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Item 6 (b) of the provisional agenda

UN Regulations No. 48 (Installation of lighting and light-signalling devices):**Other proposals for amendments to UN Regulation No. 48****Proposal for a new 07 series of amendments to UN Regulation No. 48****Submitted by the Co-Chairs of the Task Force on Headlamp Switching (TF HS)***

The text reproduced below was prepared by the Co-Chairs of the Task Force on Headlamp Switching (TF HS) with the aim to propose a new series 07 of amendment to UN Regulation No. 48 which will introduce updated requirements for headlamps and daytime running lamps. The modifications to the existing text of UN Regulation No. 48 are marked in bold for new or strikethrough for deleted characters. Some text is shown in square brackets to indicate that discussion and a decision are required.

* In accordance with the programme of work of the Inland Transport Committee for 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21/Add.1, cluster 3.1), 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

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I. Proposal

Paragraph 2.7.6., amend to read:

“2.7.6. **Definitions with regard to switching and activating:**

2.7.6.1. “**Switch ON**” means to manually or automatically operate an illuminating or signalling function to effectively emit light, irrespective of whether the function is operating correctly or not.

2.7.6.2. “**Switch OFF**” means to manually or automatically operate an illuminating or signalling function to stop emitting light, irrespective of whether the function is operating correctly or not.

2.7.6.3. “**Activate**” means to manually or automatically enable an illuminating or signalling function, irrespective of whether light is emitted or not (e.g. enable stand-by mode).

2.7.6.4. “**Deactivate**” means to manually or automatically disable an illuminating or signalling function, irrespective of whether light is emitted or not (e.g. disable stand-by mode).

2.7.6.5. “**Sequential activation**” means an electrical connection where the individual light sources of a lamp are wired such that they are ~~activated~~ **switched ON** in a predetermined sequence.”

Paragraph 5.7.1.1., amend to read:

5.7.1.1. The photometric and colorimetric requirements of a lamp shall be fulfilled when all other functions with which this lamp is grouped, combined or reciprocally incorporated are switched OFF.

However, when a front or rear position lamp is reciprocally incorporated with one or more other function(s) which can be ~~activated~~ **switched ON** together with them, the requirements regarding colour of each of these other functions shall be fulfilled when the reciprocally incorporated function(s) and the front or rear position lamps are switched ON.

Paragraph 5.9., amend to read:

5.9. In the absence of specific instructions, the photometric characteristics (e.g. intensity, colour, apparent surface, etc.) of a lamp shall not be intentionally varied during the period of ~~[activation]~~ **[operation]** of the lamp.

Paragraph 5.9.2., amend to read:

5.9.2. The photometric characteristics of any lamp may vary:

- (a) In relation to the ambient light;
- (b) As a consequence of ~~the activation of~~ other lamps **being switched ON or OFF**; or
- (c) When the lamps is being used to provide another lighting function;

provided that any variation in the photometric characteristics is in compliance with the technical provisions for the lamp concerned.

Paragraph 5.11. and related sub paragraphs, amend to read:

- "5.11. The electrical connections shall be such that the front and rear position lamps, the end-outline marker lamps, if they exist, the side-marker lamps, if they exist, and the rear registration plate lamp can only be switched ON and OFF simultaneously.
- 5.11.1. This ~~condition~~ **requirement** does not apply **while one or more of the following conditions exist:**
- 5.11.1.1. (a) ~~When~~ front and rear position lamps ~~are switched ON~~, as well as side-marker lamps when combined or reciprocally incorporated with said lamps, **are switched ON** as parking lamps; ~~or~~
- 5.11.1.2. (b) ~~When~~ side-marker lamps flash in conjunction with direction indicators; ~~or~~
- (c) **daytime running lamps are switched ON;**
- 5.11.2. (d) To front position lamps when their function is substituted under the provisions of paragraph 5.12.1. below.
- 5.11.32. In the case of an interdependent lamp system, all light sources **in** shall be switched ON and OFF simultaneously."

Paragraph 5.12., amend to read:

- 5.12. The electrical connections shall be such that the main-beam and dipped-beam headlamps and the front fog lamps cannot be switched ~~on~~ **ON** unless the lamps referred to in paragraph 5.11. are also switched ~~on~~ **ON**. This requirement shall not apply, however, to main-beam or dipped-beam headlamps when their luminous warnings consist of the intermittent lighting up at short intervals of the main-beam headlamp or the intermittent lighting up at short intervals of the dipped-beam headlamp or the alternate lighting up at short intervals of the main-beam and dipped-beam headlamps.

Paragraph 5.12.1.1., amend to read:

- 5.12.1.1. Their electrical connections are such that in case of failure of any of these lighting devices the front position lamps are automatically ~~reactivated~~ **switched ON again;** and

Paragraph 5.14.3., amend to read:

- 5.14.3. It shall be possible to move the lamps into the position of use and to switch them ~~on~~ **ON** by means of a single control, without excluding the possibility of moving them into the position of use without switching them ~~on~~ **ON**. However, in the case of grouped main-beam and dipped-beam headlamps, the control referred to above is required only to activate the dipped-beam headlamps.

Paragraph 5.14.4., amend to read:

- 5.14.4. It shall not be possible deliberately, from the driver's seat, to stop the movement of switched ~~on~~ **ON** lamps before they reach the position of use. If there is a danger of dazzling other road users by the movement of the lamps, they may light up only when they have reached their position of use.

Paragraph 5.18.3., amend to read:

- 5.18.3. Where additional lamps for the above functions are fitted and are ~~activated~~ **switched ON**, when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, geometric visibility and photometric requirements applicable to the lamps installed on the movable component.

Paragraph 5.18.4., amend to read:

- 5.18.4. In the case where the functions referred to in paragraph 5.18. are obtained by an interdependent lamp system either of the following conditions shall apply:

- (a) Should the complete interdependent lamp system be mounted on the moving component(s), the requirements of paragraph 5.18.1. shall be satisfied. However, additional lamps for the above functions may be ~~activated~~ **switched ON**, when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, geometric visibility, colorimetric and photometric requirements applicable to the lamps installed on the movable component.

or

- (b) Should the interdependent lamp system be partly mounted on the fixed component and partly mounted on a movable component, with the exception of direction indicator lamps, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, outwards geometric visibility, colorimetric and photometric requirements for those lamps, at all fixed positions of the movable component(s).

The inwards geometric visibility requirement(s) is(are) deemed to be satisfied if this(these) interdependent lamp(s) still conform(s) to the photometric values prescribed in the field of light distribution for the approval of the device, at all fixed positions of the movable component(s).

For direction indicator lamps, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, geometric visibility, photometric and colorimetric requirements at all fixed positions of the movable component(s). This does not apply where, to fulfil or complete the geometric visibility angle, additional lamps are ~~activated~~ **switched ON** when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, photometric and colorimetric requirements applicable to the direction indicator lamps installed on the movable component.

Paragraph 5.21.1., amend to read:

- 5.21.1. Additional lamps satisfying all the position, geometric visibility, colorimetric and photometric requirements for the above indicated lamps shall be ~~activated~~ **switched ON** when the apparent surface in the direction of the reference axis of these lamps is more than 50 per cent hidden by the movable component;

Paragraph 6.1.2., amend to read:

6.1.2. Number

Two or four, type approved according to Regulations Nos. 98 or 112, excluding Class A headlamp.

For vehicles of the category N₃: Two extra main-beam headlamps may be installed.

Where a vehicle is fitted with four concealable headlamps the installation of two additional headlamps shall only be authorized for the purpose of light-signalling, consisting of intermittent ~~[illumination]~~ **[switching ON]**, at short intervals (see paragraph 5.12. above) in daylight.

Paragraph 6.1.7.1., amend to read:

“6.1.7.1. Except when they are used to give intermittent luminous warnings at short intervals, the main-beam headlamps may be switched ON only when ~~the master light switch is in headlamps ON position or in "AUTO" (automatic) position and~~ **the dipped-beam headlamps are manually activated** or the conditions for automatic activation of dipped-beam **headlamps** exist. ~~In the latter case,~~ **Consequently,** the main beam headlamps shall be switched **OFF** automatically when **the dipped-beam headlamps are manually deactivated** or the conditions for automatic activation of dipped-beam **headlamps** ceased to exist.”

Paragraph 6.1.7.2., amend to read:

6.1.7.2. The control of the main-beam headlamps may be automatic regarding their ~~[activation and deactivation~~ **switching ON and OFF]**, the control signals being produced by a sensor system which is capable of detecting and reacting to each of the following inputs:

- (a) Ambient lighting conditions;
- (b) The light emitted by the front lighting devices and front light-signalling devices of oncoming vehicles;
- (c) The light emitted by the rear light-signalling devices of preceding vehicles.

Additional sensor functions to improve performance are allowed.

For the purpose of this paragraph, "vehicles" means vehicles of categories L, M, N, O, T, as well as bicycles, such vehicles being equipped with retro-reflectors, with lighting and light-signalling devices, which are switched ON.

Paragraph 6.1.7.3., amend to read:

6.1.7.3. It shall always be possible to switch the main-beam headlamps ON and OFF manually and to manually ~~switch off~~ **deactivate** the automatic control of the main-beam headlamps.

Moreover, the switching OFF, of the main-beam headlamps and **the deactivation** of their automatic control, shall be by means of a simple and immediate manual operation; the use of sub-menus is not allowed.

Paragraph 6.1.7.4., amend to read:

- 6.1.7.4. The main-beam headlamps may be switched ~~on~~ **ON** either simultaneously or in pairs. In case the extra two main-beam headlamps are installed, as permitted under paragraph 6.1.2. for vehicles of the category N₃ only, no more than two pairs may be simultaneously lit. For changing over from the dipped to the main beam at least one pair of main-beam headlamps shall be switched ~~on~~ **ON**. For changing over from the main-beam to the dipped-beam all main-beam headlamps shall be switched ~~off~~ **OFF** simultaneously.

Paragraph 6.1.7.5., amend to read:

- 6.1.7.5. The dipped-beams may remain switched ~~on~~ **ON** at the same time as the main beams.

Paragraph 6.1.7.6., amend to read:

- 6.1.7.6. Where four concealable headlamps are fitted their raised position shall prevent the simultaneous operation of any additional headlamps fitted, if these are intended to provide light signals consisting of intermittent ~~illumination~~ **switching ON** at short intervals (paragraph 5.12.) in daylight.

Paragraph 6.1.9.1., amend to read:

- 6.1.9.1. The aggregate maximum intensity of the main-beam headlamps which can be switched ~~on~~ **ON** simultaneously shall not exceed 430,000 cd, which corresponds to a reference value of 100.

Paragraph 6.1.9.3., amend to read:

- 6.1.9.3. Automatic [~~activation and deactivation~~ **switching ON and OFF**] of the main-beam headlamps:

Paragraph 6.1.9.3.1., amend to read:

- 6.1.9.3.1. The sensor system used to control the automatic [~~activation and deactivation~~ **switching ON and OFF**] of the main-beam headlamps, as described in paragraph 6.1.7.1., shall comply with the following requirements:

Paragraphs 6.2.7. and its subparagraphs, amend to read:

- 6.2.7. Electrical connections
- 6.2.7.1. ~~The control for changing over to the dipped beam shall switch off all main-beam headlamps simultaneously.~~ **When changing from main to dipped-beam, all main-beams shall be switched OFF simultaneously.**
- 6.2.7.2. The dipped-beam may remain switched ~~on~~ **ON** at the same time as the main-beam.
- 6.2.7.3. In the case of dipped-beam headlamps according to Regulation No. 98, the gas-discharge light sources shall remain switched ~~on~~ **ON** during the main-beam operation.
- 6.2.7.4. One additional light source or one or more LED module(s), located inside the dipped-beam headlamps or in a lamp (except the main-beam headlamp) grouped or reciprocally incorporated with the respective dipped-beam headlamps, may be activated to produce bend lighting, provided that the horizontal radius of curvature of the trajectory of the centre of gravity of the vehicle is 500 m or less. This may be demonstrated by the manufacturer by calculation or by other means accepted by the Type Approval Authority.

- ~~6.2.7.5. Dipped beam headlamps may be switched ON or OFF automatically. However, it shall be always possible to switch these dipped beam headlamps ON and OFF manually.~~
- 6.2.7.56- The dipped-beam headlamps shall be switched ON and OFF automatically relative to the ambient light conditions ~~(e.g. switch ON during night time driving conditions, tunnels, etc.)~~ according to the requirements of Annex 13.
- [When the dipped beam headlamps are required to be switched ON according to the requirements of annex 13, the Daytime Running Lamps must be switched OFF.]
- In addition, the following sub-paragraphs 6.2.7.5.1. and 6.2.7.5.2. apply.
- 6.2.7.5.1. Irrespective of the requirements of paragraph 6.2.7.5, under conditions requiring the dipped beam headlamps to be switched ON, the dipped-beam headlamps may remain switched OFF or, once automatically switched ON, may be switched OFF manually and remain switched OFF while one or more of the following conditions exist:
- (a) the automatic transmission control is in the park position;
 - (b) the parking brake is in the locked position;
 - (c) prior to the vehicle being set in motion for the first time after each manual activation of the device, which starts and/or stops the propulsion system.
 - (d) the vehicle speed does not exceed [15] km/h. [In this case, the lamps referred to in paragraph 5.11. shall be switched ON];
 - (e) the front fog lamps are switched ON.
- [6.2.7.5.2. Irrespective of the requirements of paragraph 6.2.7.5., under conditions requiring the dipped beam headlamps to be switched ON, it shall be possible to switch OFF manually the dipped-beam headlamps that shall remain switched OFF, unless manually switched ON again, while the following conditions exist:
- (a) the automatic operation of the dipped-beam headlamps as indicated in 6.2.7.5. is resumed each time the device which starts and/or stops the propulsion system is set in a position which makes it possible for the propulsion system to operate;
 - (b) throughout the entire period that the dipped beam headlamps remain switched OFF, a clear indication/warning is provided to the driver.
- This indication/warning shall only be extinguished when:
- (i) the device which starts and/or stops the propulsion system is set in a position which makes it impossible for the propulsion system to operate, or
 - (ii) the automatic operation of the dipped-beam headlamps as indicated in 6.2.7.5. has been resumed.]

6.2.7.6. Irrespective of the requirements of paragraph 6.2.7.5., it shall always be possible to switch the dipped beam headlamps ON manually.

6.2.7.8. The automatic operation of the dipped-beam headlamps shall be resumed as soon as the conditions described in paragraph 6.2.7.5.1. no longer exist. The driver shall at all times be able to engage the automatic operation.

- 6.2.7.7. ~~Without prejudice to 6.2.7.5.6.1.,~~ **Irrespective of the requirements of paragraph 6.2.7.5.,** the dipped-beam headlamps may switch ON and OFF automatically relative to other factors such as time or ambient conditions (e.g. time of the day, vehicle location, rain, fog, etc.).

Paragraph 6.2.8.2., amend to read:

- 6.2.8.2. A visual tell-tale whether flashing or not is mandatory:
- (a) In the case where the whole beam or the kink of the elbow of the cut-off is moved to produce bend lighting; or
 - (b) If one or more LED modules are used to produce the principal dipped-beam, except when they are wired so that the failure of any one LED module causes all of them to stop emitting light.

It shall be activated:

- (a) In the event of a malfunction of the displacement of the kink of the elbow of the cut-off; or
- (b) In case of a failure of any one of the LED module(s) producing the principal dipped-beam, except when they are wired so that the failure of any one LED module causes all of them to stop emitting light.

It shall remain activated while the failure is present. It may be cancelled temporarily, but shall be repeated whenever the device, which starts and stops the engine, is switched ~~on~~ **ON** and ~~off~~ **OFF**.

Paragraph 6.2.9., amend to read:

- 6.2.9. Other requirements

The requirements of paragraph 5.5.2. shall not apply to dipped-beam headlamps.

Dipped-beam headlamps with a light source or LED module(s) producing the principal dipped-beam and having a total objective luminous flux which exceeds 2,000 lumen shall only be installed in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 45.¹

With respect to vertical inclination the provisions of paragraph 6.2.6.2.2. above shall not be applied for dipped-beam headlamps with a light source or LED module(s) producing the principal dipped beam and having an objective luminous flux which exceeds 2,000 lumens.

In the case of filament lamps for which more than one test voltage is specified, the objective luminous flux which produces the principal dipped-beam, as indicated in the communication form for the type approval of the device, is applied.

In the case of dipped-beam headlamps equipped with an approved light source, the applicable objective luminous flux is the value at the relevant test voltage as given in the relevant data sheet in the Regulation, according to which the applied light source was approved, without taking into account the tolerances to the objective luminous flux specified on this datasheet.

¹ Contracting Parties to the respective UN Regulations can still prohibit the use of mechanical cleaning systems when headlamps with plastic lenses, marked "PL", are installed.

Only dipped-beam headlamps according to Regulation Nos. 98 or 112 may be used to produce bend lighting.

If bend lighting is produced by a horizontal movement of the whole beam or the kink of the elbow of the cut-off, it shall be ~~activated~~ **switched ON** only if the vehicle is in forward motion; this shall not apply if bend lighting is produced for a right turn in right hand traffic (left turn in left hand traffic).

Paragraph 6.3.7., amend to read:

6.3.7. Electrical connections

It shall be possible to switch the front fog lamps ON and OFF independently of the main-beam headlamps, the dipped-beam headlamps or any combination of main- and dipped-beam headlamps, unless:

- (a) the front fog lamps are used as part of another lighting function in an AFS; however, the switching ON of the front fog lamps function shall have the priority over the function for which the front fog lamps are used as a part, or
- (b) the front fog lamps cannot be simultaneously lit with any other lamps with which they are reciprocally incorporated as indicated by the relevant symbol ("/") according to paragraph 10.1. of Annex 1 of Regulation No. 19.

Paragraph 6.4.7.1., amend to read:

- 6.4.7.1. They shall be such that the lamp can ~~light-up~~ **be switched ON** only if the reverse gear is engaged and if the device which controls the starting and stopping of the engine is in such a position that operation of the engine is possible. It shall not ~~light-up~~ **switch ON** or remain ~~lit~~ **ON** if either of the above conditions is not satisfied.

Paragraph 6.4.7.2., amend to read:

- 6.4.7.2. Moreover, the electrical connections of the two optional devices mentioned in paragraph 6.4.2.2. shall be such that these devices cannot ~~illuminate~~ **be switched ON** unless the lamps referred to in paragraph 5.11. are switched ~~on~~ **ON**.

The devices fitted on the side of the vehicle may be switched ~~on~~ **ON** for slow manoeuvres in forward motion of the vehicle up to a maximum speed of 10 km/h, provided that the following conditions are fulfilled:

- (a) The devices shall be switched ON and OFF manually by a separate ~~switch control~~;
- (b) If so switched ON, they may remain ON after reverse gear is disengaged;
- (c) They shall be automatically switched ~~off~~ **OFF** if the forward speed of the vehicle exceeds 10 km/h, regardless of the position of the separate ~~switch control~~; in this case they shall remain switched ~~off~~ **OFF** until deliberately being switched ~~on~~ **ON** again.

Paragraph 6.5.7., amend to read:

6.5.7. Electrical connections

Direction-indicator lamps shall switch ~~on~~ **ON** independently of the other lamps. All direction-indicator lamps on one side of a vehicle shall be

switched ~~on~~ **ON** and ~~off~~ **OFF** by means of one control and shall flash in phase.

On M₁ and N₁ vehicles less than 6 m in length, with an arrangement complying with paragraph 6.5.5.2. above, the amber side-marker lamps, when mounted, shall also flash at the same frequency (in phase) with the direction-indicator lamps.

Paragraph 6.6.7.2., amend to read:

6.6.7.2. The hazard warning signal may be ~~activated~~ **switched ON** automatically in the event of a vehicle being involved in a collision or after the ~~de-activation~~ ~~of~~ the emergency stop signal **has been switched OFF**, as specified in paragraph 6.23. below. In such cases, it may be ~~turned-off~~ **switched OFF** manually.

In addition, the hazard warning signal may be switched ~~on~~ **ON** automatically to indicate to other road-users the risk of imminent danger as defined by Regulations; in this case, the signal shall remain switched ~~on~~ **ON** until it is manually or automatically switched ~~off~~ **OFF**.

Paragraph 6.7.7.1., amend to read:

6.7.7.1. All stop lamps shall ~~light-up~~ **be switched ON** simultaneously when the braking system provides the relevant signal defined in Regulations Nos. 13 and 13-H.

Paragraph 6.8.9., amend to read:

6.8.9. Other requirements

When the rear registration plate lamp is combined with the rear position lamp, reciprocally incorporated in the stop lamp or in the rear fog lamp, the photometric characteristics of the rear registration plate lamp may be modified during the ~~illumination~~ **entire period of operation** of the stop lamp or **of** the rear fog lamp.

Paragraph 6.9.7., amend to read:

6.9.7. Electrical connections

In accordance with paragraph 5.11.

However, if a front position lamp is reciprocally incorporated with a direction-indicator the electrical connection of the front position lamp on the relevant side of the vehicle or the reciprocally incorporated part of it may be such that it is switched ~~off~~ **OFF** during the entire period (both ON and OFF cycle) of ~~activation~~ **operation** of the direction-indicator lamp.

Paragraph 6.9.8., amend to read:

6.9.8. Tell-tale

Circuit-closed tell-tale mandatory.

This tell-tale shall be non-flashing and shall not be required if the instrument panel lighting can only ~~be turned-on~~ **switch ON** simultaneously with the front position lamps.

This requirement does not apply when light signalling system operates according to paragraph 6.19.7.5.

However, a tell-tale indicating failure is mandatory if required by the component regulation.

Paragraph 6.9.9.1., amend to read:

- 6.9.9.1. If one or more infrared radiation generator(s) is (are) installed inside the front position lamp, it (they) is (are) allowed to be ~~activated~~ **switched ON** only when the headlamp on the same side of the vehicle is switched ~~on~~ **ON** and the vehicle is in forward motion. In the event that the front position lamp or the headlamp on the same side fails, the infrared radiation generator(s) shall be automatically switched ~~off~~ **OFF**.

Paragraph 6.10.7., amend to read:

- 6.10.7. Electrical connections

In accordance with paragraph 5.11.

However, if a rear position lamp is reciprocally incorporated with a direction-indicator, the electrical connection of the rear position lamp on the relevant side of the vehicle or the reciprocally incorporated part of it may be such that it is switched OFF during the entire period (both ON and OFF cycle) of ~~activation~~ **operation** of the direction-indicator lamp.

Paragraph 6.10.8., amend to read:

- 6.10.8. Tell-tale.

Circuit-closed tell-tale mandatory. It shall be combined with that of the front position lamps.

This requirement does not apply when light signalling system operates according to paragraph 6.19.7.5.

However, a tell-tale indicating failure is mandatory if required by the component regulation.

Paragraph 6.11.7. and related sub-paragraph, amend to read:

- 6.11.7. Electrical connections

These shall be such that:

- 6.11.7.1. The rear fog-lamp(s) cannot be switched ~~on~~ **ON** unless the main beams, dipped-beams or front fog-lamps are ~~not~~ **switched ON**;
- 6.11.7.2. The rear fog-lamp(s) can be switched ~~off~~ **OFF** independently of any other lamp;
- 6.11.7.3. Either of the following applies:
- 6.11.7.3.1. The rear fog lamp(s) may continue to operate until the position lamps are switched ~~off~~ **OFF**, and the rear fog lamp(s) shall then remain ~~off~~ **OFF** until deliberately switched ~~on~~ **ON** again;
- 6.11.7.3.2. A warning, at least audible, additional to the mandatory tell-tale (paragraph 6.11.8.) shall be given if the ignition is switched ~~off~~ **OFF** or the ignition key is withdrawn and the driver's door is opened, whether the lamps in (paragraph 6.11.7.1.) are ~~on~~ **ON** or ~~off~~ **OFF**, whilst the rear fog lamp ~~switch~~ **control** is in the ~~on~~ **ON** position.

6.11.7.4. Except as provided in paragraphs 6.11.7.1., 6.11.7.3. and 6.11.7.5., the operation of the rear fog lamp(s) shall not be affected by switching ~~on~~ **ON** or ~~off~~ **OFF** any other lamps.

6.11.7.5. The rear fog lamp(s) of a drawing motor vehicle may be automatically switched ~~off~~ **OFF** while a trailer is connected and the rear fog lamp(s) of the trailer is (are) ~~activated~~ **switched ON**.

Paragraph 6.12.7., amend to read:

6.12.7. Electrical connections

The connection shall allow the parking lamp(s) on the same side of the vehicle to be ~~is~~ **switched ON** independently of any other lamps.

The parking lamp(s) and, if applicable, the front and rear position lamps according to paragraph 6.12.9. below, shall be able to operate even if the device which starts the engine is in a position which makes it impossible for the engine to operate. A device which automatically ~~deactivates~~ **switches OFF** these lamps as a function of time is prohibited.

Paragraph 6.12.9., amend to read:

6.12.9. Other requirements

The functioning of this lamp may also be performed by simultaneously switching ~~on~~ **ON** the front and rear position lamps on the same side of the vehicle. In this case, lamps that meet the requirements of front or rear position lamps are deemed to meet the requirements of parking lamps.

Paragraph 6.18.9., amend to read:

6.18.9. Other requirements

When the rearmost side-marker lamp is combined with the rear position lamp reciprocally incorporated with the rear fog-lamp or stop lamp, the photometric characteristics of the side-marker lamp may be modified during the ~~illumination~~ **entire period of operation** of the rear fog lamp or ~~of~~ the stop lamp.

Rear side-marker lamps shall be amber if they flash with the rear direction-indicator lamp.

Paragraphs 6.19.7. and its subparagraphs, amend to read:

6.19.7. Electrical connections

6.19.7.1. The daytime running lamps shall be switched ON automatically when the device which starts and/or stops the ~~engine (propulsion system)~~ is set in a position which makes it possible for the ~~engine (propulsion system)~~ to operate **and**

(a) **the headlamps are switched OFF; and**

(b) **the front fog lamps are switched OFF.**

6.19.7.2. ~~However,~~ **Irrespective of the requirements of paragraphs 6.19.7.1 and 6.19.7.5., under conditions requiring the daytime running lamps to be switched ON, the daytime running lamps may remain OFF or, once automatically switched ON, may be switched OFF manually and remain OFF while at least one of the following conditions exists:**

~~6.19.7.1.1~~ (a) ~~¶~~the automatic transmission control is in the park position; ~~or~~

- ~~6.19.7.1.2.~~ (b) ~~The~~ parking brake is in the locked position;
- ~~6.19.7.1.3.~~ (c) ~~P~~prior to the vehicle being set in motion for the first time after each manual activation of **the device, which starts and/or stops** the propulsion system.
- ~~6.19.7.2.~~ (d) ~~The daytime running lamps may be switched OFF manually when the vehicle speed does not exceed [15] km/h, provided they switch ON automatically when the vehicle speed exceeds 10 km/h or when the vehicle has travelled more than 100 m] and they remain ON until deliberately switched off again.~~
- 6.19.7.3. The automatic operation of the daytime running lamps shall be resumed as soon as the conditions described in paragraph 6.19.7.2. no longer exist.**
- 6.19.7.34. The daytime running lamp shall switch OFF automatically when **either of the following conditions exists:**
- (a) the device which starts and/or stops the ~~engine (propulsion system)~~ is set in a position which makes it impossible for the ~~engine (propulsion system)~~ to operate; ~~or~~
 - (b) the front fog lamps **are switched ON** ~~or~~;
 - (c) **the** headlamps are switched ON, except when ~~the latter~~ they are used to give intermittent luminous warnings at short intervals.⁴⁵
- 6.19.7.45. The lamps referred to in paragraph 5.11. may be switched ON when the daytime running lamps are switched ON. **If this option is chosen, at least the rear position lamps shall be switched ON.**
- 6.19.7.56. If the distance between the front direction-indicator lamp and the daytime running lamp is equal or less than 40 mm, the electrical connections of the daytime running lamp on the relevant side of the vehicle ~~may~~ **[shall]** be such that **during the entire period (both ON and OFF cycle) of activation of the direction-indicator lamp,** either:
- (a) It is switched OFF; or
 - (b) Its luminous intensity is reduced during the entire period (both ON and OFF cycle) of activation of a front direction-indicator lamp.
- 6.19.7.67. If a direction-indicator lamp is reciprocally incorporated with a daytime running lamp, the electrical connections of the daytime running lamp on the relevant side of the vehicle shall be such that the daytime running lamp is switched OFF during the entire period (both ON and OFF cycle) of ~~activation~~ **operation** of the direction-indicator lamp.

Paragraph 6.20.7., amend to read:

- 6.20.7. Electrical connections
- The cornering lamps shall be so connected that they cannot be ~~activated~~ **switched ON** unless the main-beam headlamps or the dipped-beam headlamps are switched ON at the same time.

Paragraph 6.20.7.2., amend to read:

6.20.7.2. When the reversing lamp is switched ON, both cornering lamps may be switched ~~on~~ **ON** simultaneously, independently from the steering wheel **position** or direction-indicator ~~position~~ **operation**.

If so ~~activated~~ **switched ON**, both cornering lamps shall be switched OFF either:

- (a) When the reversing lamp is switched OFF;
- Or
- (b) When the forward speed of the vehicle exceeds 10 km/h.

Paragraph 6.20.9., amend to read:

6.20.9. Other requirements

The cornering lamps shall not be ~~activated~~ **switched ON** at vehicle speeds above 40 km/h.

Paragraph 6.22.7.1.1., amend to read:

6.22.7.1.1. The lighting units for the main-beam may be ~~activated~~ **switched ON** either simultaneously or in pairs. For changing over from the dipped-beam to the main-beam at least one pair of lighting units for the main-beam shall be ~~activated~~ **switched ON**. For changing over from the main-beam to the dipped-beam all lighting units for the main-beam shall be ~~de-activated~~ **switched OFF** simultaneously.

Paragraph 6.22.7.1.3., amend to read:

6.22.7.1.3. It shall always be possible to switch the main-beam headlamps, adaptive or non-adaptive, ON and OFF manually and to manually ~~switch OFF~~ **deactivate** the automatic control.

Moreover, the switching OFF, of the main-beam headlamps and **the deactivation** of their automatic control, shall be by means of a simple and immediate manual operation; the use of sub-menus is not allowed.

Paragraph 6.22.7.1.5., amend to read:

6.22.7.1.5. Where four concealable lighting units are fitted their raised position shall prevent the simultaneous operation of any additional headlamps fitted, if these are intended to provide light signals consisting of intermittent ~~illumination~~ **switching ON** at short intervals (see paragraph 5.12.) in day-light.

Paragraph 6.22.7.2., amend to read:

6.22.7.2. Passing-beam lighting:

- (a) The control for changing over to the dipped-beam shall switch ~~off~~ **OFF** all main-beam headlamps or ~~de-activated~~ **switch OFF** all AFS lighting units for the main-beam simultaneously;
- (b) The dipped-beam may remain switched ~~on~~ **ON** at the same time as the main-beams;
- (c) In the case of lighting units for the dipped-beam being equipped with gas discharge light sources, the gas-discharge light sources shall remain switched ~~on~~ **ON** during the main-beam operation.

Paragraph 6.22.7.3., amend to read:

- 6.22.7.3. **The dipped-beam headlamps** ~~switching ON and OFF of the passing-beam is subject to~~ **shall fulfil** the requirements for "Electrical connection" in paragraph 5.12. and 6.2.7. of this Regulation.

Paragraph 6.22.7.4.4., amend to read:

- 6.22.7.4.4. The class W-mode(s) of the passing-beam shall not operate unless the front fog lamps, if any, are switched OFF and one or more of the following conditions is/are automatically detected (W-signal applies):
- (a) The wetness of the road has been detected automatically;
 - (b) The windshield wiper is ~~switched ON~~ **operating** and its continuous or automatically controlled operation has occurred for a period of at least two minutes.

Paragraph 6.22.8.2., amend to read:

- 6.22.8.2. A visual failure tell-tale for AFS is mandatory. It shall be non-flashing. It shall be activated whenever a failure is detected with respect to the AFS control signals or when a failure signal is received in accordance with paragraph 5.9. of Regulation No. 123. It shall remain activated while the failure is present. It may be cancelled temporarily, but shall be repeated whenever the device which starts and stops the engine is switched ~~on~~ **ON** and ~~off~~ **OFF**.

Paragraph 6.22.9.3.1.3., amend to read:

- 6.22.9.3.1.3. The adaptive main-beam shall be switched ~~off~~ **OFF** when the illuminance produced by ambient lighting conditions exceeds 7,000 lx.

Compliance with this requirement shall be demonstrated by the applicant, using simulation or other means of verification accepted by the Type Approval Authority. If necessary the illuminance shall be measured on a horizontal surface, with a cosine corrected sensor on the same height as the mounting position of the sensor on the vehicle. This may be demonstrated by the manufacturer by sufficient documentation or by other means accepted by the Type Approval Authority.

Paragraph 6.23.7.3. and related sub-paragraphs, amend to read:

- 6.23.7.3. The emergency stop signal shall be ~~activated and deactivated~~ **switched ON and OFF** automatically.
- 6.23.7.3.1. The emergency stop signal shall be ~~activated~~ **switched ON** only when the vehicle speed is above 50 km/h and the braking system is providing the emergency braking logic signal defined in Regulations Nos. 13 and 13-H.
- 6.23.7.3.2. The emergency stop signal shall be automatically ~~deactivated~~ **switched OFF** if the emergency braking logic signal as defined in Regulations Nos. 13 and 13-H is no longer provided or if the hazard warning signal is activated.

Paragraph 6.24.9.1., amend to read:

- 6.24.9.1. The exterior courtesy lamp shall not be ~~activated~~ **switched ON** unless the vehicle is stationary and one or more of the following conditions is satisfied:
- (a) The engine is stopped; or
 - (b) A driver or passenger door is opened; or
 - (c) A load compartment door is opened.

The provisions of paragraph 5.10. shall be met in all fixed positions of use.

Paragraph 6.24.9.2., amend to read:

- 6.24.9.2. Approved lamps emitting white light with the exception of main beam head lamps, day time running lamps and reversing lamps may be ~~activated~~ **switched ON** as courtesy lamp function. They may also be ~~activated~~ **switched ON** together with the exterior courtesy lamps and the condition of paragraphs 5.11. and 5.12. above may not apply.

Paragraphs 6.25.7.3. to 6.25.7.6., amend to read:

- 6.25.7.3. The rear-end collision alert signal shall be ~~activated and deactivated~~ **switched ON and OFF** automatically.
- 6.25.7.4. The rear-end collision alert signal shall not be ~~activated~~ **switched ON** if the direction indicator lamps, the hazard warning signal or the emergency stop signal is activated.
- 6.25.7.5. The rear-end collision alert signal may only be ~~activated~~ **switched ON** under the following conditions:

<i>V_r</i>	<i>activation switch ON</i>
$V_r > 30 \text{ km/h}$	$TTC \leq 1.4$
$V_r \leq 30 \text{ km/h}$	$TTC \leq 1.4 / 30 \times V_r$

"*V_r* (Relative Speed)": means the difference in speed between a vehicle with rear-end collision alert signal and a following vehicle in the same lane.

"TTC (Time to collision)": means the estimated time for a vehicle with rear-end collision alert signal and a following vehicle to collide assuming the relative speed at the time of estimation remains constant.

- 6.25.7.6. The ~~activation~~ **switch ON** period of the rear-end collision alert signal shall be not more than 3 seconds.

Paragraph 6.26.7., amend to read:

- 6.26.7. Electrical Connections
- Manoeuvring lamps shall be so connected that they cannot be ~~activated~~ **switched ON** unless the main-beam headlamps or the dipped-beam headlamps are switched ON at the same time.

The manoeuvring lamp(s) shall be ~~activated~~ **switched ON** automatically for slow manoeuvres up to 10 km/h provided that one of the following conditions is fulfilled:

- (a) Prior to the vehicle being set in motion for the first time after each manual activation of the propulsion system; or
- (b) Reverse gear is engaged; or
- (c) A camera based system which assists parking manoeuvres is [~~activated~~ **operating**].

The manoeuvring lamps shall be automatically switched ~~off~~ **OFF** if the forward speed of the vehicle exceeds ~~10~~ **[15]** km/h and they shall remain switched ~~off~~ **OFF** until the **switch-ON** conditions ~~for activation~~ are met again.

Paragraph 12., at the end add a new paragraph 12.6. and its subparagraphs to read:

- "12.6. Transitional provisions applicable to 07 series of amendments.**
- 12.6.1. As from the official date of entry into force of the 07 series of amendments, no Contracting Party applying this UN Regulation shall refuse to grant or refuse to accept UN type approvals under this UN Regulation as amended by the 07 series of amendments.**
- 12.6.2. As of 1 September [20XX], Contracting Parties applying this UN Regulation shall not be obliged to accept UN type approvals of new vehicle types to the preceding series of amendments, first issued after 1 September [20XX].**
- 12.6.3. Until 1 September [20YY], Contracting Parties applying this UN Regulation shall accept UN type-approvals to the preceding series of amendments, first issued before 1 September [20XX].**
- 12.6.4. As from 1 September [20YY], Contracting Parties applying this UN Regulation shall not be obliged to accept type-approvals issued to the preceding series of amendments to this Regulation.**
- 12.6.5. Notwithstanding the transitional provisions above, Contracting Parties who start to apply this UN Regulation after the date of entry into force of the most recent series of amendments are not obliged to accept UN type-approvals which were granted in accordance with any of the preceding series of amendments to this UN Regulation.**
- 12.6.6. Contracting Parties applying this UN Regulation shall not refuse to grant UN type-approvals according to any preceding series of amendments to this UN Regulation or extensions thereof."**

II. Justification

1. Interpretations of the electrical connection requirements for headlamps, lamps of paragraph 5.11. and daytime running lamps contained in the 05 and 06 series of UN Regulation No. 48 differ between Contracting Parties.

2. During the seventy-seventh session of GRE, the need for improvements and clarification was recognized and the Task Force on Headlamp Switching (TF HS) was created to this purpose.

3. During the seventy-ninth session of GRE, the experts from TF HS, Japan and SAE introduced various alternative proposals, clarifying and correcting the (manual) headlamp switching requirements.
 4. After an exchange of views and following discussion, the Co-Chairs of TF HS were invited to prepare a consolidated proposal for consideration at the eightieth session of GRE.
 5. This document is an attempt to provide a consolidated proposal, based on various documents, in particular with regard to the possibility and subsequent requirements/conditions for the manual switching OFF of the headlamps. This document tries to take into account also comments received after some GRE experts abandoned the TF activities.
 6. In parallel, new definitions for switching ON/OFF and for activating/deactivating lamps are introduced. Subsequently some editorial amendments and corrections of the existing text are proposed, reflecting the correct meaning.
 7. More detailed technical justifications will be provided by means of an informal document, which will be submitted separately.
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