

Report

on the 6th session of the GRE Informal Working Group (IWG) on the development of a Global Technical Regulation (gtr) concerning lighting installation from 22 – 25 November 2004 in Bonn

Chairman: Mr. M. Gorzkowski (Canada)

Attendance: Canada, Germany, Italy, Japan, Netherlands, Norway, Sweden, United Kingdom, United States
European Commission
CLEPA, GTB, OICA

Previous sessions:

1. 10-12 January 2001 in Geneva
2. 4-7 September 2001 in Ottawa
3. 8-10 January 2002 in Geneva
4. 29/30 March 2004 in Geneva
5. 7-11 June 2004 in Ottawa

The Chairman had prepared a working document which incorporates the revised version of the draft gtr, including the elements agreed at the 5th session (see report CE-3743); this document GRE-gtr6-1 was used as the basis for discussion.

As it was not possible to conclude discussion on the entire text of the draft gtr, the IWG agreed to hold a further session in conjunction with the 54th GRE session in Geneva. This 7th IWG session would be held on 4th April 2004 afternoon, starting at 14.30h, and on 5th April 2004 morning.

1. GENERAL ISSUES

a) Definitions

The IWG agreed to use, if possible, the definitions in S.R. 1, which had been accepted at the 134th WP.29 session. This would apply in particular to vehicle categories and to vehicle dimensions, where structural length and width were inserted.

b) Open issues

On a number of specific requirements in the gtr, involving in particular the presence of certain individual devices (mandatory, optional, prohibited) the IWG was unable to reach a common position. Following a proposal by the Chairman, in such cases

- the decision should be left to a determination by each CP;
- the relevant items and paragraphs would be noted in a separate Annex to the gtr;
- if appropriate, these items should be considered by AC.3.

A standard text prepared by the Chairman was inserted in the relevant paragraphs, e.g.

“Based on the determination by each Contracting Party, the presence oflamps may be mandatory or optional (see Annex....)”

If necessary, reference to this text is indicated in Part 2. of this report.

It was also recommended to highlight to AC.3 some fundamental differences between ECE and US requirements and to illustrate this with examples.

c) Correlation of the gtr with existing national regulations

Following a statement by the expert from USA that NHTSA intends to replace the relevant sections of FMVSS 108 by the requirements of the gtr, the IWG drew attention to the provisions of Articles 1 and 7 of the 1998 Agreement and noted that it would be necessary to consider different aspects of correlation between the gtr and existing national regulations of a CP:

1. Compliance with the gtr requirements would imply higher cost and/or restricted design flexibility for manufacturers; this could be justified if a safety benefit can be demonstrated.
2. Compliance with the gtr requirements would mean lower cost and/or more design flexibility for manufacturers; this could be justified if it could be demonstrated that there was no degradation in safety.

It was also noted that the positions of ECE/Japan/USA might be different with regard to items not mentioned in the gtr; such items might be allowed or prohibited.

d) Automatic activation/de-activation of devices

The IWG drew attention to its decision at the 4th session to remove the general requirement in paragraph 4.11.4. (In the absence of specific provisions no device shall be automatically operated) and to insert suitable provisions for the individual devices. It was noted that national use regulations may impose different conditions for the operation of certain devices, e.g. visibility distance (50 or 100m) for front or rear fog lamps. On the other hand, present technology would allow automatic activation/de-activation as a function of ambient conditions. As a consequence, automatic operation should not be prohibited, considering that the manufacturer has the obligation to provide a system which can comply with use regulations. The safety benefits and risks should be carefully reviewed for the different devices. In any case, the driver must be in a position to always activate/de-activate the system manually.

2. READING OF THE DRAFT GTR

Discussion at the 5th session had been suspended at the end of paragraph 5.18. Reading was resumed at paragraph 5.11. and pursued to the end of the text. The IWG then revisited those paragraphs which had been commented and noted for further consideration at the 5th session. Decisions and comments are indicated by paragraph numbers, purely editorial amendments are not mentioned.

5.11. REAR FOG LAMP

5.11.1. Presence

USA noted that safety evidence should be provided to justify mandatory presence; European countries were invited to submit suitable cost/benefit data. For the time being, the standard text (see Part 1.c)) was inserted, referring to mandatory or optional presence.

5.11.7. Electrical connections

5.11.7.1. Read: *“Rear fog lamps may be switched on and off automatically: However, it shall be always possible to override the automatic switch and to switch them on and off manually.”*

5.11.7.5. Deleted

5.12. PARKING LAMP

The IWG discussed several solutions for a re-arrangement of the requirements: Insert a new title PARKING LIGHT FUNCTION, refer to paragraphs 5.9. and 5.10., or revise the requirements for the electrical connections. It was finally decided to leave the text unchanged.

5.12.1. Presence

On vehicles with structural length $\leq 6000\text{mm}$ and width $\leq 2030\text{ mm}$, optional.

5.12.5. Geometric visibility, horizontal

Text to be aligned to ECE-R 48, with new angles β_3 and β_4 indicated in Annex 3 Figure 2.

5.13. END-OUTLINE MARKER LAMP

5.13.1. Presence

Read: *“Mandatory on vehicles with structural width $> 2030\text{mm}$; optional on vehicles with structural width $1800..2030\text{mm}$ and incomplete vehicles. Prohibited on other vehicles.”*

5.13.2. Number

Read: "2 or 4 visible towards the front; 2 or 4 visible towards the rear; at least one pair of the front/rear lamps must meet the requirements in paragraphs 5.13.3. to 5.13.8."

5.13.5. Geometric visibility

Horizontal: 45° inboard, 80° outboard

Vertical: 10° upward, 5° upward if H1 > 2100mm

5.13.9. Other provisions: As in the draft text.

5.14. REAR RETRO-REFLECTOR, NON-TRIANGULAR

5.15. REAR RETRO-REFLECTOR, TRIANGULAR

The IWG recommended to eliminate the distinction between non-triangular and triangular rear retro-reflectors and to combine the two paragraphs into one (5.14. new). Requirements, e.g. regarding position and geometric visibility, would be suitably combined from the 2 paragraphs.

The standard text (see Part 1. c)) was inserted regarding the mandatory presence of triangular rear retro-reflectors on trailers; the term "triangular" would be defined in an Annex, using the requirements in ECE-R 3, Annex 5. If triangular rear retro-reflectors are mandatory, additional non-triangular rear retro-reflectors are allowed, provided that they are grouped with the other rear light-signalling devices.

5.14.1.3. Arrangement: *"In case of triangular rear retro-reflectors, the apex of the triangle shall be directed upwards; no other lamp shall be placed inside the triangle."*

5.14.4.2. Position, height

The IWG accepted a compromise proposal by the Chairman: *"H2 ≥ 350mm, this value may be reduced to 250mm if the shape of the bodywork makes it impossible to keep within 350mm."*

5.17. SIDE RETRO-REFLECTORS, NON-TRIANGULAR

5.17.1. Presence

The standard text (see Part 1. c)) was inserted regarding mandatory or optional presence on vehicles with structural length ≤ 6000mm.

5.17.2. Number. Read: *2 on each side, if required."*

5.17.4. Position

5.17.4.2. Height. Same as under paragraph 5.14.4.2.

5.17.4.3. Length: The IWG did not accept a proposal by OICA to introduce an alternative measurement from the front axle for category 1 vehicles.

5.18. SIDE-MARKER LAMPS

5.18.1. Presence

Same as under paragraph 5.17.1.

5.18.4. Position

5.18.4.2. Height. The value of 350mm was introduced with the standard text (see Part 1.c)) referring to 350 and 250mm.

5.18.7.2. Reference shall be to paragraph 5.5.7.4. Flashing in phase would be an additional requirement for the USA.

5.19. DAYTIME RUNNING LAMPS

5.19.1. Presence

The standard text (Part 1. c)) was inserted regarding mandatory, optional or prohibited presence of the daytime running light function. Add: *"The same CP may allow or prohibit other lighting or light-signalling devices described in this gtr to perform the function of the daytime running lamp."*

5.19.4. Position

5.19.4.2. Height. In view of the high maximum intensities permitted by the US SAE standard and the large number of complaints about glare, the IWG accepted a H1 value of 950mm.

5.19.7. Electrical connections

5.19.7.1. Read: *.. "the daytime running lamps or other devices allowed by paragraph 5.19.1..."*

5.19.7.2. Replace by standard text (see Part 1. c)).

5.19.7.4. To be deleted. OICA noted that Sweden requires operation of the rear position lamps simultaneously with daytime running lamps, which is in contradiction to ECE-R 48.

5.19.8. Tell-tale. The draft text was accepted

5.20. IDENTIFICATION LAMPS (Front and rear)

5.20.1. Presence

The standard text (Part 1. c)) was inserted regarding the mandatory, optional or prohibited presence for vehicles with structural width > 2030mm.

5.21. CORNERING LAMP

The IWG agreed that the provisions of ECE-R 48 should apply, the text to be aligned if necessary.

5.21.9.1. Distance between cornering lamp and front direction indicator lamp.

The IWG agreed to delete this paragraph and to add "*cornering lamp*" to the list of lamps in paragraph 5.5.3.2.

5.22. CONSPICUITY TREATMENT

Italy, Japan and UK requested deletion of this paragraph, as such elements would be added after type approval of the vehicle. Germany and US supported the requirements, at least in square brackets. The IWG agreed to insert the standard text (see Part 1. c)) regarding the requirement for specific conspicuity treatment (line marking, contour marking,....). It was also recommended to wait for the results of the discussion in the Informal Meeting on contour marking, held on 25 November 2004. For the time being, the remainder of paragraph 5.22. was deleted.

ANNEXES

To be added:

Annex 4	Text of Annex 10 to ECE-R 48
Annex 5	Specifications for retro-reflectors, based on ECE-R 3
Annex 6	Provisions to be determined by CP's, to be established

TABLE OF CONTENT

To be amended to reflect the results of discussion at the 5th and 6th IWG sessions.

3. DEFINITIONS

3.2.3. and 3.2.4. Length and width

Amended to read "*structural...*", definition as in S.R.1

3.2.6. Failure tell-tale

Read: "*The operational tell-tale or the circuit-closed tell-tale may be used to indicate the failure of a device.*"

3.2.15. Extreme outer edge

Align to paragraph 2.14. in ECE-R 48 and add "*Running boards*" and "*Outside door handles*"

3.3.17.1. Single lamp

Remove the square brackets.

3.4.3. Front fog lamp

Remove the square brackets.

3.5.18. Conspicuity treatment

To be reviewed, according to the decision on paragraph 5.22.

4. GENERAL SPECIFICATIONS

4.1. Compliance of devices

The IWG accepted the text proposed by Italy.

4.1.1. Colour specifications

To be reviewed according to the decision on paragraph 4.22.

4.3. Adjustment

The word “easily” was deleted; the text reads as follows: “.shall be so installed that correct adjustment can be carried out according to the applicable specifications and to the instructions provided by the vehicle manufacturer.”

4.8. Grouped, combined or reciprocally incorporated lamps

4.8.1. The draft text was provisionally accepted

4.8.1. and 4.8.2. To be re-instated

4.9. Measurements

To be reviewed and aligned to S.R.1

4.11. Electrical connections

4.11.4 Automatic operation

Deletion of this paragraph was confirmed.

4.16. Lighting devices installed on, or covered by, movable components

To be aligned to the text adopted by GRE at its 53rd session as Supplement 11 to the 02 series of amendments to ECE-R 48

4.18. Marking of devices

To be deleted, see paragraph 4.1.

4.20. Temporary substitution of a device

The text is a generalized version of the provisions in paragraph 5.24. of ECE-R 48, which refer to the rear position lamp function, and was accepted by the majority of experts.

4.22. Colour of light

Taking the table of different requirements (1958 Agreement, USA, 1998 Agreement) as a basis, the IWG considered several possibilities to address colour assignment in the gtr:

- Delete the table of colour assignment for the individual devices (recommended by OICA)
- Maintain the table (possibly as an Annex) and insert the standard text (see Part 1. c)) for those colours which are not agreed, i.e. front fog lamps, rear direction indicators, hazard warning signal, front position lamp, end-outline marker lamp, side retro-reflector, side marker lamp, daytime running lamp (recommended by Japan and CLEPA)

It was agreed to leave colour assignment to the CP's, and to address this issue in the next stage of harmonization.

Following a proposal by Germany, it was also agreed to insert the colour specifications (trichromatic co-ordinates) in the gtr.

5. INDIVIDUAL SPECIFICATIONS (Open items from the 5th and 6th IWG session)

5.1. DRIVING BEAM HEADLAMP

5.1.7. Electrical connections

5.1.7.4. Automatic operation

Several experts (Japan, NL, Sweden, UK) entered a study reservation regarding automatic operation, noting the possible conflict with national use regulations. Following a proposal by the Chairman, the IWG agreed to delete the second sentence, and submit the issue of automatic operation of driving beam headlamps to GRE.

5.2. PASSING BEAM HEADLAMP

5.2.4. Position

5.2.4.2. Height H1

It was noted that

- the value of 950mm is presently not required in USA, the limit value is 1332mm; NHTSA is conducting a study on the safety benefits of reducing the H1 value to 950mm, results should be available in about 2 months;

- complaints registered in the US are not based on European headlamp design (photometrics and aiming/levelling) ; there is no evidence on the correlation mounting height/glare; H1 \leq 1200mm is recommended (Italy, Norway, Sweden, OICA);
- restriction of mounting height is necessary for high-intensity headlamps (Japan).

The IWG accepted a provisional solution, to be put in square brackets:

H1 \leq 1200mm

H1 \leq 950mm for motor vehicles equipped with headlamps whose light sources have an objective luminous flux >2000lm.

OICA was requested to provide data regarding headlamp mounting height and height of H-point for SUV's and trucks.

5.2.6.2. and 5.2.6.3. Aiming/levelling

As a first approach it was suggested to delete paragraph 5.2.6.3. and to amend paragraph 5.2.6.2. to read: *"The manufacturer shall...of the passing beam can be maintained according to the requirements of the respective CP."*

As several experts were on favour of requiring automatic levelling in the gtr, the IWG recommended to amend the 3rd sentence of paragraph 5.2.9. to read: *"Passing beam headlamps...headlamp cleaning devices and automatic level maintenance." (Under discussion)*

5.3. FRONT FOG LAMP

5.3.7. Electrical connections

5.3.7.3. Automatic operation

In view of conflicting opinions regarding automatic operation, use regulations and available fog detection technology, the IWG inserted a provisional text, subject to further discussion:

"It shall always...off manually. If automatic operation of the front fog lamps is provided, it shall only be able to be set by the driver each time after the driver switches it off manually, or the device ...engine is possible."

5.5. DIRECTION INDICATOR LAMP AND HAZARD WARNING SIGNAL

5.5.3. Arrangement

5.5.3.2. and 5.5.3.3. (new) Distance/photometric output

Add *"daytime running lamps"*

5.5.5. Geometric visibility

5.5.5.3. View of apparent surface

The IWG noted that the requirement of 10 cm² for side direction indicators is not in ECE-R 48. Japan confirmed that this requirement is not applied for category M₁/N₁ vehicles.

5.5.9. Other provisions

5.5.9.1. Flashing frequency

Read: *"The direction indicator lamps shall emit light at a steady rate of 90±30 flashes/min. The duration of each flash and the interval between 2 successive flashes shall be constant. The minimum duration of each flash shall be 0.2s."*

5.6 MIDDLE SIDE DIRECTION INDICATOR

This paragraph, which reflects national provisions in Japan, was inserted by the Chairman after the 5th session of the IWG. In a general exchange of views it was noted that

- the standard text (see Part 1. c)) should be inserted for this paragraph;
- mandatory presence of side direction indicators on trailers should be inserted, as it is the more stringent requirement (EC, UK, USA); see also paragraph 5.5.2.;
- the provisions of paragraph 5.6. should be included in paragraph 5.5. (Germany);
- geometric visibility requirements should be based on the same measurement system as for the other devices (GTB).

The Chairman agreed to prepare a consolidated version of paragraphs 5.5. for the 7th session.