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**ECONOMIC COMMISSION FOR EUROPE**

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Working Party on Lighting and Light-Signalling (GRE)

Fifty-seventh session

2-6 October 2006

Item 13.1. of the provisional agenda

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Submitted by the expert from the Working Party "Brussels 1952" (GTB)

Note: The text reproduced below was prepared by the expert from GTB in order to introduce provisions for light-emitting diode (LED) modules to be used as light sources for headlamps. The proposal consolidates and supersedes TRANS/WP.29/GRE/2005/36 and ECE/TRANS/WP.29/GRE/2005/36/Corr.1 (ECE/TRANS/WP.29/GRE/56, para. 57). The modifications to the existing text of the Regulation (up to Supplement 1 to the 03 series of amendments) are marked in **bold** characters.

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Note: This document is distributed to the Experts on Lighting and Light-Signalling only.

A. PROPOSAL

Insert a new paragraph 2.7.1.1.7., to read:

**"2.7.1.1.7. "LED module" means a light source module containing as light sources only LEDs."**

Insert a new paragraph 2.7.10.1., to read:

**"2.7.10.1. "Principal dipped beam" means the dipped beam produced without the contribution of infrared (IR) emitter and/or additional light sources for bend lighting."**

Paragraph 2.7.27., amend to read:

**"2.7.27. "Objective luminous flux" means a design value of the luminous flux of a replaceable light source **or light source module**. It shall be achieved, within the specified tolerances, when the replaceable light source **or light source module** is energized by the power supply at the specified test voltage, as indicated in the data sheet of the light source **or the technical specification as submitted with the light source module**."**

Paragraph 6.2.7., amend to read:

**"6.2.7. Electrical connections**

....

One additional light source **or one or more LED module(s)**, located inside the dipped-beam headlamps or in a lamp (except the main-beam headlamp) grouped or reciprocally incorporated with the respective dipped-beam headlamps, may be activated to produce bend lighting, provided that the horizontal radius of curvature of the trajectory of the centre of gravity of the vehicle is 500 m or less. This may .... "

Paragraph 6.2.8., amend to read:

**"6.2.8. Tell-tale**

**6.2.8.1. Tell-tale optional.**

**6.2.8.2. An operational tell-tale is mandatory:**

- (a) in the case where the whole beam or the kink of the elbow of the cut-off is moved to produce bend lighting, **or****
- (b) **if one or more LED modules are used to produce the principal dipped-beam.****

It shall be a flashing warning light which comes on:

- (a) in the event of a malfunction of the displacement of the kink of the elbow of the cut-off, **or**
- (b) **in case of a failure of any one of the LED module(s) producing the principal dipped-beam."**

Paragraph 6.2.9., amend to read:

"6.2.9. Other requirements

....

Dipped-beam headlamps with a light source **or LED module(s) producing the principal dipped beam and** having a total objective luminous flux which exceeds 2,000 lumen shall only be installed in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 45. **8/**

**With** respect to vertical inclination the provisions of paragraph 6.2.6.2.2. above shall not be applied **for dipped-beam headlamps:**

- (a) **with LED module(s) producing the principal dipped beam, or**
- (b) **with a light source producing the principal dipped beam and having an objective luminous flux which exceeds 2,000 lumen.**

Only dipped-beam headlamps according to .... "

## B. JUSTIFICATION

At the fifty-second GRE session, GTB presented a report on the status of the development of LED's for application in headlamps (informal document No. GRE-52-19).

The application of LED's in light-signalling has conclusively proved the benefits of semiconductor technology particularly with regard to reliability, high system efficiency and new design possibilities and now these benefits can also be realised in headlamps. The programme proposed by GTB to introduce suitable provisions into the ECE Regulations was accepted.

This proposal complements the revised draft amendments to Regulation No. 112 as proposed by ECE/TRANS/WP.29/GRE/2006/44.

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