented in this document.

This text comprises the following paragraphs:

Insert a new paragraph 3.2.7., to read:

"3.2.7. a description of the electric power supply conditions for the devices indicated in paragraphs 2.7.9, 2.7.10, 2.7.12, 2.7.14 and 2.7.15 above, including, if applicable, information on a special power supply/electronic light source control gear, or variable

intensity control."

This paragraph has to be inserted for the correct implementation into the Regulation 48 and to clarify to which devices these proposed requirements shall apply, which are:

- 2.7.9. → "Driving beam (main-beam) headlamp"
- 2.7.10. → "Passing beam (dipped-beam) headlamp"
- 2.7.12. → "Stop lamp"
- 2.7.14. → "Front position lamp"
- 2.7.15. → "Rear position lamp"

Insert new paragraph 5.27. to read:

"5.27. The applicant shall demonstrate to the Technical Service responsible for type approval testing that the electric power supply conditions for the devices indicated in 2.7.9, 2.7.10, 2.7.12, 2.7.14 and 2.7.15 above comply, when the electrical system of the vehicle is in a constant voltage operating condition, representative for the relevant category of powered vehicle as specified by the applicant, with the following provisions:

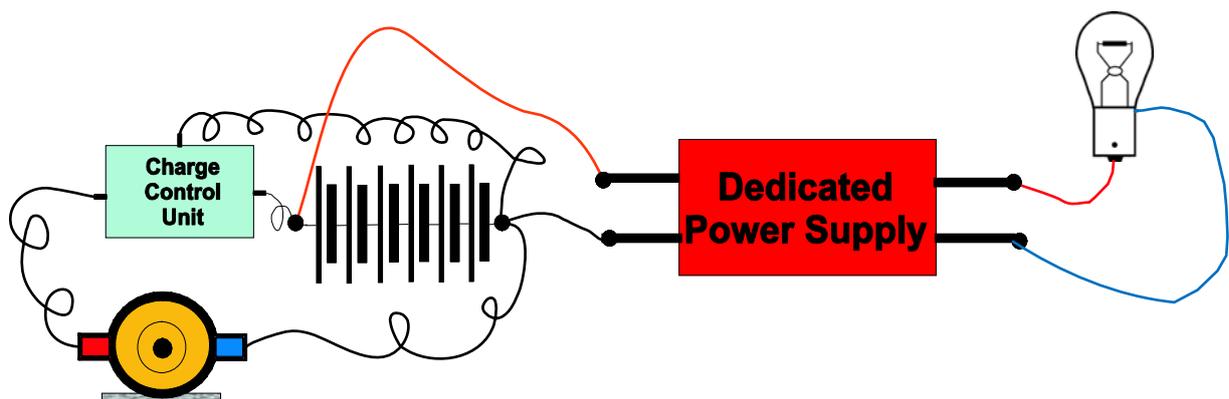
By the fact, that it seems not to be possible to find a common test procedure applicable for the smallest M1 up to the biggest N the discussion in OVIg results in the following way to solve the problem . The technical Service is requested to determine that the electric power supply conditions for the devices comply, when the electrical system of the vehicle is in a constant voltage operating condition, depending of the individual characteristics and means of the electrical power network of the relevant category of powered vehicle as specified by the applicant.

Starting with this general requirement, the following cases must be regarded:

1) In the case that the vehicle is equipped with an electronic light source control gear the following paragraph is proposed:

5.27.1. The voltage supplied at the terminals of devices which, according to their type approval documentation, have been tested by the application of a special power supply/electronic light source control gear, or in a secondary operating mode or at a voltage requested by the applicant, shall not exceed the voltage specified for the relevant devices or functions as they have been approved.

This refers to all vehicles which have means implemented to control the voltage for the lighting and light signalling devices.

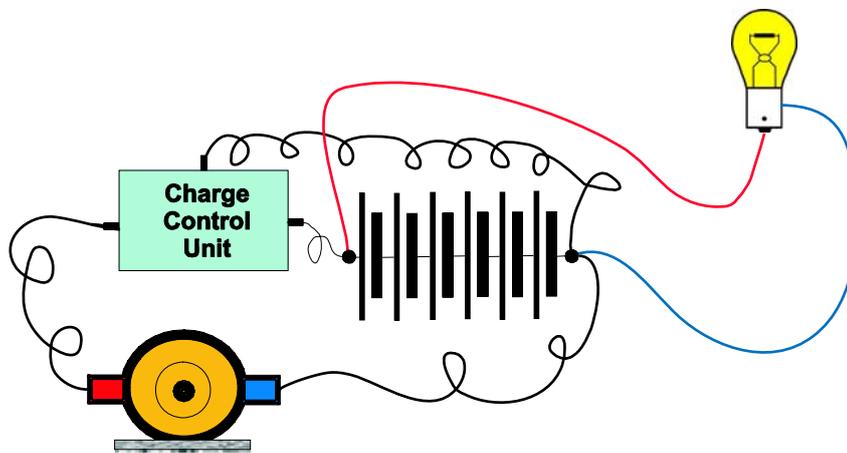


2) *In the case that the vehicle has no electronic voltage control (conventional vehicle network system) the following paragraph is proposed; the values specify the upper limit*

5.27.2. In all cases of electric power supply conditions not covered by paragraph 5.27.1, the voltage at the terminals of the device(s) or function(s) shall not exceed 6.75V (6 Volt-Systems), 13.5V (12 Volt-Systems) or 28.V (24 Volt-Systems) by more than 3%."

This paragraph is exclusively for the conventional vehicle without any electrical power control unit for the voltage, other than the charge control for the battery.

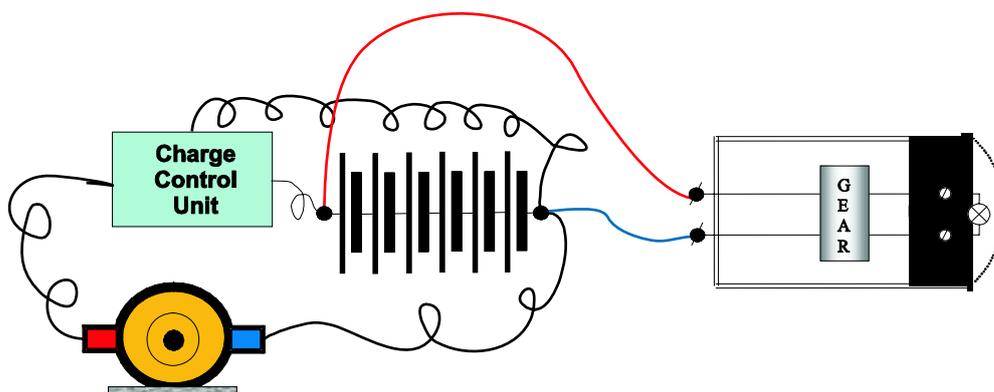
The voltage specifications and their tolerance have to be strictly regarded together with paragraph 5.27 above!



3) *In the case that the electronic light source control gear is part of the approved lamp and the luminous intensity of the function is independent from the vehicle voltage the following paragraph is proposed:*

5.27.3. The provisions of paragraphs 5.27.1. and 5.27.2. shall not apply to devices which include an electronic light source control gear or a variable intensity control being part of the device."

This paragraph is exclusively for lighting units with light source control gears, of which the light output is nearly independent from the input voltage at the input terminal of the lamp unit



The following paragraphs are added to ensure proper communication of the method used to demonstrate compliance and the results of that demonstration. This is necessary because the precise methods to be used are not specified.

5.27.1. A report shall be attached to the approval documentation describing the methods used to demonstrate compliance and the results obtained.

Annex 1 (Communication Form) paragraph 10.6

10.6 Comments regarding the electrical supply conditions (according to paragraphs 3.2.7 and 5.27 of the regulations)

Although many new vehicles will comply with these new requirements without any change to the electrical system, some others may require a change to, or the addition of, a voltage control system. An appropriate lead time should therefore be provided for the introduction of the requirements and they should be applied only to new vehicle types, excluding extensions to existing approvals. The following transitional provisions are therefore proposed:

12.xx As from [48] months from the entry into force of Supplement [x] to the 04 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by Supplement [x] to the 04 series of amendments.

12.xy Contracting Parties applying this Regulation shall not refuse to grant extensions of approvals to all previous versions of this Regulation which remain valid.
