

OICA PROPOSAL FOR AMENDMENTS TO REGULATION No. 48

The text reproduced below was prepared by the expert from OICA to amend document ECE/TRANS/WP.29/GRE/2009/34 submitted by the GRE Chairman, regarding Regulation No. 48 and in particular the automatic switching of the dipped beam headlamps installed on a vehicle equipped with daytime running lamps.

The proposed modifications to ECE/TRANS/WP.29/GRE/2009/34 are shown in **bold** and ~~strikethrough~~ type.

A. PROPOSAL

Paragraph 6.1.7.1., amend to read:

"6.1.7.1. **Except when they are used to give intermittent luminous warnings at short intervals**, the main-beam headlamps may be switched ON, only when the master light switch is in the headlamps ON position or in the "AUTO" (automatic) position and the conditions for automatic activation of dipped beam exist. In the latter case, the main beam headlamps shall be switched off automatically when the conditions for automatic activation of dipped beam cease to exist."

6.2.7.6.1. the dipped-beam headlamps shall be switched ON and OFF automatically relative to the ambient light conditions (e.g. switch ON during nighttime driving conditions, tunnels, etc.) according to the requirements of Annex 12; or

6.2.7.6.2. daytime running lamps operate in conjunction with the lamps listed in paragraph 5.11. where, as a minimum requirement, at least the rear position lamps shall be activated. [*/]; or

Paragraph 6.2.7.6.3., amend to read:

"6.2.7.6.3. ~~[industry proposal for positive message to the driver that he/she must switch the lights ON]~~ [*/]
distinctive means are provided to inform the driver that the headlamps, position lamps and if so equipped end outline marker lamps and side marker lamps are not illuminated. Such means may include but are not limited to:

6.2.7.6.3.1 **two distinctly different levels of instrument panel illumination are provided, allowing identification to the driver of the ON/OFF state of the dipped-beam headlamps** [*/]; or

6.2.7.6.3.2 **non-illuminated indicators and identification of hand controls that are required by UNECE Regulation No. 121 to be illuminated when the headlamps are activated** [*/]; or

6.2.7.6.3.3 a tell-tale

6.2.7.6.3.3.1 visual, auditory or both, shall be activated to inform the driver that the dipped beam headlamps shall be switched on because of reduced ambient lighting conditions. Once the tell-tale is activated, it shall only be extinguished when the dipped beam headlamps have been switched on 2/; or

6.2.7.6.3.3.2 satisfying requirements 6.19.8.1, mounted inside the occupant compartment in front of and in clear view of the driver, in a normally un-illuminated area of the instrument panel. Illumination of the tell-tale shall indicate that the daytime running lamps are on. 2/"

[2/ This exemption applies to vehicles of categories M₁ and N₁ approved until 66 months, and for vehicles to other M and N categories approved until 84 months after the official date of entry into force of the Supplement 5 to the 04 series of amendment to this Regulation. These approvals will remain valid indefinitely and **extension** of these approvals shall be granted after the dates expressed above.]

Annex 12, amend to read:

"Annex 12

AUTOMATIC SWITCHING CONDITIONS DIPPED-BEAM HEADLAMPS <u>1/</u>		
Ambient light (outside the vehicle) on a horizontal surface	Dipped-beam headlamps	Response time
less than 1,000 lux	ON	fast <u>2/</u>
between 1,000 lux and 7,000 lux	at manufacturer's discretion	as applicable <u>2/3/</u> at manufacturer's discretion
more than 7,000 lux	OFF	slow <u>3/</u>

3/ This requirement shall be deemed to have been met when the dipped-beam headlamps are switched OFF in ~~[more than 60 seconds, but]~~ no more than 300 seconds."

B. JUSTIFICATION

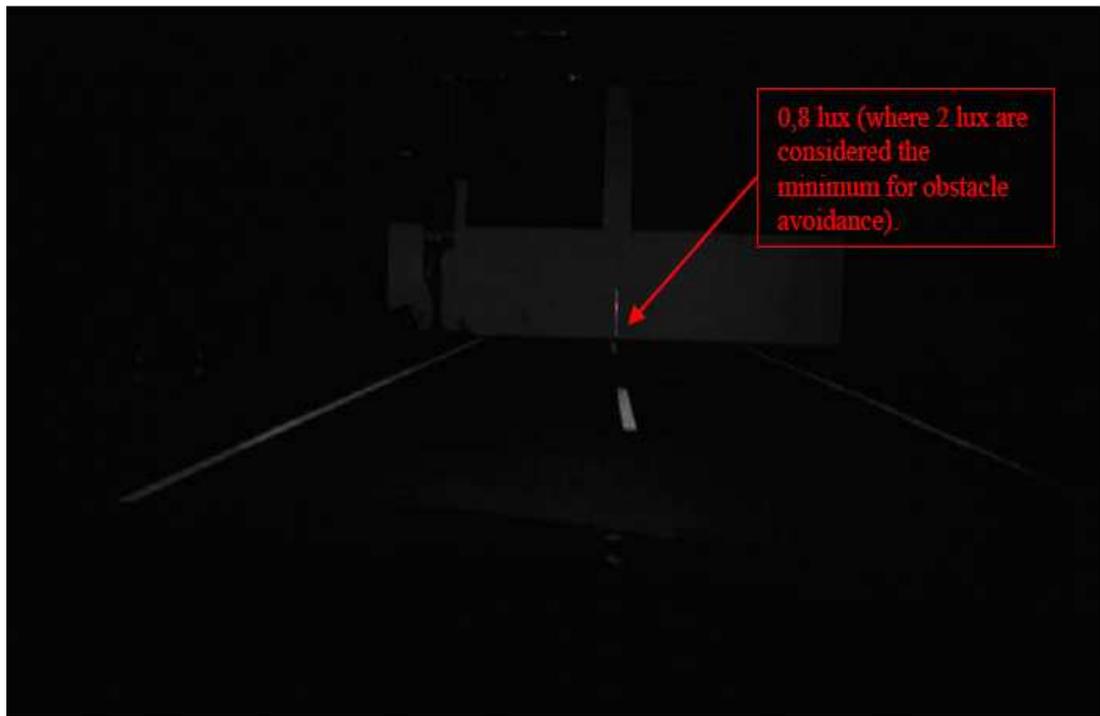
Paragraph 6.1.7.1.

OICA proposes to delete the text "steady burning state" and to replace it by "except when they are used to give intermittent luminous warnings at short intervals". In fact "steady burning state" has no definition within ECE 48 and therefore its meaning is subjective and open to interpretation, which may lead to concerns at the time of type approval. On the text "steady burning state", which is currently in use within North America to date, NHTSA have issued over 110 technical interpretations following the receipt of petitions concerning their interpretation of lamps in a steady burning state.

Paragraph 6.2.7.6.3., :

Evaluating the situation described in para. 6.2.7.6., one has to differentiate between two different scenarios.

The first scenario occurs when the ambient light outside the vehicle is strongly reduced. The pictures below show clearly that a driver driving with DRL on will switch to the dipped beams (low beams) when it becomes dark, even without the assistance of an AHS.



Driver's view with dedicated DRLs on (screen at 25m)



Driver's view with dipped beam headlamps on (screen at 25 m)

The second scenario occurs when the ambient light is moderately reduced like in urban areas and tunnels. In this case it may happen that drivers forget to switch on the dipped beams when it becomes dark. Nevertheless other drivers will still be able to notice the vehicle because of the outside ambient lighting and the vehicle rear retro-reflectors. Therefore from a safety perspective it should be enough to provide distinctive means to inform the driver that the headlamps, position lamps and if so equipped end outline marker lamps and side marker lamps are not illuminated.

This document lists some options to achieve this goal justified as reported below:

Paragraph 6.2.7.6.3.1 and 6.2.7.6.3.2

An instrument panel illumination and non-illuminated indicators and identification of hand controls that are required by UNECE Regulation 121 can give clear feedback to the driver regarding activation of DRL or dipped beam headlamps. In particular, a dark dashboard provides the driver with a good impression of the ambient light reduction outside the vehicle. It is proposed to keep the instrument panel dark when DRL are switched ON and to illuminate it only when low- and/or main- beam headlamps are switched ON.



Without Instrument Panel illumination

With Instrument Panel illumination

Paragraph 6.2.7.6.3.3.1

This tell-tale will convey a positive message that the driver has to switch the dipped beam headlamps ON, based upon the ambient lighting conditions.

Paragraph 6.2.7.6.3.3.2

This tell-tale will convey the message that the driver has to switch the lights ON, with the added value of significant visibility, while leaving the manufacturer's design flexibility to design (a part of) the dashboard with steady illumination, as it already appears in several vehicles on the market.

Annex 12, between 1,000 lux and 7,000 lux

In this range, OICA proposes to delete the reference to footnotes 2 and 3. As the automatic switching conditions are at the manufacturer's discretion, the response time should be left at manufacturer's discretion as well.

Annex 12, more than 7,000 lux, footnote 3

OICA proposes to delete requiring a minimum delay in the response time, which could be detrimental under a road safety and environmental perspective. Under the road safety perspective, if the vehicle is exiting out of a tunnel and the night-mode is kept ON for up to 300 seconds, in this timeframe the driver will have difficulty in reading luminous signals on the control panel or on the navigation system, therefore putting his safety at risk. Under the environmental perspective, keeping the headlamps ON for a time longer than necessary would increase energy consumption. Such a delay is unnecessary and prevents advanced technical solution which could operate even faster than required.
