

## Proposal for Amendment to the 02 series of amendments to Regulation No. 53

The text reproduced below was prepared by the expert from the International Motorcycle Manufacturers Association (IMMA) and IWG SLR with the aim to review the definitions given in Regulation No. 53-02 by comparing them with those in Regulation No. 48 and, in case of identical definitions, to delete them from Regulation No. 53. Thus, all identical definitions will only be kept in Regulation No. 48.

The modifications to the existing text of Regulation No. 53 are marked in bold for new or strikethrough for deleted characters.

### I Proposal

*Paragraph 2* amend to read:

"2. Definitions

For the purpose of this Regulation, **the definitions given in the latest series of amendments to UN Regulation No. 48 in force at the time of application for type approval shall apply, unless otherwise specified in this Regulation.**

~~2.1. "Approval of a vehicle" means the approval of a vehicle type with regard to the number and mode of installation of the lighting and light signalling devices;~~

~~2.2.2.1.~~ "Vehicle type" means a category of vehicles which do not differ from each other in such essential respects as:

~~2.2.1.2.1.1.~~ The dimensions and external shape of the vehicle;

~~2.2.2.2.1.2.~~ The number and position of the devices;

~~2.2.3.2.1.3.~~ The following shall likewise not be deemed to be "vehicles of a different type":

~~2.2.3.1.2.1.3.1.~~ Vehicles which differ within the meaning of paragraphs ~~2.2.1.2.1.1.~~ and ~~2.2.2.2.1.2.~~ above but not in such a way as to entail a change in the kind, number, position and geometric visibility of the lamps prescribed for the vehicle type in question; and

~~2.2.3.2.2.1.3.2.~~ Vehicles on which lamps approved under one of the Regulations annexed to the 1958 Agreement, or lamps allowed in the country in which the vehicles are registered, are fitted, or are absent where their fitting is optional;

~~2.3. "Transverse plane" means a vertical plane perpendicular to the median longitudinal plane of the vehicle;~~

- ~~2.4.2.2.~~ "*Unladen vehicle*" means a vehicle without a driver, or passenger, and unladen, but with its fuel tank full and its normal complement of tools;
- ~~2.5.2.3.~~ "*Lamp*" means a device designed to illuminate the road or to emit a light signal to other road users. Rear registration plate lamp and retro-reflectors are likewise to be regarded as lamps;
- ~~2.5.1.2.3.1.~~ "*Equivalent lamps*" means lamps having the same function and authorised in the country in which the vehicle is registered; such lamps may have different characteristics from those of the lamps with which the vehicle is equipped at the time of approval, on condition that they satisfy the requirements of this Regulation;
- ~~2.5.2.2.3.2.~~ "*Independent lamp*" means devices having separate apparent surfaces, separate light sources and separate lamp bodies;
- ~~2.5.3.2.3.3.~~ "*Grouped lamps*" means devices having separate apparent surfaces and separate light sources, but a common lamp body;
- ~~2.5.4.2.3.4.~~ "*Combined*" means devices having separate apparent surfaces, but a common light source and a common lamp body;
- ~~2.5.5.2.3.5.~~ "*Reciprocally incorporated*" means devices having separate light sources or a single light source operating under different conditions (for example, optical, mechanical, electrical differences), totally or partially common apparent surfaces and a common lamp body;
- ~~2.5.6.~~ "~~*Driving beam (main beam) headlamp*~~" means ~~the lamp used to illuminate the road over a long distance ahead of the vehicle;~~
- ~~2.5.7.~~ "~~*Passing beam (dipped beam) headlamp*~~" means ~~the lamp used to illuminate the road ahead of the vehicle without dazzling or causing undue discomfort to oncoming drivers and other road users;~~
- ~~2.5.7.1.~~ "~~*Principal passing beam (principal dipped beam)*~~" means ~~the dipped beam produced without the contribution of infrared (IR) emitters and/or additional light sources for bend lighting.~~
- ~~2.5.8.2.3.6.~~ "*Direction indicator lamp*" means the lamp used to indicate to other road-users that the driver intends to change direction to the right or to the left; A direction indicator lamp or lamps may also be used according to provisions of Regulation No. 97.
- ~~2.5.9.~~ "~~*Stop lamp*~~" means ~~the lamp used to indicate to other road users to the rear of the vehicle that its driver is applying the service brake;~~
- ~~2.5.10.~~ "~~*Rear registration plate illuminating device*~~" means ~~the device used to illuminate the space reserved for the rear registration plate; such a device may consist of several optical components;~~
- ~~2.5.11.2.3.7.~~ "*Front position lamp*" means the lamp used to indicate the presence of the vehicle when viewed from the front;

- ~~2.5.12.2.3.8.~~ "*Rear position lamp*" means the lamp used to indicate the presence of the vehicle when viewed from the rear;
- ~~2.5.13.2.3.9.~~ "*Retro-reflector*" means a device used to indicate the presence of a vehicle by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source;  
For the purpose of this Regulation, retro-reflecting number plates are not considered as retro-reflectors;
- ~~2.5.14.~~ "~~*Hazard warning signal*~~" means ~~the simultaneous operation of all of a vehicle's direction indicator lamps to show that the vehicle temporarily constitutes a special danger to other road users;~~
- ~~2.5.15.~~ "~~*Front fog lamp*~~" means ~~the lamp used to improve the illumination of the road in case of fog, snowfall, rainstorms or dust clouds;~~
- ~~2.5.16.~~ "~~*Rear fog lamp*~~" means ~~the lamp used to make the vehicle more easily visible from the rear in dense fog;~~
- ~~2.5.17.~~ "~~*Daytime running lamp*~~" means ~~a lamp facing in a forward direction used to make the vehicle more easily visible when driving during daytime.~~
- ~~2.5.18.~~ "~~*Interdependent lamp system*~~" means ~~an assembly of two or three interdependent lamps providing the same function.~~
- ~~2.5.18.1.~~ "~~*Interdependent lamp marked "Y"*~~" means ~~a device operating as part of an interdependent lamp system. Interdependent lamps operate together when activated, have separate apparent surfaces in the direction of the reference axis and separate lamp bodies, and may have separate light source(s).~~
- ~~2.5.19.~~ "~~*Lamps marked "D"*~~" means ~~independent lamps, approved as separate devices in such a way that they are allowed to be used either independently or in an assembly of two lamps to be considered as a "single lamp".~~
- ~~2.6.2.4.~~ "*Light-emitting surface*" of a "lighting device", "light-signalling device" or a retro-reflector means all or part of the exterior surface of the transparent material as declared in the request for approval by the manufacturer of the device on the drawing, see Annex 3;
- ~~2.7.2.5.~~ "*Illuminating surface*" (see Annex 3);
- ~~2.7.1.2.5.1.~~ "*Illuminating surface of a lighting device*" (**driving beam (main beam) headlamp, passing beam (dipped beam) headlamp, front fog lamp** paragraphs ~~2.5.6., 2.5.7. and 2.5.15. above~~) means the orthogonal projection of the full aperture of the reflector, or in the case of headlamps with an ellipsoidal reflector of the "projection lens", on a transverse plane. If the lighting device has no reflector, the definition of paragraph ~~2.7.2.2.5.2.~~ below shall be applied. If the light emitting surface of the lamp extends over part only of the full aperture of the reflector, then the projection of that part only is taken into account.

In the case of a passing-beam headlamp, the illuminating surface is limited by the apparent trace of the cut-off on to the lens. If the reflector and lens are adjustable relative to one another, the mean adjustment should be used;

In the case where any combination of a headlamp producing the principal passing-beam and additional lighting units or light sources designed to produce bend lighting are operated together, the individual illuminating surfaces, taken together, constitute the illuminating surface.

- ~~2.7.2.2.5.2.~~ **"Illuminating surface of a light-signalling device other than a retro-reflector" (direction indicator lamp, stop lamp, front position lamp, rear position lamp, hazard warning signal, rear fog lamp paragraphs 2.5.8., 2.5.9., 2.5.11., 2.5.12., 2.5.14. and 2.5.16. above)** means the orthogonal projection of the lamp in a plane perpendicular to its axis of reference and in contact with the exterior light-emitting surface of the lamp, this projection being bounded by the edges of screens situated in this plane, each allowing only 98 per cent of the total luminous intensity of the light to persist in the direction of the axis of reference. To determine the lower, upper and lateral limits of the illuminating surface, only screens with horizontal or vertical edges shall be used;
- ~~2.7.3.2.5.3.~~ **"Illuminating surface of a retro-reflector"** (para. ~~2.5.13.~~**2.3.9.** above) means the orthogonal projection of a retro-reflector in a plane perpendicular to its axis of reference and delimited by planes continuous to the outermost parts of the retro-reflector's optical system and parallel to that axis. For the purposes of determining the lower, upper and lateral edges of the device, only horizontal and vertical planes shall be considered;
- ~~2.8.2.6.~~ The *"apparent surface"* for a defined direction of observation means, at the request of the manufacturer or his duly accredited representative, the orthogonal projection of:
- Either the boundary of the illuminating surface projected on the exterior surface of the lens (a-b),
- Or the light-emitting surface (c-d),
- In a plane perpendicular to the direction of observation and tangential to the most exterior point of the lens (see Annex 3 to this Regulation);
- ~~2.9.~~ ~~"Axis of reference" (or "reference axis") means the characteristic axis of the lamp determined by the manufacturer (of the lamp) for use as the direction of reference (H = 0°, V = 0°) for angles of field for photometric measurements and for installing the lamp on the vehicle;~~
- ~~2.10.2.7.~~ **"Centre of reference"** means the intersection of the axis of reference with the exterior light-emitting surface; it is specified by the manufacturer of the lamp;

- 2.11. ~~"Angles of geometric visibility" means the angles which determine the field of the minimum solid angle in which the apparent surface of the lamp shall be visible. That field of the solid angle is determined by the segments of the sphere of which the centre coincides with the centre of reference of the lamp and the equator is parallel with the ground. These segments are determined in relation to the axis of reference. The horizontal angles  $\beta$ , correspond to the longitude and the vertical angles  $\alpha$  to the latitude;~~
- 2.12.2.8. "Extreme outer edge", on either side of the vehicle means the plane parallel to the median longitudinal plane of the vehicle and touching the lateral extremity of the vehicle, disregarding the projection or projections:
- 2.12.1.2.8.1. Of rear-view mirrors,
- 2.12.2.2.8.2. Of direction indicator lamps,
- 2.12.3.2.8.3. Of front and rear position lamps and retro-reflectors;
- 2.13.2.9. "Over-all width" means the distance between the two vertical planes defined in paragraph 2.12.2.8. above;
- 2.14. ~~"A single lamp" means:-~~
- ~~(a) A device or part of a device having one lighting or light signalling function, one or more light source(s) and one apparent surface in the direction of the reference axis, which may be a continuous surface or composed of two or more distinct parts; or~~
  - ~~(b) Any assembly of two lamps marked "D", whether identical or not, having the same function, or~~
  - ~~(c) Any assembly of two independent retro reflectors, whether identical or not, that have been approved separately; or~~
  - ~~(d) Any interdependent lamp system composed of two or three interdependent lamps marked "Y" approved together and providing the same function.~~
- 2.15. ~~"Distance between two lamps" which face in the same direction means the shortest distance between the two apparent surfaces in the direction of the reference axis. Where the distance between the lamps clearly meets the requirements of the Regulation, the exact edges of apparent surfaces need not be determined;~~
- 2.16. ~~"Operating tell tale" means a visual or auditory signal (or any equivalent signal) indicating that a device has been switched on and whether or not it is operating correctly;~~
- 2.17. ~~"Circuit closed tell tale" means a visual (or any equivalent signal) indicating that a device has been switched on, but not indicating whether or not it is operating correctly;~~

- ~~2.18.~~ "~~Optional lamp~~" means a lamp, the installation of which is left to the discretion of the manufacturer;
- ~~2.19.~~ "~~Ground~~" means the surface on which the vehicle stands which should be substantially horizontal;
- ~~2.20.~~ "~~Device~~" means a component or combination of components used in order to perform one or several functions.
- ~~2.21.~~**2.10.** "*Colour of the light emitted from the device*". The definitions of the colour of the light emitted given in Regulation No. 48 and its series of amendments in force at the time of application for type approval shall apply to this Regulation.
- ~~2.22.~~**2.11.** "*Gross vehicle mass*" or "maximum mass" means the technically permissible maximum laden mass as declared by the manufacturer.
- ~~2.23.~~**2.12.** "*Laden*" means so loaded as to attain the gross vehicle mass as defined in paragraph ~~2.22.~~**2.11.** above.
- ~~2.24.~~**2.13.** "*Horizontal inclination*" means the angle created between the beam pattern when the motorcycle is set as specified in paragraph 5.4. of this Regulation, and the beam pattern when the motorcycle is banked (see drawing in Annex 6);
- ~~2.25.~~**2.14.** "*Horizontal inclination adjustment system (HIAS)*" means a device that adjusts the horizontal inclination of the headlamp towards zero;
- ~~2.26.~~**2.15.** "*Bank angle*" means the angle made with the vertical by the vertical longitudinal median plane of the motorcycle, when the motorcycle is rotated about its longitudinal axis (see drawing in Annex 6);
- ~~2.27.~~**2.16.** "*HIAS signal*" means any control signal or, any additional control input to the system or, a control output from the system to the motorcycle;
- ~~2.28.~~**2.17.** "*HIAS signal generator*" means a device, reproducing one or more of the HIAS signals for system test;
- ~~2.29.~~**2.18.** "*HIAS test angle*" means the angle  $\delta$  created by the headlamp cut-off line and HH line (in case of an asymmetrical beam headlamp, the horizontal part of the cut-off shall be used), (see drawing in Annex 6).
- ~~2.30.~~**2.19.** "*Bend lighting*" means a lighting function to provide enhanced illumination in bends.
- ~~2.31.~~**2.20.** "*H plane*" means the horizontal plane containing the centre of reference of the lamp.
- ~~2.32.~~**2.21.** "*Sequential activation*" means an electrical connection where the individual light sources of a lamp are wired such that they are activated in a predetermined sequence.
- ~~2.33.~~**2.22.** "*Emergency stop signal*" means a signal to indicate to other road users to the rear of the vehicle that a high retardation"

*Paragraph 3.2.1.*, amend to read:

"3.2.1. A description of the vehicle type with regard to the items mentioned in paragraphs ~~2.2.1.2.1.1.~~ to ~~2.2.3.2.1.3.~~ above; the vehicle type duly identified shall be specified;"

*Paragraphs 3.2.4. and 3.2.5.*, amend to read:

"3.2.4. If necessary, in order to verify the conformity to the prescriptions of the present regulation, a layout drawing or drawings of each lamp showing the illuminating surface, as defined in paragraph 2.7.1. above, the light-emitting surface as defined in paragraph ~~2.6.2.4.~~ above, the axis of reference as defined in ~~paragraph 2.9. above~~ **Regulation No. 48** and the centre of reference as defined in ~~paragraph 2.10. above~~ **Regulation No. 48**. This information is not necessary in the case of the rear registration plate lamp (~~paragraph 2.5.10. above~~ **as defined in Regulation No. 48**).

3.2.5. The application shall include a statement of the method used for the definition of the apparent surface (paragraph ~~2.8.2.6.~~ above)."

*Paragraphs 5.6.2.1., 5.6.2.2. and 5.6.2.3.*, amend to read:

"5.6.2.1. Single lamps as defined in paragraph ~~2.14.~~ **2.16.1. of Regulation No. 48**, subparagraph (a), composed of two or more distinct parts, shall be installed in such a way that:

- (a) Either the total area of the projection of the distinct parts on a plane tangent to the exterior surface of the outer lens and perpendicular to the reference axis shall occupy not less than 60 per cent of the smallest quadrilateral circumscribing the said projection; or
- (b) The minimum distance between the facing edges of two adjacent/tangential distinct parts shall not exceed 75 mm when measured perpendicularly to the reference axis.

These requirements shall not apply to a single retro-reflector.

5.6.2.2. Single lamps as defined in paragraph ~~2.14.~~ **2.16.1. of Regulation No. 48**, subparagraph (b) or (c), composed of two lamps marked "D" or two independent retro reflectors, shall be installed in such a way that:

- (a) Either the projection of the apparent surfaces in the direction of the reference axis of the two lamps or retro reflectors occupies not less than 60 per cent of the smallest quadrilateral circumscribing the projections of the said apparent surfaces in the direction of the reference axis; or
- (b) The minimum distance between the facing edges of the apparent

surfaces in the direction of the reference axis of two lamps or two independent retro reflectors does not exceed 75 mm when measured perpendicularly to the reference axis.

5.6.2.3. Single lamps as defined in paragraph ~~2.14.2.16.1.~~ **of Regulation No. 48**, subparagraph (d), shall fulfil the requirements of paragraph 5.6.2.1.

Where two or more lamps and/or two or more separate apparent surfaces are included into the same lamp body and/or have a common outer lens, these shall not be considered as an interdependent lamp system.

However, a lamp in the shape of a band or strip may be part of an interdependent lamp system."

*Paragraph 5.19.2.*, amend to read:

"5.19.2. In the case where the functions referred to in paragraph 5.19. are obtained by an assembly of two lamps marked "D" (see paragraph ~~2.14.2.16.1.~~ **of Regulation No. 48**), only one of the lamps needs to meet the position, geometric visibility and photometric requirements for those lamps at all fixed positions of the movable components."

*Paragraph 6.2.4.*, amend to read:

"6.2.4. Geometric visibility  
Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph ~~2.11.2.13.~~ **of this Regulation No. 48**:  
..."

*Paragraph 6.3.3.1.*, amend to read:

"6.3.3.1. ...  
For rear indicators, the clearance between the inner edges of the two illuminating surfaces shall be at least 180 mm on the condition that the prescriptions of paragraph ~~2.11.2.13.~~ **of this Regulation No. 48** are applied even when the registration plate is mounted;"

*Paragraph 6.10.4.*, amend to read:

"6.10.4. Geometric visibility  
Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph ~~2.11.2.13.~~ **of Regulation No. 48**:  
..."

*Paragraph 6.11.4.*, amend to read:

"6.11.4. Geometric visibility

Defined by angles  $\alpha$  and  $\beta$  as specified in paragraph ~~2.11.2.13.~~ **2.13.** of ~~this~~  
Regulation **No. 48**:  
..."

*Annex 5, Paragraph 1.2.1., amend to read:*

"1.2.1. The angles of geometric visibility shall be checked in accordance with paragraph ~~2.11.2.13.~~ **2.13.** of ~~this~~ Regulation **No. 48**. The values measured for the angles shall be such that the individual specifications applicable to each lamp are fulfilled except that the limits of the angles may have an allowance corresponding to the  $\pm 3^\circ$  variation permitted in paragraph 5.3. of this Regulation for the mounting of the light-signalling devices."

## **II Justification**

1. This proposal is part of stage 1 of the simplification package. With the new simplified UN Regulations on lighting and light-signalling developed by IWG SLR, it is necessary to review the definitions in several installation Regulations. During its seventy-eighth session, GRE was of the view that all identical definitions should be moved to one place and that UN Regulation No. 48 would be the best choice for that purpose.
  2. IWG SLR decided that, at least for stage 1 of simplification, definitions that are not totally identical with the definitions in UN Regulation No. 48, even if the meaning is the same, should be retained in the latest series of amendments to UN Regulation No. 53.
  3. This amendment introduces the necessary changes into UN Regulation No. 53-02.
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