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Item 6 (a) of the provisional agenda

Installation UN Regulations:

UN Regulation No. 48 (Installation of lighting and light-signalling devices)

Proposal for a new series of amendments to UN Regulation No. 48

Submitted by the expert from the Special Interest Group on the 09 series of amendments to UN Regulation No. 48*

The text reproduced below was prepared by the expert from Special Interest Group (SIG) on the 09 series of amendments to UN Regulation No. 48 with the aim to add the park condition of a vehicle in the scope of UN Regulation No. 48 and to minimise hazards, such as glare and distraction, to other road users. The proposed modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2022 as outlined in proposed programme budget for 2022 (A/76/6 (Sect.20), para 20.76), 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 2.4.1., amend to read:

"2.4.1. **[“Equivalent lamps and lamps authorized according to national legislation”]**

2.4.1.1. *“Equivalent lamps”* means lamps having the same function and authorized in the country in which the vehicle is registered; such lamps may have different characteristics from those installed on the vehicle when it is approved on condition that they satisfy the requirements of this Regulation.

[2.4.1.2. *“Lamps authorized according to national legislation”* means lamps differing from those covered by this UN Regulation authorized by the Contracting Party in which the vehicle is registered.]

Paragraph 2.5.18., amend to read:

"2.5.18. *“Exterior courtesy lamp”* means a lamp used to provide supplementary illumination to assist the ~~entry and exit of the vehicle driver and passenger or in loading operations;~~ **vehicle user to identify, approach or depart; enter or exit; load or unload the vehicle.**

Paragraph 2.5.20., amend to read:

"2.5.20. *“External status indicator”* means an optical signal mounted on the outside of the vehicle to indicate the status or the change of the status for Vehicle Alarm System (VAS), Alarm System (AS) and immobilizer of UN Regulations Nos. 97, ~~and 116,~~ **162 and 163**, when the vehicle is parked."

Insert a new paragraph 2.5.21. to read:

"**2.5.21.** *“Energy indicator lamp”* means a lamp and/or a signal used to inform the vehicle user about the energy level, and/or the condition of the energy transfer system and/or the status of energy transfer of the vehicle."

Insert a new paragraph 2.6.4. to read:

"**2.6.4.** *“Answer-back signal”* means a signal used to assist the vehicle user to find his/her car under the park condition of a vehicle."

Insert a new paragraph 2.7.10. to read:

"**2.7.10.** *“Lamp test mode”* means a system or mode which enables the vehicle user to perform a function check of the vehicle’s lighting and light signalling devices and their associated systems."

Paragraph 3.2.2., amend to read:

"[3.2.2. A list of the devices prescribed by the manufacturer for the lighting and light-signaling assembly. The list may include several types of device for each operation. Each type shall be duly identified (component, type-approval mark, name of manufacturer, etc.); in addition the list may include in respect of each function the additional annotation "or equivalent devices"; **in addition the list may include “lamps authorized according to national legislation”;**]"

Insert a new paragraph 3.2.10., to read:

"**3.2.10.** **Where the vehicle is equipped with lamps that are used under the park condition as specified in 5.36., except for subparagraph (a) in 5.36.:**

3.2.10.1. **A list of the lamps used.**

3.2.10.2. **A detailed description providing the following information:**

- **the conditions for the lamps to be switched ON and OFF;**
- **if the lamps are flashing: the flashing frequency;**

- **if the lamps are varying their intensity and/or apparent surface: the luminous intensity range and/or the changes in apparent surface.**

This information may be provided by the vehicle manufacturer by sufficient documentation ([for example,] including line graphs clearly showing flash and/or vary in luminous intensity and/or apparent surface of the underlying regulations) or by other means accepted by the Type Approval Authority."

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 when the lamp is switched ON.

5.9.1. Direction-indicator lamps, the vehicle-hazard warning signal, amber side-marker lamps complying with paragraph 6.18.7. below, the emergency stop signal shall be flashing lamps.

5.9.2. The photometric characteristics of any lamp may vary:

- (a) In relation to the ambient light;
- (b) As a consequence 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.

5.9.3. The photometric characteristics of a direction indicator lamp of categories 1, 1a, 1b, 2a or 2b may be varied during a flash by sequential activation of light sources as specified in paragraph 5.6. of UN Regulation No. 6. or paragraph 5.6.11. of UN Regulation No. 148.

This provision shall not apply when direction indicator lamps of categories 2a and 2b are operated as emergency stop signal according to paragraph 6.23.1. of this Regulation.

5.9.4. [Under the park condition,] the functions used as described in paragraphs 2.5.21. "Energy indicator signal", 2.6.4. "Answer-back signal", 2.7.10. "Lamp test mode" [and 2.5.18. "Exterior courtesy lamp"] may flash and/or vary in luminous intensity and/or apparent surface.

These lamps shall operate according to the conditions specified in general specifications and/or in dedicated paragraphs [6.24.,] 6.27., 6.28. and 6.29."

Paragraph 5.11.1., amend to read:

"5.11.1. This requirement does not apply while one or more of the following conditions exist:

- (a) Front and rear position lamps, as well as side-marker lamps when combined or reciprocally incorporated with said lamps are switched ON as parking lamps;
- (b) Side-marker lamps flash in conjunction with direction indicators;
- (c) Daytime running lamps are switched ON;
- (d) Front position lamps function is substituted under the provisions of paragraph 5.12.1. below.
- [(e) Lamps are operating under the provisions of paragraphs [6.24.,] 6.27., 6.28. and 6.29."**

Paragraph 5.15., amend to read:

"5.15. The colours of the light emitted by the lamps⁷ are the following:

...

Manoeuvring lamp:	White
Energy indicator lamp:	White; however, other colours may be used if they follow the principles for colours specified in paragraph 5. of ISO 2575:2021.
	If approved lamps are used as energy indicator lamps, the colour of the light emitted shall be the one specified for the corresponding lamp."

Insert a new paragraph 5.36, to read:

"5.36. Lamps that may be switched ON under the park condition of a vehicle are as follows:

- (a) **Lamps in this UN Regulation as long as they are operated in the same manner as under the normal condition of use of a vehicle;**
- (b) **Lamps as defined in paragraph 2.5.13. "Parking lamps";**
- (c) **Lamps as defined in paragraph 2.5.18. "Exterior courtesy lamps";**
- (d) **Lamps as defined in paragraph 2.5.20. "External status indicator";**
- (e) **Light function as defined in paragraph 2.5.21. "Energy indicator lamp";**
- (f) **Light function as defined in paragraph 2.6.4. "Answer-back signal"; and**
- (g) **Light function as defined in paragraph 2.7.10. "Lamp test mode";"**

Insert a new paragraph 5.37. to read:

"[5.37. Lamps according to national legislation may have different characteristics from those installed on the vehicle when it is approved on condition that they are mounted and have characteristics as defined by the Contracting Party in which the vehicles are registered.]"

Paragraphs 6.24. to 6.24.3., amend to read:

- "6.24. Exterior courtesy lamp
- 6.24.1. Presence
- Optional on motor vehicles
- 6.24.2. Number
- Two, however further exterior courtesy lamps to illuminate steps and/or door handles [**the area around the vehicle and to identify the vehicle**] are permitted. Each door handle or step shall be illuminated by not more than one lamp.
- 6.24.3. Arrangement
- No special requirement, however, the requirements of paragraph 6.24.9.34. apply."

Paragraph 6.24.9., amend to read:

- "6.24.9. Other requirements
- 6.24.9.1. The exterior courtesy lamp shall not be switched ON unless the vehicle is stationary and one or more of the following conditions is satisfied:
- (a) The propulsion system 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.~~]

- [6.24.9.1.1. The exterior courtesy lamps may be switched ON manually or automatically.
- 6.24.9.1.2. The exterior courtesy lamps shall not flash.
- 6.24.9.1.3. At the discretion of the manufacturer the combination of exterior courtesy lamps may be grouped in different patterns to suit the circumstances of their use and the environment
- 6.24.9.1.4. The photometric characteristics of the exterior courtesy lamps may vary in relation to the position of vehicle users. No sharp variation of intensity shall be observed during transition.]
- 6.24.9.2. The rear position lamps, the parking lamps, the side marker lamps, the end-outline marker lamps, and A-approved lamps emitting white light with the exception of main beam head lamps, daytime running lamps and reversing lamps may be switched ON as courtesy lamp function. They may also be switched ON together with the exterior courtesy lamps and the condition of paragraph 5.11. and 5.12. above may not apply.
- 6.24.9.3 The technical service shall, to the satisfaction of the Type Approval Authority, perform a visual test to verify that there is no direct visibility of the apparent surface of the exterior courtesy lamps, if viewed by an observer moving on the boundary of a zone on a transverse plane 10 m from the front of the vehicle, a transverse plane 10 m from the rear of the vehicle , and two longitudinal planes 10 m from each side of the vehicle; these four planes to extend from 1 m to 3 m above and perpendicular to the ground as shown in Annex 14.
- [At the request of the applicant and with the consent of the Technical Service ~~this requirement~~ **the requirements of this paragraph** may be verified by a drawing or simulation **or deemed be satisfied if the applicant can prove that the luminous intensity is less than [0.5] cd per lamp taking into account the influence of the vehicle body if applicable.**]"

Insert a new paragraph 6.27., to read:

- "6.27. Answer-back signal
- 6.27.1. Presence
- Optional
- 6.27.2. Number
- In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal. However, it may be less than or equal to the individual specifications applicable to the specific lamp.**
- 6.27.3. Arrangement
- In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal. However, it may be less than or equal to the individual specifications applicable to the specific lamp.**
- 6.27.4. Position
- 6.27.4.1. In width: **In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal. However, it may be less than or equal to the individual specifications applicable to the specific lamp.**
- 6.27.4.2. In height: **in accordance with the individual specifications applicable to the specific lamp used for the answer-back signal.**
- However, if the height changes depending on the operating conditions of the propulsion system, it shall be less than or equal to the individual specifications applicable to the specific lamp.**

- 6.27.4.3.** In length: In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal. However, it may be less than or equal to the individual specifications applicable to the specific lamp.
- 6.27.5.** Geometric visibility
In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal. However, it may be less than or equal to the individual specifications applicable to the specific lamp.
- 6.27.6.** Orientation
In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal.
- 6.27.7.** Electrical connections
- 6.27.7.1.** The answer-back signal shall only operate under the park condition of a vehicle.
- 6.27.7.2.** No sharp variation of intensity shall be observed during transition of variation in luminous intensity and/or apparent surface of the answer-back signal.
- 6.27.7.3.** If the answer-back signal flashes, the frequency shall not exceed [2.0] Hz.
- 6.27.7.4.** The lamps may operate in combination.
- 6.27.7.5.** The conditions of paragraphs 5.11. and 5.12. and for the electrical connections of devices used for the Answer-back signal may not apply.
- 6.27.8.** Tell-tale
No special requirement.
- 6.27.9.** Other requirements
- 6.27.9.1.** The answer-back signal shall be provided by approved lighting and light-signalling devices according to the UN Regulation [and exterior courtesy lamps] whose maximum luminous intensity does not exceed [700] cd [on or above the HH line] [with the exception of front and rear fog lamps and stop lamps].

Compliance with this requirement shall be demonstrated by the applicant, using a test report or other means of verification accepted by the Type Approval Authority. The information shall be indicated in the communication form.
- 6.27.9.2.** The answer-back signal may only be activated automatically in conjunction with the locking and unlocking of the door(s), the opening and closing of the doors, the detection of the vehicle user approaching with the key and in accordance with other conditions prescribed as conditions similar to this stated by the manufacturer.
- 6.27.9.3.** The duration of the optical indication of the answer-back signal shall not exceed [3] seconds."

Insert a new paragraph 6.28., to read:

- "6.28.** Energy indicator lamp
- 6.28.1.** Presence
Optional.
- 6.28.2.** Number
No special requirement.

- [However, if approved lamps are used then the number shall not exceed the individual specifications applicable to the specific lamp.]
- 6.28.3. Arrangement**
 No special requirement.
 [However, if approved lamps are used then the arrangement shall be in accordance with or less than the individual specifications applicable to the specific lamp.]
- 6.28.4. Position**
 No special requirement.
 [However, if approved lamps are used then the position shall be in accordance with the individual specifications applicable to the specific lamp.
 However, if the height changes depending on the operating conditions of the propulsion system, it shall be less than or equal to the individual specifications applicable to the specific lamp.]
- 6.28.5. Geometric visibility**
 No special requirement.
 [However, if approved lamps are used then the geometric visibility shall be in accordance with or less than the individual specifications applicable to the specific lamp.]
- 6.28.6. Orientation**
 No special requirement.
 [However, if approved lamps are used then the orientation shall be in accordance with the individual specifications applicable to the specific lamp.]
- 6.28.7. Electrical connections**
 The requirements of paragraphs 5.11., 5.12. and for the electrical connections of devices used for the Energy indicator lamp do not apply.
- 6.28.8. Tell-tale**
 No special requirement.
- 6.28.9. Other requirements**
- 6.28.9.1** If not otherwise specified, all lighting and light-signalling lamps may be used as an energy indicator lamp.
- 6.28.9.2** The energy indicator lamp shall not be switched ON unless the vehicle is stationary and one or more of the following conditions exist:
- (a) the vehicle is connected to the energy grid; or
 - (b) the energy indicator lamp is switched ON manually by the vehicle user.
- 6.28.9.3.** The luminous intensity of energy indicator lamp shall not exceed [50 cd].
 However, if approved lamps are used for the energy indicator lamp, the luminous intensity shall not exceed the required maximum of the lamp concerned according to the following conditions:
- if the ambient light conditions outside vehicle are above 1,000 lux (measured according to the requirements of Annex 13), the luminous intensity above the H-H line shall not exceed [700 cd].

- if the ambient light conditions outside vehicle are less than 1,000 lux (measured according to the requirements of Annex 13), the luminous intensity above the H-H line shall not exceed [300 cd].

[Compliance with this requirement shall be demonstrated by the applicant, using a test report or other means of verification accepted by the Type Approval Authority. The information shall be indicated in the communication form.]

- 6.28.9.4. When the energy indicator lamp is switched ON manually by the vehicle user according to 6.28.9.2, the duration of the indication shall not exceed [10] seconds.
- 6.28.9.5. Energy indicator lamps may flash when a failure related to the energy transfer is detected. However, if approved lamps are used for the energy indicator lamp, the duration of this flashing failure indication shall not exceed [3] seconds."

Insert a new paragraph 6.29., to read:

"6.29. Lamp test mode

Where not otherwise specified in this paragraph and its sub-paragraphs, the individual requirements for the lamps used for lamp test mode do not apply.

6.29.1 Presence

Optional.

6.29.2. Number

No special requirement.

[However, if approved lamps are used then the number shall be in accordance with or less than the individual specifications applicable to the specific lamp.]

6.29.3. Arrangement

No special requirements.

[However, if approved lamps are used then the arrangement shall be in accordance with or less than the individual specifications applicable to the specific lamp.]

6.29.4. Position

No special requirements.

[However, if approved lamps are used then the position shall be in accordance with the individual specifications applicable to the specific lamp.

However, if the height changes depending on the operating conditions of the propulsion system, it shall be less than or equal to the individual specifications applicable to the specific lamp.]

6.29.5. Geometric visibility

No special requirements

[However, if approved lamps are used then the geometric visibility shall be in accordance with or less than the individual specifications applicable to the specific lamp.]

6.29.6. Orientation

No special requirements

[However, if approved lamps are used then the orientation shall be in accordance with the individual specifications applicable to the specific lamp.]

6.28.7. Electrical connections

The requirements of paragraphs 5.11., 5.12. and for the electrical connections of devices used for the lamp test mode do not apply.

6.28.8. Tell-tale

No special requirement.

6.29.9. Other Requirements.

6.29.9.1 The lamp test mode may be switched ON [;

(a) manually by the vehicle user [and/or

(b) automatically.

If automatic, activation shall only be possible where a key is detected and the vehicle is within a geofenced location programmed by the vehicle user suitable for such a test (e.g., within a safe site), or in accordance with conditions similar to this as stated by the manufacturer and accepted by the Technical Service.]

6.29.9.2. Each function/lamp tested shall be switched ON and remain switched ON for a minimum of [1] second.

[In addition, each function/lamp shall not be switched ON not more than once during the entire time (both ON and OFF cycle) of operation of the lamp test mode.]

6.29.9.3. The duration of Lamp test mode shall not exceed [180] seconds. The lamp test mode may be manually re-initiated by the vehicle user. However, it shall always be switched OFF automatically when the vehicle is in the normal condition of use."

Annex 1,

Insert new items 9.31.and 9.32. to read:

"9.31. Lamps allowed to be used under park condition:

9.31.1. Answer-back signal: yes/no².....

9.31.1.1 Maximum luminous intensity on or above the H-H line

.....

9.31.2. Lamp test mode: yes/no².....

9.31.3. Energy indicator lamp: yes/no².....

9.31.3.1 Luminous intensity:

9.32. Lamps according to national legislation: yes/no²"

II. Justification

A justification will be submitted as a separate informal document.