



# Economic and Social Council

Distr.: General  
23 December 2022

Original: English

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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### 189th session

Geneva, 7-9 March 2023

Item 4.9.9 of the provisional agenda

#### 1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRE

## **Proposal for Supplement 4 to the 03 series of amendments to UN Regulation No. 53 (Installation of lighting and light- signalling devices for L<sub>3</sub> vehicles)**

### **Submitted by the Working Party on Lighting and Light-Signalling\***

The text reproduced below was adopted by the Working Party on Lighting and Light-Signalling (GRE) at its eighty-seventh session (ECE/TRANS/WP.29/GRE/87, para. 30). It is based on ECE/TRANS/WP.29/GRE/2022/23. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration at their March 2023 sessions.

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\* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (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.



*Insert a new paragraph 2.22., to read:*

"2.22. "Rear-end collision alert signal (RECAS)" means an automatic signal given by the leading vehicle to the following vehicle. It warns that the following vehicle needs to take emergency action to avoid a collision."

*Paragraph 5.13., amend to read:*

"5.13. Colours of the lights  
...  
Rear-end collision alert signal: amber"

*Insert a new paragraph 5.15.8., to read:*

"5.15.8. Rear-end collision alert signal (paragraph 6.17.)."

*Paragraph 6.9.2., amend to read:*

"6.9.2. Electrical connection  
  
The signal shall be given by means of a separate control enabling all the direction indicators to be supplied with current simultaneously. In addition, it may be activated automatically in the event of a vehicle being involved in a collision or after the de-activation of the emergency stop signal, as specified in paragraph 6.14. below. In such cases, it may be turned OFF manually.  
  
In addition, the hazard warning signal may be switched ON automatically to indicate to other road-users the risk of imminent danger as defined by Regulations; in this case, the signal shall remain switched ON until it is manually or automatically switched OFF."

*Insert a new paragraph 6.17. and its subparagraphs, to read:*

"6.17. Rear-end collision alert signal  
6.17.1. Presence  
Optional.  
The rear-end collision alert signal shall be given by the simultaneous operation of all the direction indicator lamps fitted as described in paragraph 6.17.7.  
6.17.2. Number  
As specified in paragraph 6.3.1.  
6.17.3. Arrangement  
As specified in paragraph 6.3.2.  
6.17.4. Position  
As specified in paragraph 6.3.3.  
6.17.5. Geometric visibility  
As specified in paragraph 6.3.4.  
6.17.6. Orientation  
As specified in paragraph 6.3.5.  
6.17.7. Electrical connections  
Compliance with these requirements shall be demonstrated by the applicant, by simulation or other means of verification accepted by the Technical Service responsible for type approval.  
6.17.7.1. All the lamps of the rear-end collision alert signal shall flash in phase at a frequency of 4.0 +/- 1.0 Hz.

- 6.17.7.1.1. However, if any of the lamps of the rear-end collision alert signal to the rear of the vehicle use filament light sources the frequency shall be 4.0 +0.0/-1.0 Hz.
- 6.17.7.2. The rear-end collision alert signal shall operate independently of other lamps.
- 6.17.7.3. The rear-end collision alert signal shall be switched ON and OFF automatically.
- 6.17.7.4. The rear-end collision alert signal shall not be switched ON if the direction indicator lamps, the hazard warning signal or the emergency stop signal is activated.
- 6.17.7.5. The rear-end collision alert signal may only be switched ON under the following conditions:

$V_r$	Activation
$V_r > 30 \text{ km/h}$	$TTC \leq 1.4$
$V_r \leq 30 \text{ km/h}$	$TTC \leq 1.4 / 30 \times V_r$

" $V_r$  (Relative Speed)": means the difference in speed between a vehicle with rear-end collision alert signal and a following vehicle in the same lane.

"TTC (Time to collision)": means the estimated time for a vehicle with rear-end collision alert signal and a following vehicle to collide assuming the relative speed at the time of estimation remains constant.

- 6.17.7.6. The switch ON period of the rear-end collision alert signal shall be not more than 3 seconds.
- 6.17.8. Tell-tale  
Optional."