UNITED
NATIONS

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Economic and Social
Council

Distr.
GENERAL

TRANS/WP.29/GRE/2004/46
23 July 2004

Original: ENGLISH
ENGLISH AND FRENCH ONLY

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Lighting and Light-Signalling (GRE)
(Fifty-third session, 4–8 October 2004,
agenda item 2.6.)

JUSTIFICATION FOR AUTOMATIC ACTUATION OF HAZARD WARNING SIGNAL

Transmitted by the expert from France

Note: The text reproduced below was prepared by the expert from France in order to clarify the French position regarding automatic switching of the hazard warning signal.

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

JUSTIFICATION FOR AUTOMATIC ACTUATION OF HAZARD WARNING SIGNAL

In 2001, the French delegation set up a draft proposal for amendments to UNECE Regulation No. 48 in order to clarify the conditions for automatic actuation of hazard warning signal which would ensure the driver, without any manual operation, to alert both forthcoming and following drivers that a hazard situation is occurring, this situation being linked with an imminent danger occurring, as indicated in the Vienna Convention, article 32 § 13b.

Originally, the French delegation introduced TRANS/WP29/GRE/2001/2 (during the forty-sixth GRE session in March 2001), based on informal document No. 7 (tabled at the forty-fifth GRE session of October 2000). This document laid down the technical conditions to discriminate between hazard situations and the others, the most frequent situation being a vehicle longitudinal deceleration, exceeding a triggering threshold value proposed between 5 to 7 m/s^2, occurring during a minimum time delay of 0.3 s, the vehicle speed motion being upper than 50 km/h at the start point of the deceleration. Occurrence of such decelerations is assessed to be very low and not more than 10^{-4}.

The hazard warning signal has been proposed to be the most efficient signal to use for several reasons:

Compliance with existing traffic codes and Vienna Convention

- The hazard warning lamps flashing solution is the simplest solution to handle, regarding the traffic codes, because existing codes are already consistent with the hazard warning signal operation whether being automatically or manually operated. The flashing operation of any other lights needs an evolution of the existing codes, regulations and Vienna Convention in order to be allowed.

- What is important in signalling the "emergency braking" is to inform about the emergency situation more than about the braking situation; for this reason, the existing "hazard warning" signalization, with a yellow colour, is more suitable than other technical solutions connected to the stop lamps.

Ergonomic effectiveness for immediate behavioural efficiency

- The function needed for signalling the "emergency braking", as for all other emergency situations, shall be extremely simple and shall be immediately understood.
  If possible it should not be a new one but a signal with a well-known significance to drastically reduce the need for special instructions and the "adaptation lead time" to the new situation.
  Variations in the activation mode of the stop lamps are not so simple and not immediately understandable as needed.

  and,

- The information given by the hazard warning signal is visible also in case of spinning or side slip of the vehicle as a consequence of an emergency braking and also when the vehicle is viewed from the front, being activated on both the front and rear side of the vehicle.

Cost and reliability effectiveness with the broadest brand vehicle approach

- Low cost and easy installation of the automatic activation of the hazard warning signal help for a better diffusion of the emergency braking signalization: this is the cheapest technical solution on the market for these purposes and needs minor changes to the vehicle (only to the wiring and/or electronics). This also allows the after market fitting, which is almost impossible with other technical solutions.

  and,

  This solution allows the wiring of stop lamps to remain on a simple wiring definition which is the most reliable solution for the operation of the stop lamp: a flashing mode of the stop lamps could only be made by the installation of an intermediate electronic device, which could hardly be as safe and reliable as a simple wiring technical design.

- Consequently, the small and low cost vehicles do not risk to be less protected than the bigger and costly ones, at least from the signalization point of view, due to lack of installation of such a signalization.

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