

The present document was prepared by the co-Chairs of the GRE Task Force “Headlamp Switching” (TF HS), as a support to document ECE/TRANS/WP29/GRE/2018/44.

In this document the reasons and explanations for the proposed amendment are presented, for each of the paragraphs included in document ECE/TRANS/WP29/GRE/2018/44.. They are based on the discussion in the GRE TF HS and on the comments received from different CPs and NGOs.

#### *Paragraph 2.7.6.*

Due to the constant increase of lighting and light signaling functions operated in automatic way, it was deemed useful to clarify the conditions in which a function is put by its manual or automatic operation. The four new definitions in sub-paragraphs 2.7.6.1. to 2.7.6.4. have been introduced to better clarify whether the operation of a function has caused it to actually emit light or has just put it in a “stand.by” condition, allowing it to emit light only after a further manual or automatic input (manual or automatic).

Consequently, the whole sections 5 and 6 of UN Regulation No. 48 were verified for coherence and consistency of the various functions switching conditions to these new definitions; the changes made to a number of paragraphs in document ECE/TRANS/WP29/GRE/2018/44 for this purpose will be commented in the present document with a simple reference to the above explanation.

The definition for “Sequential activation” has been moved at the end of paragraph 2.7.6. and the sub-paragraph numbering has been changed accordingly; moreover the wording has been updated to be coherent and consistent with the new definitions above indicated.

#### *Paragraph 4.2.*

The TF HS was established to the aim of simplify and clarify certain aspects of the headlamp and DRL switching and related interaction; as such, the proposal to be prepared by the TF should have been treated as a “supplement” to the present 06 Series of amendments to UN Regulation 48.

However the proposal the TF finally prepared involved more complex changes than originally expected, also requesting technical modification to the vehicles to fulfill the updated requirements.

For this reasons, it was deemed more suitable to present it as a new series of amendment, the 07 and consequently it was necessary to introduce the suitable changes in this paragraph.

#### *Paragraph 5.7.1.1.*

See explanation for paragraph 2.7.6.

#### *Paragraph 5.9*

The terminology has been updated to avoid confusion with the one introduced with the new definitions in paragraph 2.7.6.

#### *Paragraph 5.9.2.*

See explanation for paragraph 2.7.6.

#### *Paragraph 5.11. and related sub paragraphs*

Please see informal document GRE-80-09 for correction related to this paragraph.

Sub-paragraphs 5.11.1.1. to 5.11.2. renumbered as indents (a) to (d) of paragraph 5.11.1. and sub-paragraph 5.11.3. renumbered as sub-paragraph 5.11.2. Wording of these sub-paragraphs and related indents changed for editorial improvement.

#### *Paragraph 5.12.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 5.12.1.1.*

See explanation for paragraph 2.7.6.

*Paragraph 5.14.3.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 5.14.4.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 5.18.3.*

See explanation for paragraph 2.7.6.

*Paragraph 5.18.4.*

See explanation for paragraph 2.7.6.

*Paragraph 5.21.1.*

See explanation for paragraph 2.7.6.

*Paragraph 6.1.2.*

See explanation for paragraph 2.7.6.

*Paragraph 6.1.7.1.*

Please see informal document GRE-80-09 for correction related to this paragraph.  
See explanation for paragraph 2.7.6. In addition a wording simplification is proposed.

*Paragraph 6.1.7.2.*

See explanation for paragraph 2.7.6. However the change is put in square brackets since the agreement on the different concept expressed by the change has to be confirmed by the GRE Experts.

*Paragraph 6.1.7.3.*

See explanation for paragraph 2.7.6.

*Paragraph 6.1.7.4.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.1.7.5.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.1.7.6.*

See explanation for paragraph 2.7.6.

*Paragraph 6.1.9.1.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.1.9.3.*

See explanation for paragraph 2.7.6. However the change is put in square brackets since the agreement on the different concept expressed by the change has to be confirmed by the GRE Experts.

*Paragraph 6.1.9.3.1.*

See explanation for paragraph 2.7.6. However the change is put in square brackets since the agreement on the different concept expressed by the change has to be confirmed by the GRE Experts.

*Paragraph 6.2.7.1.*

Changes aiming for simplification of wording; no change in the requirement's meaning.

*Paragraph 6.2.7.2.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.2.7.3.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.2.7.5.*

Paragraph is deleted and the requirements contained in it are reworded and moved to other more suitable paragraphs.

The requirement contained in this paragraph is the one that, having been remained unchanged after the introduction of automatic headlamps switching requirement, caused misunderstanding and different interpretations.

The main work of the Task Force Headlamp Switching was concentrated on this requirement, for manual override, on its clarification and necessary updating in view to allow compatibility with specific circulation exigencies and local in-use requirements.

*Paragraph 6.2.7.6.*

Numbering updated (to 6.2.7.5., after deletion of the existing paragraph with same number). Existing sentence in parenthesis deleted since it was considered redundant.

A sentence, referring to the switching condition of DRL linked to the dipped beam headlamp switching prescribed in the present paragraph, is added, in square brackets since there was not unanimous agreement among the TF HS experts about its effective need.

A further sentence is added to provide a link with the subsequent sub-paragraphs providing exceptions to the general requirement of this paragraph.

*Paragraph 6.2.7.5.1. (new)*

This paragraph was added to provide the exception to the general requirements on automatic headlamps switching ON, already existing for DRL, applicable in case where the vehicle is not yet moving or has been stopped with propulsion system still operating; certain conditions have been established to indicate this situation and allowing the headlamps to remain OFF or to be switched OFF until these conditions are fulfilled.

In particular, for the allowance to maintain OFF (or switch OFF) the headlamp until the vehicle has reached a certain speed, the existing value of 10 km/h has been changed in 15 km/h to take into account the difficulty to exactly measure such a low speed; the chosen value takes into account the tolerances allowed by Regulation No. 39 for the speedometers (an indicated speed of 15 km/h can correspond to a true speed of only 10 km/h).

In addition the clarification that the auto dipped beam switching ON does not need to be active when the front fog lamps are switched ON is added, for coherence with the already existing requirements on front fog lamp switching and DRL switching OFF (paragraph 6.3.7. and 6.19.7.3. respectively).

*Paragraph 6.2.7.5.2. (new)*

This paragraph was added to provide a further exception to the general requirements on automatic headlamps switching ON to allow the vehicle driver to manually switch OFF the dipped beam headlamps even under conditions requiring the dipped beam headlamps to be switched ON, to be able to fulfil specific in-use requirements (e.g.: the prohibition to circulate with headlamps switched ON in areas – mainly not open to normal traffic – like petrol refineries or the mandatory headlamps switching OFF when the vehicle is stopped at a railway crossing) or local safety rules requiring lamps switching OFF in approaching the border of certain Countries or to allow circulation with headlamps switched OFF in case of vehicle owned by the army or police or similar safety corps during service operation.

This further exception has been allowed under condition that the automatic switching is resumed each time the propulsion system is put in operation (manually) and that a clear indication/warning is provided to the driver throughout the entire period that the headlamps are switched OFF and the automatic switching is deactivated.

The whole sub-paragraph is put in square brackets since certain Contracting Parties expressed, in different occasions, their disagreement to this exception, due to the peculiarity of the vehicle operating conditions and the limited diffusion of local in-use requirement/rules for which allowance of the exception was deemed necessary.

*Paragraph 6.2.7.6. (new)*

This paragraph contains part of the requirement previously contained in the deleted present paragraph 6.2.7.5.. The dipped beam headlamps manual switching ON was unanimously considered to be necessary, even when the automatic switching is present, to always allow the driver to switch ON the headlamps when so desired or needed, in particular for ambient conditions with reduced visibility (i.e.: daytime fog or rain situations) hardly detectable by the automatic switching sensors or in case of failure of the automatic switching. The mandatory presence of the manual switching (manual override) has been now expressed in a more clear way than before and in a paragraph different from the one mandating the automatic switching, to reduce the danger of confusion and misunderstanding.

*Paragraph 6.2.7.7. (new)*

Please see informal document GRE-80-09 for correction related to this paragraph. Due to the introduction, in the previous paragraph, of certain conditions allowing exceptions to the automatic switching, it was deemed necessary to specify the obligation to resume it as soon as the conditions allowing for exceptions no longer exist and to mandate the presence of a mean allowing the driver to engage at any time the automatic switching.

*Paragraph 6.2.7.8.*

Please see informal document GRE-80-09 for correction related to this paragraph. Numbering updated (after introduction of a new paragraph 6.2.7.7.). The allowance for additional conditions for dipped beam automatic switching has been confirmed by means of a modified wording, aiming to avoid the discrepancy of interpretation pointed out during the TF HS works. The majority of Experts in the TF deem preferable to allow that the additional conditions for automatic switching may be used independently from the basic conditions prescribed in paragraph 6.2.7.5.

*Paragraph 6.2.8.2.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.2.9.*

See explanation for paragraph 2.7.6.

*Paragraph 6.3.7.*

Please, see informal document GRE-80-09: this paragraph is no more included in GRE/2018/44

*Paragraph 6.4.7.1.*

See explanation for paragraph 2.7.6.

*Paragraph 6.4.7.2.*

See explanation for paragraph 2.7.6. In addition some editorial changes, connected with the said paragraph, have been introduced.

*Paragraph 6.5.7*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.6.7.2.*

See explanation for paragraph 2.7.6. In addition some editorial changes, connected with the said paragraph, have been introduced.

*Paragraph 6.7.7.1.*

See explanation for paragraph 2.7.6.

*Paragraph 6.8.9.*

Editorial change, aimed to clarify the requirement (without modify its meaning); a wording already used in other paragraph was used, for text consistency.

*Paragraph 6.9.7.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.9.8*

Please, see informal document GRE-80-09 for correction related to this paragraph.

The TF HS Experts decided to re-introduce the sentence (deleted with Supplement 10 to the 06 series of amendment, as a consequence of other amendments in that supplement) allowing to do not switch ON the tell-tale for front position lamps when used in connection with DRL. Same wording of the sentence previously existing has been used, just updating the reference to the involved paragraph.

In addition a small editorial correction has been introduced.

*Paragraph 6.9.9.1.*

See explanation for paragraph 2.7.6. Editorial changes in relation to modification to said paragraph have been introduced.

*Paragraph 6.10.7.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.10.8.*

The TF HS Experts decided to re-introduce the sentence (deleted with Supplement 10 to the 06 series of amendment, as a consequence of other amendments in that supplement) allowing to do not switch ON the tell-tale for front position lamps when used in connection with DRL. Same wording of the sentence previously existing has been used, just updating the reference to the involved paragraph.

*Paragraph 6.11.7. and related sub-paragraphs, up to 6.11.7.4.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.11.7.5.*

See explanation for paragraph 2.7.6.

*Paragraph 6.12.7.*

See explanation for paragraph 2.7.6.

*Paragraph 6.12.9.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.18.9.*

Editorial change, aimed to clarify the requirement (without modify its meaning); a wording already used in other paragraph was used, for text consistency.

*Paragraph 6.19.7.*

Numbering of the paragraph and related sub-paragraphs and indents has been changed to give them a structure similar to that of paragraph 6.2.7.

*Paragraph 6.19.7.1.*

A clarification about the condition for DRL automatic switching ON in relation to the switching condition of headlamp and front fog lamp is introduced for coherence and consistency with the requirements in paragraph 6.19.7.4 (new numbering).

*Paragraph 6.19.7.2.*

The conditions for the existing exceptions to the mandatory automatic DRL switching ON were confirmed by the TF HS Experts, with the deletion of condition referred to the vehicle having travelled for more than 100 m with DRL OFF (which was judged an unnecessary burden) and with the change to the speed limit value (for which please refer to the explanation to paragraph 6.2.7.5.1. for the same change). The wording of present subparagraphs of paragraph 6.19.7.1., containing the above requirements, has been updated for better clarity.

*Paragraph 6.19.7.3. (new)*

This paragraph has been added to specify the obligation to resume the automatic switching as soon as the conditions allowing for exceptions no longer exist.

*Paragraph 6.19.7.4.*

Numbering updated, due to the introduction of new paragraph 6.19.7.3..  
The wording and the structure of this paragraph has been updated to improve clarity, without changes to the meaning of the requirements.

*Paragraph 6.19.7.5.*

Numbering updated, due to the introduction of new paragraph 6.19.7.3..  
The TF HS Experts decided to re-introduce the sentence (deleted with Supplement 10 to the 06 series of amendment, as a consequence of other amendments in that supplement) allowing for the possibility to switch ON, together with the DRL, the rear position lamps only and not necessarily all the lamps prescribed in paragraph 5.11..

*Paragraph 6.19.7.6.*

Numbering updated, due to the introduction of new paragraph 6.19.7.3..  
During discussion in TF HS it was pointed out that a proposal exists in GRE from 2016 to change from “optional” to “mandatory” the DRL switching OFF or luminous intensity reduction in case of they are located at less than 40 mm from front direction indicator lamps. Consequently the TF HS Experts deemed useful to introduce, in square brackets as a reminder, the change from “may” to “shall” related to the application of the above described requirement; in addition an editorial improvement of the wording, in line with the one already used in the present paragraph 6.19.7.6. (now renumbered 6.19.7.7., see below) has been introduced.

Please note that an updated proposal on the above subject was presented at the 79<sup>th</sup> GRE session (April 2018) by Germany and Italy; the discussion on this proposal was deferred to the next session (80<sup>th</sup>, October 2018) based on a further updated proposal.

*Paragraph 6.19.7.6.*

Numbering updated, due to the introduction of new paragraph 6.19.7.3..  
Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.20.7.*

See explanation for paragraph 2.7.6.

*Paragraph 6.20.7.2.*

See explanation for paragraph 2.7.6. Editorial changes in relation to modification to said paragraph have been introduced.

*Paragraph 6.20.9.*

See explanation for paragraph 2.7.6.

*Paragraph 6.22.7.1.1.*

See explanation for paragraph 2.7.6.

*Paragraph 6.22.7.1.3.*

See explanation for paragraph 2.7.6.

*Paragraph 6.22.7.1.5.*

See explanation for paragraph 2.7.6.

*Paragraph 6.22.7.2.*

See explanation for paragraph 2.7.6.

*Paragraph 6.22.7.3.*

Editorial change, without modify the paragraph's meaning.

*Paragraph 6.22.7.4.4.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.22.8.2.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.22.9.3.1.3.*

Editorial changes in relation to modification to paragraph 2.7.6.

*Paragraph 6.23.7.3. and related sub-paragraphs*

See explanation for paragraph 2.7.6.

*Paragraph 6.24.9.1.*

See explanation for paragraph 2.7.6.

*Paragraph 6.24.9.2.*

See explanation for paragraph 2.7.6.

*Paragraphs 6.25.7.3. to 6.25.7.6.*

See explanation for paragraph 2.7.6.

*Paragraph 6.26.7.,*

See explanation for paragraph 2.7.6.

*Paragraph 12.6. and related sub-paragraphs (new)*

The TF HS was established to the aim of simplify and clarify certain aspects of the headlamp and DRL switching and related interaction; as such, the proposal to be prepared by the TF should have been treated as a "supplement" to the present 06 Series of amendments to UN Regulation 48.

However the proposal that the TF HS finally prepared involved more complex changes than originally expected, also requesting technical modification to the vehicles to fulfill the updated requirements. For this reasons, it was deemed more suitable to present it as a new series of amendment.

As new 07 series of amendments the document is then presented with a proposal for transitional provisions, based on the structure suggested by the "General Guidelines for United Nations regulatory procedures and transitional provisions in un Regulations" (document ECE/TRANS/WP.29/1044/Rev.2).

*Annex 2*

Editorial changes to update the number of the series of amendments in the marking examples.