



**Economic and Social  
Council**

Distr.  
GENERAL

ECE/TRANS/WP.29/GRE/2009/3  
16 January 2009

Original: ENGLISH  
ENGLISH AND FRENCH ONLY

---

**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonization of Vehicle Regulations

Working Party on Lighting and Light-Signalling

Sixty-first session

Geneva, 30 March - 3 April 2009

Item 4(c) of the provisional agenda

**REGULATION No. 48**

(Installation of lighting and light-signalling devices)

Clarifications on installation requirements

Proposal for Supplement 4 to the 04 series of amendments to Regulation No. 48

Submitted by the expert from the United Kingdom \*/

The text reproduced below was prepared by the expert from United Kingdom in order to permit optional additional side direction indicator lamps on long vehicles to improve the conspicuity of the drivers' signalling intention to vulnerable road users. It is based on a document without a symbol (informal document No. GRE-60-14), distributed during the sixtieth session of the Working Party on Lighting and Light-Signalling (GRE) (see report ECE/TRANS/WP.29/GRE/60, para. 16). The modifications to the existing text of the

---

\*/ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

Regulation, including draft Supplement 3 to the 04 series of amendments to Regulation No. 48, are marked in bold characters.

A. PROPOSAL

Paragraph 6.5.3., amend to read:

"6.5.3. Arrangements (see figure below)

A: two front direction-indicator lamps of the following categories:

.....

5

for all M<sub>1</sub> vehicles;

for N<sub>1</sub>, M<sub>2</sub> and M<sub>3</sub> vehicles not exceeding 6 metres in length.

6

for all N<sub>2</sub> and N<sub>3</sub> vehicles;

for N<sub>1</sub>, M<sub>2</sub> and M<sub>3</sub> vehicles exceeding 6 metres in length.

It is permitted to replace Category 5 side direction-indicator lamps by Category 6 side direction-indicator lamps in all instances

**A maximum of three optional Category 5 or one optional Category 6 device per side on vehicles of type M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> and N<sub>3</sub> exceeding 9 m in length.**

.....

B: two rear direction-indicator lamps (Categories 2a or 2b)

two optional lamps (Category 2a or 2b) on all vehicles in Categories O<sub>2</sub>, O<sub>3</sub> and O<sub>4</sub>.

**A maximum of three optional Category 5 or one optional Category 6 device per side on vehicles of type O<sub>2</sub>, O<sub>3</sub> and O<sub>4</sub> exceeding 9 m in length.**

Where an AFS..."

Paragraphs 6.5.4.2.3. to 6.5.5.1., amend to read:

"6.5.4.2.3. If the structure of the vehicle .... and if the optional **rear** lamps are .... categories 1, 1a, 1b, 2a and 2b.

6.5.4.2.4. If optional **rear** lamps .... mandatory lamps.

6.5.4.3. In length (see figure below)

The distance between the light-emitting surface of the side direction-indicator lamp (categories 5 and 6) and the transverse plane which marks the forward boundary of the vehicle's overall length, shall not exceed 1,800 mm.

However, this distance shall not exceed 2,500 mm:

(a) for M<sub>1</sub> and N<sub>1</sub> category vehicles;

(b) for all other categories of vehicles if the structure of the vehicle makes it impossible to comply with the minimum angles of visibility.

**Optional Category 5 side direction indicator lamps, shall be fitted, spaced evenly, along the length of the vehicle.**

**Optional Category 6 side direction indicator lamp shall be fitted in the area between the first and last quartiles of the length of a trailer."**

6.5.5 Geometric visibility

6.5.5.1. Horizontal angles: (see figure below)

Vertical angles: 15° above and below the horizontal for direction-indicator lamps of categories 1, 1a, 1b, 2a, 2b and 5. The vertical angle below the horizontal may be reduced to 5° if the lamps are less than 750 mm above the ground; 30° above and 5° below the horizontal for direction-indicator lamps of category 6. The vertical angle above the horizontal may be reduced to 5° if the optional **rear** lamps are not less than 2,100 mm above the ground.

....."

Paragraph 6.5.8., amend to read:

"6.5.8. Tell-tale

.....

For the optional direction-indicator lamps on **vehicles and** trailers, operating tell-tale shall not be mandatory."

B. JUSTIFICATION

This proposal will allow a limited number of additional direction indicators to be fitted to the side of long vehicles and trailers, over 9 m in length, to supplement the mandatory category 5 or 6 device. This will improve the signalling to other road users who may be alongside and unaware of the driver's intention for turning.

These optional devices are intended primarily to assist other road users that are in close proximity to the vehicle and so it is proposed to limit the number, three category 5 or one category 6, to achieve this without distracting other road users.

It is estimated that every year, over 400 people lose their life in the European Union (EU) in accidents involving side swipes from large trucks and truck trailer combinations (see Table 1 for United Kingdom (UK) figures). This can occur in the "so-called" blind spot on either side of these vehicles when they are turning and changing lane, especially at crossings, junctions or roundabouts when to negotiate a tight corner, the driver often has to swing out wide in order to complete a turn. A large percentage of the victims of such accidents are on two-wheelers, a particularly vulnerable category of road users.

The EU Commission, as a result of extensive consultation have issued a draft directive for improving the field of indirect vision to minimise the so-called blind spot on existing and new vehicles in the Category N<sub>3</sub>. This draft document was adopted on 5th October 2006.

As part of the above EU consultation the UK Government completed a national consultation exercise covering the potential casualty reduction from fitting blind-spot mirrors to vehicles in the Category N<sub>3</sub> (See Table 2). This consultation exercise included the large number of Large Heavy Duty vehicles in this category now using UK roads, where the so-called blind spot situation is exacerbated.

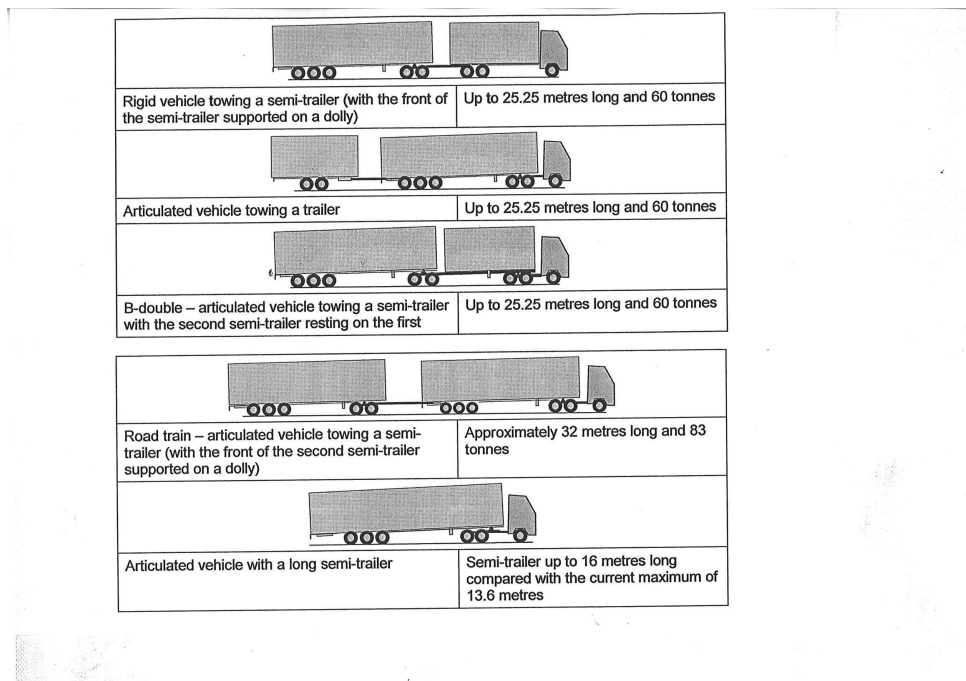
This proposal is intended to act as a safety improvement action complementing the EU draft directive, and focuses on road users including motor cycles, who, when alongside long vehicles/trailers and buses may be conscious of the vehicle form adjacent to them but may not be aware of the driver's intentions for turning / lane change

This is particularly applicable when:

- (a) the tractor/trailer or bus swings out wide prior to turning, or
- (b) the motor cycle pulls alongside a tractor/trailer or bus when it is stationary at a junction etc., or
- (c) the height and position of another road user obscures the existing installed direction indicators especially when the motor cycle is already forward of the tractor/trailer and bus rear lights

The addition, along the length of a vehicle or vehicle combination, of at least one additional side direction indicator per side will improve conspicuity of the driver's signalling intention on long tractor-trailer combinations and buses, especially when it is driving on the opposite side of the road for which it is designed.

This safety concern will be further exacerbated should the European consideration of longer vehicle combinations up to 25.5 m long as below, become accepted.



The common feature with all these combinations is the increasing distance and hence visibility between the final rear direction indicator on a vehicle and the side direction indicator on the cab.

Table 1

<b>Fatalities in Accidents with the Side of UK Heavy Duty Vehicles (HDV) during 2005</b>				
Accidents with Vulnerable Road Users			Side Swipe accidents (Passenger Cars on Multilane Roads)	Total
Pedestrian	Pedal Cycle	Motor Cycle		
13	10	15	4	42

Table 2

<b>Estimated Number of Lives saved per Annum due to blind spot mirrors</b>				
Accident	Vehicle Manoeuvre	Fatalities	Effectiveness of Measure	Lives Saved (Rounded)
Vulnerable Road Users Struck by side of HDV	All	38	25 percent	9
Side Swipe	Changing Lane and Overtaking	4	25 percent	1
Total		42		10

See examples of Cat 5 lamps fitted to various vehicles below:



“Bendy”- bus fitted with additional Side Direction Indicator



Transporter vehicle fitted with extra side direction indicator to compensate for obscuration of lights when fully laden



Three side direction indicators fitted to tanker note tanker rear lights obscured by semi-trailer.

-----