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Working Party on Lighting and Light-Signalling (GRE)

(Fifty-third session, 4-8 October 2004,
agenda item 14.2.)

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 was prepared by the expert from Japan, in order to amend the provisions regarding the mounting height, Class V mode and Class E mode in document TRANS/WP.29/GRE/2004/28. This proposal in its content is the combination of informal document No. 10 for the second GRE/AFS informal meeting and informal document No. 5-14 for the fifth GRE/AFS informal meeting which were both submitted by Japan. The modifications to the above-mentioned document are marked in **bold** characters.

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

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A. PROPOSAL

Paragraph 6.22.4.1.3., amend to read:

"6.22.4.1.3. None of the additional lighting units described in paragraph 6.20.4.1.2. above shall be positioned lower than 250 mm (F in the figure) nor higher than ~~1200 mm~~ **950 mm** (G in the figure) above the ground;"

Paragraph 6.22.7.4.2., amend to read:

"6.22.7.4.2. The class V mode(s) of the passing beam shall not operate unless one or more of the following conditions is/are automatically detected (V-signal applies):

- (a) roads in built-up areas and the vehicle's speed not exceeding ~~80~~ **60** km/h;
- (b) roads equipped with a fixed road illumination, and the vehicle's speed not exceeding ~~80~~ **60** km/h;
- (c) a road surface luminance of 1 cd/m² and/or a horizontal road illumination of 10 lx being exceeded continuously;
- (d) the vehicle's speed not exceeding 50 km/h."

Paragraph 6.22.7.4.3., amend to read:

"6.22.7.4.3. The class E mode(s) of the passing beam shall not operate unless the vehicle's speed exceeds 70 km/h and ~~one or more of the following conditions~~ **the road characteristics corresponding to motorway conditions 8/** is/are automatically detected."

Footnote 8/, amend to read:

"8/ Traffic directions being separated by means of road construction, or, a corresponding lateral distance of opposing traffic is identified **in order to avoid undue glare from vehicles' headlamps in opposing traffic.**"

Paragraph 6.22.7.4.5.(i), amend to read (inserting footnote 10/):

"6.22.7.4.5.(i) a horizontal movement are larger than 100 times the mounting height of the respective lighting unit; **10/**"

Insert a new footnote 10/, to read:

10/ This provision does not apply for the bending mode of the passing beam."

* * *

B. JUSTIFICATION

Ad para. 6.22.4.1.3.:

In the global technical regulation (gtr), 950 mm is being proposed, as a maximum mounting height of passing beam headlamp. In order to prevent the drivers of the preceding vehicles from undue glare, 1200 mm is too high and 950 mm would be appropriate.

Ad para. 6.22.7.4.2.

In the sub-paragraph (a) and (b), even though there are conditions for detecting the built-up area and/or the fixed road illumination, there are no quantitative conditions for the environmental luminance values. In such a condition, operating the Class V mode with the vehicle speed of 80 km/h is very dangerous because the forward illumination performance of the Class V is poor (only 6 lux min. at 50R). Therefore, it is considered that the vehicle speed should be reduced from 80 km/h to 60 km/h.

Ad para. 6.22.7.4.3.

Even though there is the vehicle speed condition of 110 km/h, detecting the motorway characteristics is/are needed for the Class E mode, because there is a possibility of driving on the ordinary roads with more than 110 km/h. Conversely, if the motorway characteristics can be detected, it is considered that operating the Class E mode with vehicle speed of 70 km/h is no problem. Thus, sub-paragraph (b) is not necessary and can be deleted.

Moreover, as shown in the photographs below, in Japan some motorways are equipped with only low separation between the driving directions and lack antiglare fences. In other words, vehicles on these motorways are running in the same conditions as those on open roads. It should be avoided to use the class E mode of the passing beam that is less restricted about glare on oncoming traffic. This is the reason why Japan would also propose to amend the footnote 8/.

Ad para. 6.22.7.4.5.(i)

The 100 times provision is originally for the purpose of the appropriate extent of the bending angle without producing undue glare for the opposing driver. Under the motorway condition, the driver has a tendency that he would like farther distance illumination of the forward road, because the vehicle speed is higher. In the case of the curved road on motorway, it is considered that the driver would like a little more angle of the bending mode for the farther distance illumination. In addition, motorways basically have an anti-glare fence and there is no possibility of undue glare from the opposing traffic lane. Therefore, in the case of the motorway condition, this provision is not needed, and without this provision, the appropriate angle of the bending mode for the drivers can be realised under the motorway condition.

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Investigation of Motorway Median Strips

1. 60 km/h Speed Limit Section



Tokyo Metropolitan Expressway

2. 70 km/h Speed Limit Section



Futtsu-Tateyama Expressway

3. 80 km/h Speed Limit Section



Chuo Expressway



Chiba-Togane Expressway



Aqualine Trans-Tokyo Bay



Tokyo Outer Loop



Tokyo Metropolitan Coastal Expressway

4. 100 km/h Speed Limit Section



Joban Expressway



Chuo Expressway
