



# Economic and Social Council

Distr.: General  
7 August 2013

Original: English

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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### Working Party on Lighting and Light-Signalling

#### Seventieth session

Geneva, 21-23 October 2013

Item 4(b) of the provisional agenda

**Regulation No. 48 (Installation of lighting and light signaling devices) –**

**Proposal for amendments to the 06 series of amendments**

## **Proposal for Supplement 4 to the 06 Series of Regulation No. 48**

### **Submitted by the expert from the International Automotive Lighting and Light Signalling Expert Group (GTB)\***

The text reproduced below was prepared by the expert from the GTB to amend the activation criteria for the Class “E” passing beam mode of an AFS system. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

## **I. Proposal**

*Paragraph 6.22.7.4.3., amend to read:*

"6.22.7.4.3. The class E mode(s) of the passing-beam shall not operate unless the vehicle's speed exceeds ~~70~~ **60**km/h and one or more of the following conditions is/are automatically detected:

- (a) The road characteristics correspond to motorway conditions<sup>1</sup> ~~and/or~~ **or** the vehicle's speed exceeds 110 km/h (E-signal applies);

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\* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106, ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

(b) In case of a class E mode of the passing-beam which, according to the system's approval documents /communication sheet, complies with a 'data set' of Table 6 of Annex 3 of Regulation No. 123, only.

Data set E1: the vehicle's speed exceeds 100 km/h (E1-signal applies);

Data set E2: the vehicle's speed exceeds 90 km/h (E2-signal applies);

Data set E3: the vehicle's speed exceeds 80 km/h (E3-signal applies)."

<sup>1</sup> Traffic directions being separated by means of road construction, or, a corresponding lateral distance of opposing traffic is identified. This implies a reduction of undue glare from vehicles headlamps in opposing traffic.

## II. Justification

1. The class E mode of the passing-beam (motorway light) has a higher luminous intensity and a raised cut-off offering increased forward visibility for the driver. To avoid glaring other road users it shall only be operated on roads where the traffic direction is separated by means of road construction, or, a sufficient lateral separation of opposing traffic is identified (a typical motorway condition).

2. With the current level of technology, different approaches are available to determine motorway conditions and the activation criteria for the class-E dipped beam. The vehicle speed will provide the required information in the case that the speed limit for the road is above 110 km/h and assuming that the driver is not exceeding the speed limit on a regular road. New technology based on sensors such as camera systems and GPS navigation can provide accurate information to determine if motorway conditions are fulfilled regardless of vehicle speed.

3. For trucks and other vehicles with a low controlled maximum speed and when the speed signal cannot be utilised, the availability of such sensor based information allows slow moving vehicles to take advantage of the safety benefits of the class-E passing beam mode. In addition, and particularly in the case of trucks, different countries impose different maximum speed limits on motorways; the most common speed limit for motorways is 80 km/h. In some circumstances and due to the load and high traffic density the speed often drops below 70 km/h.

4. To improve the performance of the system and avoid unnecessary on-off activation of the motorway light, GTB proposes that the speed limit in paragraph 6.22.7.4.3 is reduced to 60 km/h and the requirements of paragraph 6.22.7.4.3(a) are amended to indicate a clear alternative to either detect the motorway conditions with sensors or only activate the E mode above a speed of 110km/h.

5. While preparing this proposal, GTB concluded that the revised provisions will not introduce an additional glare risk since the speed criterion will not be used as a basis for determining motorway conditions for speeds of less than 110km/h. At lower speed other sensors shall be used to verify sufficient lateral separation of opposing traffic to confirm a typical motorway condition. Additionally, as the activation of the class E passing-beam mode at low speed does not constitute a safety risk for any categories of vehicles, this proposal should not be limited to trucks and buses.