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

Working Party on Lighting and Light-Signalling (GRE)  
(Fiftieth session, 7-11 April 2003, agenda item 1.4.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 48

(Installation of lighting and light-signalling devices)

Transmitted by the expert from Japan

Note: The text reproduced below is a revision of the original proposal by the expert from Japan (TRANS/WP.29/GRE/2002/8). It was prepared by the expert from Japan, at the request of GRE at its forty-ninth session (TRANS/WP.29/GRE/49, paras. 16 and 17). The proposed amendments concern the mandatory presence of S3 stop lamps for N1 category vehicles. The modifications to the current requirements are marked in **bold** text.

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

## A. PROPOSAL

Paragraph 6.7.1., amend to read:

"6.7.1. Presence

Devices of S1 or S2 categories: mandatory on all categories of vehicles.

Devices of S3 category: mandatory on M1 **and N1** categories of vehicles, **except for those N1 category vehicles with open cargo space;** optional on other categories of vehicles."

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## B1. HISTORY

At the forty-ninth session of GRE, Japan proposed the mandatory presence of S3 stop lamps for N1 category vehicles. The expert from France expressed her concern about the proposal. The expert from Italy supported the French concern and mentioned that the problem was not the installation of the S3 device on the vehicle, but primarily the visibility problems in some conditions of use, especially on pick-up vehicles. The Chairman requested the expert from Japan to prepare a new proposal for amendments to paragraph 6.7.1., taking into account special use conditions. The expert from Japan further studied the issue and came up with the following approach. Concerning those N1 vehicles WITH "open cargo space" i.e. cargo space which is not circumvented by a rigid body structure, devices of S3 category installed on the back-side of the cabin of these vehicles could be easily hidden by the cargo itself and thus the effectiveness of the devices could be reduced or totally lost. On the other hand, it is very difficult to find a suitable place for the installation of the S3 device on these vehicles.

Therefore, mandatory installation of devices of S3 category should be limited to those N1 vehicles WITHOUT open cargo space, as the first step. This approach would achieve, for those N1 vehicles WITHOUT open cargo space, the same safety level which is already achieved for M1 vehicles as soon as possible. For those N1 vehicles WITH open cargo space, discussions should be continued to overcome the said problem in the near future.

## B2. JUSTIFICATION

As shown in the attached table, rear-end collisions have increased in both number and percentage share in recent years. Therefore, it is becoming necessary to introduce measures for preventing rear-end crashes. In this connection, NHTSA data indicate that high-mounted stop lamps are effective in preventing rear-end collisions. In line with this finding, Japan proposes that S3 stop lamps be made mandatory on N1, as well as M1 category vehicles, since N1 category vehicles comprise the largest fleet - second only to M1 category vehicles.

Reference: Japan's vehicle population can be divided into M1 category vehicles (72 per cent), N1 category vehicles (23 per cent), and the remainder (5 per cent).

Number of vehicle accidents by type

| Accident              | No. of accidents |         |         |         |         | Composition share (%) |       |       |       |       |
|-----------------------|------------------|---------|---------|---------|---------|-----------------------|-------|-------|-------|-------|
|                       | 1995             | 1996    | 1997    | 1998    | 1999    | 1995                  | 1996  | 1997  | 1998  | 1999  |
| Pedestrian-vehicle    | 73,950           | 72,258  | 70,246  | 68,448  | 70,061  | 13.8                  | 13.6  | 13.3  | 12.7  | 12.4  |
| Head-on crash         | 25,798           | 25,132  | 23,465  | 23,119  | 23,130  | 4.8                   | 4.7   | 4.4   | 4.3   | 4.1   |
| Rear-end crash        | 160,962          | 165,694 | 168,462 | 180,082 | 192,914 | 30.0                  | 31.2  | 31.8  | 33.3  | 34.2  |
| Angle crash           | 118,078          | 116,999 | 115,933 | 116,774 | 120,489 | 22.0                  | 22.0  | 21.9  | 21.6  | 21.4  |
| Left-turn crash       | 21,045           | 19,857  | 20,094  | 20,300  | 21,637  | 3.9                   | 3.7   | 3.8   | 3.8   | 3.8   |
| Right-turn crash      | 58,620           | 54,183  | 53,126  | 52,856  | 54,019  | 10.9                  | 10.2  | 10.0  | 9.8   | 9.6   |
| Other vehicle-vehicle | 44,485           | 43,675  | 44,484  | 45,859  | 48,201  | 8.3                   | 8.2   | 8.4   | 8.5   | 8.5   |
| Vehicle-barrier       | 33,559           | 32,891  | 33,150  | 33,084  | 33,655  | 6.3                   | 6.2   | 6.3   | 6.1   | 6.0   |
| Total                 | 536,497          | 530,689 | 528,960 | 540,522 | 564,106 | 100.0                 | 100.0 | 100.0 | 100.0 | 100.0 |