

## Proposal for amendments to ECE/TRANS/WP.29/GRE/2013/14

(Supplement 12 to the 04 series of amendments, Supplement 5 to the 05 series of amendments, Supplement 3 to the 06 series of amendments to Regulation No. 48)

The text reproduced below was prepared by the expert from OICA, to propose amendments to document GRE/2013/14 submitted by the experts from France and Germany. The modifications to the document GRE/2013/14 are highlighted in red, and marked in bold for new or strikethrough for deleted characters.

### I. Proposal

*Title, delete the square brackets.*

*Insert a new paragraph 2.10.1., to read:*

"2.10.1. Horizontal orientation of a **sequential progressive luminous intensity direction indicator** means the ratio of the length of path of the movement in horizontal direction to that in vertical direction on the apparent surface **[should not exceed]** the value of ~~[10:6]~~ **[1:1]."**

*Insert a new paragraph 5.9.3., to read:*

"5.9.3. The photometric characteristics of direction indicator lamps of the categories 1, 1a, 1b, 2a or 2b may **include a change to** the luminous intensity during a flash inside the maximum apparent surface, and if it is noted in the communication form of the direction indicator lamp (Regulation No. 6).

**In this case:**

(a) the variation **shall propagates in an outward horizontal orientation outwards only from the median longitudinal plane of the vehicle,** until all light sources of the lamp are **lit switched on;**

~~(b) the variation shall not exceed [200] ms;~~

(c) once lit light sources shall remain lit until all light sources of the lamp ~~shall be~~ **are** switched off simultaneously at the end of the flash.

~~The variation [of direction indicator lamps of the categories 2a or 2b] is prohibited if the [hazard warning or] emergency stop signal is activated."~~

*Insert a new paragraph 5.9.4, to read:*

"5.9.4 **In the case of 5.9.3 being applied to the vehicle-hazard warning signal and/or emergency stop signal, the complete operation cycle for all the activated lamps shall be synchronised to within [50ms] "**

*Paragraph 6.5.8., amend to read:*

"6.5.8. Tell-tale Operating ....

If it is entirely ... to paragraph **6.2.2.** ~~6.4.2.~~ of Regulation No. 6 or another suitable way<sup>13</sup> ..."

## II. Justification

1. The proposal to propagate the flashing of the direction indicator light in the direction of turning improves design flexibility, whilst maintaining a controlled and clear change of direction signal.
2. The proposal is clearly linked to Regulation No. 6 which is necessary with regard to the handling of the Regulation and the application to after-market products.
3. Series of amendment of Regulation No. 48:

The Variable Intensity turn indicator shall be allowed in the Series of Amendments 04, 05 and 06 of Regulation No. 48.

It is also necessary to leave open the possibility of installing these devices on current vehicles already approved under the 04 or 05 Series in order to achieve safety improvements and satisfy market demand.

4. Ratio (para. 2.10.1):

Since it concerns a horizontal movement comparing the horizontal to the vertical, it is not clear if the ratio described a minimum or a maximum.

The ratio 1:1 was proposed because this is the limit between the horizontal and the vertical and, according to the shape of the body (curve, bump, convex, etc.), there is no visual impact and no safety issue between the ratio 1:1 or 10:6.



Ratio 1:1



Ratio 10:6

5. Time of variation (para. 5.9.3 (b)):  
Including a limit (200ms) for the total flash duration provides no safety improvement. The important issue is to achieve the minimum photometric requirements in an appropriate time (see justification in the proposal to modify document ECE/TRANS/WP.29/GRE/2013/13).  
Simulations show that there is no significant change in visual perception of a flash duration between [200-400 ms].  
See OICA presentation during GRE.
6. Possibility to have sequential progressive luminous intensity on Hazard Warning and Emergency Stop Signal Lamps (end of para.5.9.3):  
The Variable intensities for direction indicators of category 1 and 2 as well as for the Hazard Warning Signal should be allowed.  
The variation of intensity may be on front turn indicator and/or rear turn indicator.  
For technical reason, it is very difficult (impossible with some current technologies already installed) and very expensive to separate the Direction Indicator, Hazard Warning and the Emergency Stop Signal.

The variation of intensity should be allowed on Front and/or Rear warning. This is indeed a way to indicate the exterior (end outline) of the vehicle in a dynamic way.

7. A misleading reference in § 6.5.8. regarding Regulation No. 6 was corrected.
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