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Working Party on Lighting and Light-Signalling (GRE)

(Fifty-first session, 15-19 September 2003,
agenda item 1.1.6.)

PROPOSAL FOR DRAFT COLLECTIVE AMENDMENTS TO
REGULATIONS Nos. 5, 19, 31, 37, 48, 53, 74, 86 and 99
(with regard to the definitions of the colour "selective yellow")

Transmitted by the expert from the Working Party "Brussels 1952" (GTB)

Note: The text reproduced below was prepared by the expert from GTB with the aim of arriving at consistent provisions concerning the respective Regulations and aligning the provisions of the Regulations with the proposed amendments to the Vienna Convention with regard to the definitions of the colour "selective yellow".

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

GE.03-22474

A. PROPOSAL

ECE REGULATION No. 5 - Sealed beam headlamps

(The following text is based upon Supplement 4 to the 02 series of amendments)

Paragraph 9., amend to read (including the deletion of the reference to footnote 11/ and footnote 11/):

"9. COLOUR

The light emitted shall be white or selective yellow. In the latter case **the illumination produced on the screen by the passing beam must meet the requirements of Table 2 with all the figures multiplied by a factor of 0.84 and the colorimetric characteristics shall lie within the area formed by the following limits:**

limit towards red	$y = 0.138 + 0.580 x$
limit towards green	$y = 1.290 x - 0.100$
limit towards white:	$y = 0.940 - x$ and $y = 0.440.$ "

Paragraph 11., amend the reference to footnote 12/ and footnote 12/ to read footnote 11/.

* * *

ECE REGULATION No. 19 – Front fog lamps

(The following text is based upon Supplement 9 to the 02 series of amendments)

Paragraph 7., amend to read (deletion of the reference to footnote 4/ and footnote 4/):

"7. COLOUR

Approval may be obtained for a type of front fog lamp emitting either white or selective yellow light. The colouring, if any, of the beam"

Paragraph 8., amend the reference to footnote 5/ and footnote 5/ to read footnote 4/.

Annex 1, item 9, amend to read:

"9. Brief description:

Colour of light emitted: white / selective yellow 2/

Category as described by the relevant
..... "

Annex 6, paragraph 1.4., amend to read:

"1.4. The chromaticity coordinates shall be ...

The photometric performance of a front fog lamp emitting **a selective** yellow light when equipped with a colourless filament lamp shall be the values contained in this Regulation multiplied by 0.84."

Annex 7, paragraph 1.3., amend to read:

"1.3. The chromaticity coordinates shall be ...

The photometric performance of a front fog lamp emitting **selective** yellow light when equipped with a colourless filament lamp shall be multiplied by 0.84."

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ECE REGULATION No. 31 – Halogen sealed-beam headlamps
(The following text is based upon Supplement 4 to the 02 series of amendments)

Paragraph 9.1., amend to read:

"9.1. Approval may be obtained for HSB units emitting either white or selective yellow light. 11/ Expressed in CIE trichromatic co-ordinates, the corresponding colorimetric characteristics for selective yellow light are as follows at the test voltage:

limit towards red	$y = 0.138 + 0.580 x$
limit towards green	$y = 1.290 x - 0.100$
limit towards white:	$y = 0.940 - x$ and
	$y = 0.440.$ "

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ECE REGULATION No. 37 – Filaments lamps
(The following text is based upon Supplement 23 to the 03 series of amendments -
TRANS/WP.29/2003/48)

Paragraph 3.6.2., amend to read:

"3.6.2. The colorimetric characteristics of

.....

finished filament lamps emitting selective-yellow light:

limit towards red	$y = 0.138 + 0.580 x$
limit towards green	$y = 1.290 x - 0.100$

**limit towards white: $y = 0.940 - x$ and
 $y = 0.440$;**

finished filament lamps emitting amber light:
..... "

Annex 1,

Sheet H1/1, footnote 4/, amend to read:

"4/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet H3/1, footnote 1/, amend to read:

"1/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet H4/1, footnote 3/, amend to read:

"3/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet H7/1, footnote 3/, amend to read:

"3/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet H8/1, footnote 4/, amend to read:

"4/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet H11/1, footnote 4/, amend to read:

"4/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet HB3/2, footnote 6/, amend to read:

"6/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet HB4/2, footnote 6/, amend to read:

"6/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet HS1/1, footnote 3/, amend to read:

"3/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet R2/1, footnote 2/, amend to read:

"2/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet S1/S2/1, footnote 1/, amend to read:

"1/ **The colour of the light emitted shall be white or selective-yellow."**

Sheet S3/1, footnote 1/, amend to read:

"1/ **The colour of the light emitted shall be white or selective-yellow."**

ECE REGULATION No. 48 – Installation of lighting and light-signalling devices
(The following text is based upon Supplement 4 to the 02 series of amendments)

Paragraph 5.15., amend to read:

"5.15. The colours of the light

.....
front fog lamp: white or **selective** yellow
reversing lamp:

..... "

* * *

ECE REGULATION No. 53 – Installation of lighting and light-signalling devices on L₃ category vehicles.
(The following text is based upon Supplement 3 to the 01 series of amendments)

Paragraph 5.13., amend to read:

"5.13. Colours of the lights

The colours of

.....
front fog lamp: white or **selective** yellow
rear fog lamp: red"

* * *

ECE REGULATION No. 74 – Installation of lighting and light-signalling devices on mopeds
(The following text is based upon Supplement 3 to the 01 series of amendments)

No changes are necessary for the re-definition.

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ECE REGULATION No. 86 – Installation of lighting and light-signalling devices on tractors
(The following text is based upon Supplement 1 to the original version)

Paragraph 5.15., amend to read:

"5.15. The colours of the lamp

.....
front fog lamp: white or selective yellow
reversing lamp:

..... "

* * *

ECE REGULATION No. 99 – Gas-discharge light sources (The following text is based upon Supplement 2 to the original version - TRANS/WP.29/2003/33)

Paragraph 2.1.2.3., amend to read:

"2.1.2.3. bulb colour. A **selective** yellow bulb or an additional **selective** yellow outer bulb, solely intended"

Paragraph 2.4.2., amend to read:

"2.4.2. of gas-discharge light source. If the applicant so desires the same approval code may be assigned to both gas-discharge light sources emitting white and **selective** yellow light (see paragraph 2.1.2.3.)."

Paragraph 3.8., amend to read:

"3.8. Luminous flux

..... relevant data sheet. In the case where white and **selective** yellow is specified for the same type, the objective value applies to light sources emitting white light, whereas the luminous flux of the light source emitting **selective** yellow light shall be at least 68 per cent of the specified value."

Paragraph 3.9.1., amend to read:

"3.9.1. The colour of the light emitted shall be white or **selective** yellow as prescribed on the relevant data sheet."

Paragraph 3.9.3., amend to read:

"3.9.3. In case of selective yellow light, the colorimetric characteristics shall lie within the area formed by the following limits:

limit towards red	$y = 0.138 + 0.580 x$
limit towards green	$y = 1.290 x - 0.100$
limit towards white:	$y = 0.940 - x$ and
	$y = 0.440.$ "

Paragraph 3.11., amend to read:

"3.11. Standard gas-discharge light sources
..... relevant data sheet. In case of a type emitting white and **selective** yellow light, the standard light source shall emit white light."

B. JUSTIFICATION

Corrections related to "colourless bulb"

GRE approved during the forty-seventh session in October 2001 proposals concerning "white light" (TRANS/WP.29/GRE/2000/10/Rev.1 and TRANS/WP.29/GRE/2000/10/Rev.1/Add.1). In March 2002, WP.29 approved these proposals as part of draft Supplement 22. It was promised to GRE in the justification that all filament lamp sheets would be checked in the future on the wording "colourless bulb" at the time that the sheets would be revised. However, for some of these categories of light sources, it might take a long time before such an amendment might take place. This was the reason to start to draft a proposal for an amendment.

Specifications of "yellow"

While checking all filament lamp datasheets in Regulation No. 37 on "colourless bulb" it was found that, from the introduction of H8 onwards, the colour "yellow" was introduced instead of "selective yellow" as before. This change was made at the time that selective yellow was deleted from the new headlamp Regulations Nos. 112 and 113. New selective yellow filament light sources from that moment onwards made no sense any longer except for those intended for front fog lamps, for which an enlarged area of colour boundaries is allowed. So the wording "yellow" is the wording for selective yellow with colour boundaries as specified for front fog lamps. Selective yellow has been specified in Regulation No. 37. Yellow has not been defined in Regulation No. 37. A correction was considered necessary.

New definitions of "selective yellow"

GTB proposes to align all "yellow", "selective yellow", "enlarged selective yellow" and "selective yellow for front fog"; to rename into "selective yellow" with colour boundaries:

limit towards red	$y = 0.138 + 0.580 x$
limit towards green	$y = 1.290 x - 0.100$
limit towards white:	$y = 0.940 - x$ and
	$y = 0.440$

These boundaries comprise all existing boundaries and are equal to the front fog selective yellow but extended to the spectral distribution to allow harmonization with SAE. See diagram below.

Notation of colour boundaries

Although GRE, in principle, decided in April 2003 at its fiftieth session to change the notation of colour boundaries, this proposal was written in the manner as was done before. This is not only to concentrate on the real content of the current proposal but also because this new style has not yet been proposed in detail.

Application of selective yellow

Current draft proposal does not intend to align the application of the colour selective yellow.

Note: Regulations Nos. 112, 113, 48 and 53 restrict the use of selective yellow for front fog lamps while Regulations Nos. 5, 31, 74 and 86 allow selective yellow for passing, driving beam and under restrictions front position lamps.

Diagram:

