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World Forum for Harmonization of Vehicle Regulations**Working Party on Lighting and Light-Signalling****Eighty-eighth session**

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Item 4 of the provisional agenda

Simplification of Lighting and Light-Signalling UN Regulations**Proposal for a new [04] series of amendments to UN
Regulation No. 53****Submitted by the Informal Working Group on Simplification of
Lighting and Light-Signalling Regulations***

The text reproduced below was prepared by the Informal Working Group on Simplification of Lighting and Light-Signalling Regulations (IWG SLR) with the aim to enable the phasing out of the installation of older lamps/devices. This proposal incorporates the text of the proposal by Czechia and Germany, as agreed at the eighty-seventh session of the Working Party on Lighting and Light-Signalling (GRE) (ECE/TRANS/WP.29/GRE/2022/15). The modifications to the existing text of UN Regulation No. 53 are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Paragraph 6.1.1.1., amend to read:

“6.1.1.1. For motorcycles having a cylinder capacity $\leq 125 \text{ cm}^3$ and a maximum power $\leq 11 \text{ kW}$ (*)

One or two, ~~of approved type~~ **type-approved** according to:

- ~~(a) Class C, D or E of UN Regulation No. 113;~~
- ~~(b) UN Regulation No. 112;~~
- ~~(c) UN Regulation No. 1;~~
- ~~(d) UN Regulation No. 8;~~
- ~~(e) UN Regulation No. 20;~~
- ~~(f) UN Regulation No. 57;~~
- ~~(g) UN Regulation No. 72;~~
- ~~(h) UN Regulation No. 98;~~
- ~~(i) Class A, B, D, CS, or DS or ES of the 01 or subsequent series of amendments to UN Regulation No. 149.”~~

Paragraph 6.1.1.2., amend to read:

“6.1.1.2. For motorcycles having a cylinder capacity $> 125 \text{ cm}^3$ or a maximum power $> 11 \text{ kW}$ (*)

One or two, ~~of approved type~~ **type-approved** according to:

- ~~(a) Class D or E of UN Regulation No. 113;~~
- ~~(b) UN Regulation No. 112;~~
- ~~(c) UN Regulation No. 1;~~
- ~~(d) UN Regulation No. 8;~~
- ~~(e) UN Regulation No. 20;~~
- ~~(f) UN Regulation No. 72;~~
- ~~(g) UN Regulation No. 98;~~
- ~~(h) Class A, B, D, or DS or ES of the 01 or subsequent series of amendments to UN Regulation No. 149;~~

Two, ~~of approved type~~ **type-approved** according to:

- ~~(i) Class C of UN Regulation No. 113;~~
- ~~(j) Class CS of the 01 or subsequent series of amendments to UN Regulation No. 149.~~

* The power limits are based on maximum continuous rated power for electric propelled vehicles and maximum net power for vehicles propelled with a combustion engine.”

Paragraph 6.1.6.1., amend to read:

- “6.1.6.1. The passing-beam(s) may remain switched ON with the driving-beam(s).
However, when the vehicle is fitted with secondary driving-beam(s) approved in accordance with UN Regulations Nos. ~~113 or~~ 149, at least one of the following lamps shall remain switched ON with the secondary driving-beam(s):
- (a) Passing-beam(s);
 - (b) ~~Primary driving-beam approved according to UN Regulations Nos. 113 or 149;~~
 - (eb) Driving-beam of Class A or B approved according to the 01 ~~and or~~ subsequent series of amendments to UN Regulation No. 149.”

Paragraph 6.2.1.1., amend to read:

- “6.2.1.1. For motorcycles having a cylinder capacity $\leq 125 \text{ cm}^3$ and a maximum power $\leq 11 \text{ kW}$ (*)
One or two, ~~of approved type~~ **type-approved** according to:
- (a) ~~Class C, D or E of UN Regulation No. 113;~~
 - (b) ~~UN Regulation No. 112;~~
 - (c) ~~UN Regulation No. 1;~~
 - (d) ~~UN Regulation No. 8;~~
 - (e) ~~UN Regulation No. 20;~~
 - (f) ~~UN Regulation No. 57;~~
 - (g) ~~UN Regulation No. 72;~~
 - (h) ~~UN Regulation No. 98.~~
 - (i) ~~Class A, B, C, D, CS, or DS or ES of~~ **the 01 or subsequent series of amendments to** UN Regulation No. 149;
 - (j) ~~Class C or V of the 01 and subsequent series of amendments to UN Regulation No. 149.”~~

Paragraph 6.2.1.2., amend to read:

- “6.2.1.2. For motorcycles having a cylinder capacity $> 125 \text{ cm}^3$ or a maximum power $> 11 \text{ kW}$ (*)
One or two, ~~of approved type~~ **type-approved** according to:
- (a) ~~Class D or E of UN Regulation No. 113;~~
 - (b) ~~UN Regulation No. 112;~~
 - (c) ~~UN Regulation No. 1;~~
 - (d) ~~UN Regulation No. 8;~~
 - (e) ~~UN Regulation No. 20;~~
 - (f) ~~UN Regulation No. 72;~~
 - (g) ~~UN Regulation No. 98.~~
 - (h) ~~Class A, B, CD, or DS or ES of~~ **the 01 or subsequent series of amendments to** UN Regulation No. 149;
 - (i) ~~Class C or V of the 01 and subsequent series of amendments to UN Regulation No. 149.~~
- Two, ~~of approved type~~ **type-approved** according to:

(j) — Class C of UN Regulation No. 113;

(k) — Class CS of UN Regulation No. 149.

Class CS of the 01 or subsequent series of amendments to UN Regulation No. 149.”

Paragraph 6.2.3.1.4., amend to read:

“6.2.3.1.4. If installed, additional lighting unit(s) which provide bend lighting, type approved as part of the passing-beam according to UN Regulation No. ~~113~~ 149, shall be installed under the following conditions:

In the case of (a) pair(s) of additional lighting units, they shall be installed so that their reference centre(s) are symmetrical in relation to the median longitudinal plane of the vehicle.

In the case of a single additional lighting unit, its reference centre shall be coincident with the median longitudinal plane of the vehicle.”

Paragraph 6.2.5.7. and 6.2.5.8., amend to read:

“6.2.5.7. Additional light source(s) or additional lighting unit(s) may be activated only in conjunction with the principal passing-beam or the driving-beam to produce bend lighting. The illumination provided by the bend lighting shall not extend above the horizontal plane that is parallel with the ground and containing the reference axis of the headlamp producing the principal passing-beam for all bank angles as specified by the manufacturer during type approval of the device according to UN Regulation No. ~~113~~ 149.

6.2.5.8. The requirement in paragraph 6.2.5.7. above shall be tested as follows:

The test vehicle shall be set as specified in paragraph 5.4. of this Regulation. Measure the bank angles on both sides of the vehicle under every condition where the bend lighting is activated. The bank angles to measure are the bank angles specified by the manufacturer during type approval of the device according to UN Regulation No. ~~113~~ 149.

The handlebar may be fixed in the straight-ahead position so as not to move during the vehicle inclination.

For the test, the bend lighting may be activated by means of a signal generator provided by the manufacturer.

The system is considered to satisfy the requirements of paragraph 6.2.5.7. above, if all measured bank angles on both sides of the vehicle are greater than or equal to the minimum bank angles given in the communication form for the type approval of the device according to UN Regulation No. ~~113~~ 149.

Conformity to paragraph 6.2.5.7. above may be demonstrated by the manufacturer using other means accepted by the Type Approval Authority responsible for type approval.”

Paragraph 6.2.6.1., amend to read:

“6.2.6.1. The additional light source(s) or additional lighting unit(s) used to produce bend lighting shall be so connected that it (they) cannot be activated unless the headlamp(s) producing the principal passing-beam or the driving-beam is (are) also activated.

The additional light source(s) or additional lighting unit(s) used to produce bend lighting on each side of the vehicle may only be automatically activated when the bank angle(s) is(are) greater or equal to the minimum bank angle(s) given in the communication form for the type approval of the device according to UN Regulation No. ~~113~~ 149.

However, the additional light source(s) or additional lighting unit(s) shall not be activated when the bank angle is less than three degrees.

The additional light source(s) or additional lighting unit(s) shall be deactivated when the bank angle(s) is (are) less than the minimum bank angle(s) given in the communication form for the type approval of the device according to UN Regulation No. ~~113~~ or 149.”

Paragraph 6.3.2., amend to read:

“6.3.2. Arrangement

Two front indicators, **type-approved** as category 1, **1a or 1b** ~~(as specified in according to the 01 or subsequent series of amendments to UN Regulation No. 6, or to the 00 or subsequent series of amendments to UN Regulation 148;~~ or category 11, **11a, 11b or 11c** ~~specified in according to the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148).~~

Two rear indicators, **type-approved** as ~~category 2 as specified in according to the 01 or subsequent series of amendments to UN Regulation No. 6, or to the 00 or subsequent series of amendments to UN Regulation No. 148;~~ or category 12 ~~specified in according to the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148).~~”

Paragraph 6.4.1., amend to read:

“6.4.1. Number

One or two, **type-approved** as a category S1 device according to **the 02 or subsequent series of amendments to UN Regulation No. 7, or to the 00 or subsequent series of amendments to UN Regulation No. 148; or as a stop lamp for category L vehicles** according to **the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148.**

Optional one, **type-approved** as a category S3 device according to **the 02 or subsequent series of amendments to UN Regulation No. 7, or to the 00 or subsequent series of amendments to UN Regulation No. 148.**”

Paragraph 6.5.1., amend to read:

“6.5.1. Number

One, **type-approved** as a category 2 according to **the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148.**

The device may consist of several optical components designed to illuminate the space reserved for the registration plate.”

Paragraph 6.6.1., amend to read:

“6.6.1. Number

One or two if coloured white

or

Two (one per side) if coloured amber.

The device(s) shall be type-approved according to the 02 or subsequent series of amendments to UN Regulation No. 7, or to the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148.”

Paragraph 6.7.1., amend to read:

“6.7.1. Number

One or two, **type-approved according to the 02 or subsequent series of amendments to UN Regulation No. 7, or to the 00 or subsequent series of amendments to UN Regulation Nos. 50 or 148.**”

Paragraph 6.8.1., amend to read:

“6.8.1. Number

One or two, **type-approved as Class IA or IB according to the 02 or subsequent series of amendments to UN Regulation No. 3, or to the 00 or subsequent series of amendments to UN Regulation No. 150.**”

Paragraph 6.10.1., amend to read:

“6.10.1. Number

One or two, **type-approved as Class “F3” according to the 03 or subsequent series of amendments to UN Regulation No. 19, or to the 00 or subsequent series of amendments to UN Regulation No. 149.**”

Paragraph 6.11.1., amend to read:

“6.11.1. Number

One or two, **type-approved according to the 00 or subsequent series of amendments to UN Regulation Nos. 38 or 148.**”

Paragraph 6.12.1., amend to read:

“6.12.1. Number per side

One or two, **type-approved as Class IA or IB according to the 02 or subsequent series of amendments to UN Regulation No. 3, or to the 00 or subsequent series of amendments to UN Regulation No. 150.**”

Paragraph 6.13.2., amend to read:

“6.13.2. Number

One or two, type-approved according to the 00 or subsequent series of amendments to UN Regulation Nos. 87 or 148.”

Paragraph 6.16.1.1., amend to read:

“6.16.1.1. One, **type-approved as adaptive driving-beam (ADB) for vehicles of category L₃ according to the 01 or subsequent series to UN Regulation No. 149.**”

Paragraph 11.12., insert a new paragraph to read:

“**11.12. Transitional provisions applicable to the [04] series of amendments**

11.12.1. As from the official date of entry into force of the [04] series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the [04] series of amendments.

11.12.2. As from 1 September [2028], Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the preceding series of amendments, first issued after 1 September [2028].

11.12.3. Until 1 September [2030], Contracting Parties applying this Regulation shall accept type approvals to the preceding series of amendments, first issued before 1 September [2028].

11.12.4. As from 1 September [2030], Contracting Parties applying this Regulation shall not be obliged to accept type approvals, and extensions thereof, issued to the preceding series of amendments to this Regulation.

11.12.5. Notwithstanding the transitional provisions above, Contracting Parties who start to apply this Regulation after the date of entry into force of the most recent series of amendments are not obliged to accept type approvals which were granted in accordance with any of the preceding series of amendments to this Regulation.

11.12.6. Notwithstanding paragraph 11.12.4., Contracting Parties applying this Regulation shall continue to accept type approvals to the preceding series of amendments to this Regulation and extension thereof, for the vehicles

which are not affected by the changes introduced by the [04] series of amendments.

- 11.12.7. **Contracting Parties applying this Regulation may grant type approvals according to any preceding series of amendments to this Regulation.**
- 11.12.8. **Contracting Parties applying this Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this Regulation.”**

II. Justification

1. This proposal is based on the initial request by the expert of the European Commission at the eighty-fifth session of GRE, to modify the transitional provisions of the new 01 series of amendments to UN Regulations Nos. 148, 149 and 150 (informal document GRE-85-30 and paragraph 10 of ECE/TRANS/WP.29/GRE/85). IWG SLR was requested to consider the issue and to report back to GRE about the most appropriate way to amend impacted UN Regulations, in particular on whether it would be at device level or at installation level.
2. After analysis, IWG SLR agreed that the most practical way to introduce changes made to the 01 series of the UN Regulations Nos. 148, 149 and 150 was to prescribe them in lighting installation regulations, and particularly in the individual specifications of each function (paragraph 6). During the eighty-sixth session of GRE, this approach was generally supported with the request to avoid proliferation of new series of amendments to lighting installation regulations.
3. To determine which requirements needed to be added into UN Regulation No. 53, the International Motorcycle Manufacturers Association (IMMA) conducted an in-depth technical analysis of the new requirements introduced by the 01 series of the three UN device Regulations during Stage 2 / Step 1 of the SLR work. As a result of the evaluation, it was evident that the main technical changes were introduced into UN Regulation No. 149 for road illumination devices, namely all classes of passing-beam and driving-beam headlamps.
4. At the fifty-eighth IWG SLR meeting in October 2022, the European Commission requested to specify which device regulations (and their corresponding series of amendments) are allowed for each single function in installation regulations. This proposal reflects the request by the European Commission.
5. The proposed amendments will result in allowing only the installation of headlamps approved to the 01 series of UN Regulation No. 149, which implies phasing out a number of headlamp classes which are nowadays widely used. Such a restriction significantly increases the level of stringency of UN Regulation No. 53, and it is therefore necessary to create a new 04 series with its corresponding transitional provisions. The transitional period corresponds to the proposal by Czechia and Germany for a new 04 series of amendments to UN Regulation No. 53 (ECE/TRANS/WP.29/GRE/2022/15), adopted at the eighty-seventh session of GRE.
6. The words “and extensions thereof” have been added to paragraph 1.12.4. for clarification, to avoid different interpretations of the conditions. This is a specific request made by the expert from the European Commission.