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Working Party on Lighting and Light-Signalling (GRE)

(Fifty-second session, 30 March – 2 April 2004,  
agenda items 2.7. and 2.8.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the experts from France and Germany

Note: The text reproduced below was prepared by the experts from France and Germany in order to allow automatic switching of the hazard warning signal and automatic signalling of emergency braking. This proposal supersedes documents TRANS/WP.29/GRE/2002/21/Rev.1 (Germany), TRANS/WP.29/GRE/2002/22/Rev.1 (Germany), TRANS/WP.29/GRE/2002/43 (Germany), TRANS/WP.29/GRE/2003/21 (France), as well as the documents without a symbol (informal document No. 1 and informal document No. 6), distributed during the fifty-first GRE session. The amended text is 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 2.27., to read:

**"2.27. "Emergency braking" means a braking with a deceleration at the physical limits of tyre adhesion to the road surface."**

Paragraph 5.9., amend to read:

"5.9. In the absence of specific instructions, no lamps other than direction-indicator lamps, the vehicle-hazard warning signal, **the stop lamps in the case of emergency braking**, and amber side-marker lamps complying with paragraph 6.18.7. below, shall be flashing lamps."

Paragraph 6.7.7., amend to read:

"6.7.7. Electrical connections

**Shall be such that** all the vehicle's direction-indicator lamps flash in phase.

The **hazard warning** signal shall be **switched on and off voluntarily by the driver using a separate control**.

**In addition it may be switched on automatically to indicate to other road-users the risk of an imminent danger. In this case the signal shall remain switched on until it is voluntarily or automatically switched off.**

**During the indication of an emergency braking as described in paragraph 6.7.7.2. the hazard warning signal shall not be activated automatically.**

On M<sub>1</sub> and N<sub>1</sub> vehicles less than 6 m in length, with an arrangement complying with paragraph 6.5.5.2. above, the amber side-marker lamps, when mounted, shall also flash at the same frequency (in phase) with the direction indicator lamps."

Paragraph 6.7.7., amend to read:

"6.7.7. Electrical connections

**6.7.7.1.** Must light up when the service brake is applied. The stop lamps need not function if the device, which starts and/or stops the engine, is in a position, which makes it impossible for the engine to operate.

The stop lamps may be activated by the application of a retarder or a similar device.

**6.7.7.2. In the case of an emergency braking the stop lamps may flash. If so the following conditions shall be met:**

- **the frequency of flashing is 2 Hz up to 7 Hz**
- **the vehicle speed is higher than 10 km/h**
- **the signal is activated and deactivated automatically."**

## **B. JUSTIFICATION**

### **Automatic activation of hazard warning signal and indication of an emergency braking intend to increase road safety**

At the present time, many conditions are already used to switch on automatically the hazard warning signal.

In order to clarify the situation, the expert from France proposes to introduce in Regulation No. 48, the automatic switch on and off of this signal, when the risk of an imminent danger is occurring, as indicated in the Vienna Convention, article 32, paragraph 13 b.

German and Japanese research studies prove that reaction time of following drivers is reduced with flashing brake lamps. An earlier reaction time of 0.2 sec at a vehicle speed of 80 km/h results in a reduced stopping distance of 4.4 m which corresponds to 30 km/h residual speed.

The frequency of 2 Hz up to 7 Hz allows the flashing of filament bulbs as well as for LED's.

The threshold of velocity of 10 km/h ensures that emergency brake indication is only activated during deceleration of the vehicle and a signalization at standstill is prevented.

Only automatic activation assures immediate signalization of emergency braking. Automatic deactivation avoids false signals and misuse. The hazard warning signal shall not be automatically activated at the same time with flashing brake lamps to avoid driver confusion.

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