

## **Proposal for a new series of amendments to UN Regulation No. 48 to supersede GRE/2023/02**

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.

### **I. Proposal**

*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 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 2.6.4.* to read:

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

*Insert a new paragraph 5.9.4.*, to read:

"5.9.4. **Answer-back signal 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 6.27."**

*Paragraph 5.15.*, amend to read:

"5.15. The colours of the light emitted by the lamps<sup>10</sup> are the following:

...

Adaptive front-lighting  
systems (AFS):

White

Exterior courtesy lamp:	White  <b>In accordance with the individual specifications applicable to the specific lamp used for the Exterior courtesy lamp.</b>
Manoeuvring lamp:	White
<b>Answer-back signal:</b>	<b>In accordance with the individual specifications applicable to the specific lamp used for the answer-back signal.</b>

"

*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
    - One or two**, however further exterior courtesy lamps to illuminate steps and/or door handles, **and/or the area around 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 6.24.9.3. apply."

*Paragraphs 6.24.9., amend to read:*

- "6.24.9. Other requirements
  - 6.24.9.1. The exterior courtesy lamp(s) 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 after being closed**; or
    - (c) A load compartment door is opened **or after being closed**.

~~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 and/or switched OFF manually or automatically.**
    - 6.24.9.1.2. The exterior courtesy lamp or lamps may vary in luminous intensity and/or apparent surface. The photometric characteristics of the exterior courtesy lamp(s) may vary in relation to the position of vehicle users. No sharp variation of intensity shall be observed during transition.**
    - 6.24.9.1.3. The exterior courtesy lamp(s) shall not flash.**
    - 6.24.9.1.4. At the discretion of the manufacturer the exterior courtesy lamp(s) may operate in any combination.**
  - 6.24.9.2. Approved lamps emitting white light with the exception of main beam head lamps, daytime running lamps and reversing lamps may be switched ON as

~~exterior courtesy lamp(s) function. In addition, rear position lamps, the parking lamps, the side marker lamps and the end-outline marker lamps may be switched ON. They may also be switched ON together with the exterior courtesy lamps and the conditions 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.
- 6.24.9.4. At the request of the applicant and with the consent of the Technical Service ~~this requirement~~ **the requirements of 6.24.9.3. may be verified by a drawing or simulation or deemed be satisfactory if the applicant can prove that the luminous intensity visible during the observation test described in Annex 14 is less than 0.5 cd per lamp. No account shall be taken of the influence of the vehicle body."**

*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 ~~due to changes in the suspension system depending on the operating conditions of the propulsion system,~~ it ~~may~~ **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, the geometric visibility may be reduced in comparison to ~~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.      **If the answer-back signal flashes, the frequency shall not exceed 2.0 Hz.**
- 6.27.7.3.      **The lamps may operate in combination.**
- 6.27.7.4.      **Individual specific requirements for electrical connections and the conditions of paragraphs 5.11. and 5.12. may not apply to the lamps used for the answer-back signal.**
  
- 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 and exterior courtesy lamps where in all these cases, the maximum luminous intensity per lamp does not exceed 700 cd on or above the HH line. However, front fog lamps, rear fog lamps and stop lamps are not permitted to be used.**
- 6.27.9.2.      **The answer-back signal may only be activated automatically in conjunction with the locking and unlocking of the door(s) and/or the detection of the vehicle user in proximity to the vehicle.**
- 6.27.9.3.      **The answer back signal may flash and/or vary in luminous intensity and/or apparent surface.**
- 6.27.9.4.      **The duration of the optical indication of the answer-back signal shall not exceed 3 seconds.**
- 6.27.9.5.      **Compliance with the requirements of paragraphs 6.27.9.1. to 6.27.9.4. shall be demonstrated by the applicant, using test reports or other means of verification accepted by the Type Approval Authority. The information shall be indicated in the communication form."**

*Insert a new paragraph 9.28., to read:*

**"9.28.        Answer-back signal:                    yes/no<sup>2</sup>....."**

*Renumber paragraphs 9.28., 9.29., 9.30. to 9.29., 9.30., 9.31.*

## II. Justification

1. Japan made proposals of ECE/TRANS/WP.29/GRE/2021/2, GRE-84-29 and GRE-84-30 at the eighty-fourth session of the Working Party on Lighting and Light-Signalling (GRE) and insisted that it would be necessary to formulate Regulations for lamps under the park condition. This resulted in the establishment of a Special Interest Group (SIG) on the 09 series of amendments to UN Regulation No. 48 as a meeting structure under GRE. These proposals are reflecting the results of deliberations at SIG since July 2021. At the eighty-sixth session of GRE, a two-step approach was approved with Step 1 being the establishment of the framework of the Regulation of the lamps under the park condition and the Regulation of the existing lamps by the series of amendments, and Step 2 being the Supplement amendments that will add upcoming lamps. This proposal is the legal text for Step 1, based on the policy decided by SIG.

2. Several Contracting Parties viewed it as a problem that the lamps not subject to the provisions under the park condition in the current UN Regulation No. 48 have been put at the market and that for the Type Approval Authorities it would be difficult to restrict those lamps safely under the park condition provisions in the current UN Regulation No. 48. This proposal was intended to arrange comprehensively the requirements for the lamps under the park condition and to promote the unified operation and international standard harmonization of UN Regulation No. 48.

3. Meanwhile, to increase user convenience, some manufacturers have produced vehicles with a function that allows lights to flash in conjunction with locking/unlocking of the doors, charging electric vehicles (EV), etc., while a vehicle is under the park condition. We believe that such functions can be permitted to the extent that they do not impair traffic safety.

4. However, during the 9<sup>th</sup> session of the SIG, the representative of EU Commission expressed some concerns on other functions than “answer-back signal”. It was decided to only regulate this function to be integrate into the 09 series of amendments and the other will developed in Step 2.

5. France requested to bring back in the proposal the clarifications made on the ‘Exterior Courtesy Lamps’ (ECL) and the representative of EU Commission agreed.

6. Therefore, we would like to define the “answer-back signal” as lighting and light-signalling functions that assist the user of the vehicle to locate his vehicle by operating in conjunction with the locking or unlocking of the doors and the detection of the vehicle user approaching with the key under the park condition.

*Paragraph 2.5.18. “Exterior courtesy lamp (ECL)”*

7. The exterior courtesy lamp definition is modified to include the ‘follow me home’ function and additional functions present on vehicles that are registered today. The scope addresses the illumination of the area around the vehicle on approach or depart. This is in addition to the illumination of doorsteps or handles as addressed by the current ECL function.

*Paragraph 2.5.20.*

8. Editorial modifications: addition of the latest UN Regulation Nos for Vehicle Alarm System (VAS), Alarm System (AS) and immobilizer.

*Paragraph 2.6.4. “Answer-Back Signal”*

9. The answer-back signal is defined in paragraph 2.6.4. This type of signal is also already implemented on current production vehicles available today.

10. It is proposed that the Answer-Back Signal may flash and/or vary in their luminous intensity.

6.24.2. “Exterior courtesy lamp”

11. Extension of the scope of the exterior courtesy lamp (ECL) in order to integrate the existing ‘follow-me-home’ function. The number was changed to ‘one or two’ to cover the case where only one exterior courtesy lamp may be illuminated. A use case could be to solely illuminate the boot or bonnet area with only one lamp. In step 2, the number may be further evaluated. SIG agreed to integrate ‘follow-me-home’ function into ECL. In this case, requirements for ECL need to be modified to cover what is done for the ‘follow-me-home’ feature on vehicles on the market already.

Paragraph 6.24.9.1.

12. Adding ‘or after closing’ adds provides flexibility to the triggering moment. Consider the elderly exiting a vehicle or a chauffeur driven vehicle.

Paragraphs 6.24.9.1.3. and 6.24.9.1.4.

13. Not to cause unnecessary distraction, SIG proposes to permit the grouping of exterior courtesy lamps in different patterns. Permitting fade in/fade out illumination following the position of a vehicle user with grouping of exterior courtesy lamps is beneficial for traffic safety as it avoids any sharp variations in intensity. Additionally, the restrictions in Annex 14 avoid illuminating areas or aspects that are not beneficial to the vehicle user.

Paragraph 6.24.9.2.

14. The rear position lamp, the parking lamps, the end-outline lamps have been added to the list of the lamps allowed to be switched ON as ECL function. This measure is to include the requirements for the follow-me-home light that have already been introduced in Europe into ECL. SIG discussions revealed that the 'wake-up/shut-down light function' on the market encompasses two functions: ECL and the new answer-back signal. SIG has worked out the definitions and requirements for the two functions to draw a clear line and organise the above.

Table

**Principal differences in requirements between ECL and answer-back signal**

	<i>Wake-up/shut-down light function</i>	
	<i>ECL</i>	<i>Answer-back signal</i>
Definitions	A lamp used to provide supplementary illumination to assist the vehicle user to approach or depart; enter or exit; load or unload the vehicle	A signal used to assist the vehicle user to identify and find his/her car under the park condition of a vehicle
Requirements for illumination	Shall not flash, however, varying in luminous intensity and/or apparent surface is permitted depending on the position of the vehicle user	Flashing and/or varying in luminous intensity and/or apparent surface
Duration	-	Not to exceed 3 seconds

Paragraph 6.24.9.3.

15. There are existing examples of ECL illumination that occurs in the park condition that would be prohibited by the new requirements. By permitting the applicant to demonstrate these such illumination is negligible i.e., less than 0.5cd, these features can continue to be installed.

16. The requirements for the answer-back signal are prescribed in paragraph 6.27. in connection with the duration of illumination as well as the kind and function of lamps that can be used.

*Duration of their optical indication*

17. The duration of the optical indication of the answer-back signal shall not exceed 3 seconds in the same manner as the external status indicator of immobilisers. This provision that the duration of the optical indication of the immobiliser shall not exceed 3 seconds has not been revised since 1995 to the present. This can be considered a proof that there have been no safety issues. Therefore, the duration of 3 seconds is incorporated as a requirement for answer-back signal from the standpoint of safety for the surroundings. Moreover, as a reference for this matter, Japan has investigated the history of this provision that the duration of flashing of direction indicator lamps was specified as 3 seconds in connection with the external status indicator in UN Regulation No. 97. This discussion, that was carefully examined by the three meeting structures of GRE, the Working Party on General Safety Provisions (GRSG) and the World Forum (WP.29) from 1994 to 1995, was indicated in the official reports and related documents. According to the history that was clearly indicated, initially there was a proposal to allow only 2 flashes, then a provision to allow flashing for 2 seconds was proposed, and finally a provision to allow flashing for 3 seconds was decided. This provision of three-second flashing has been adopted without any relaxation to the present day. It is evident from this history that there was great concern about flashing for more than 3 seconds.

*Types of lighting or light-signalling functions that can be used*

18. Paragraph 6.27.1. prescribes reciprocally incorporated lamps for the answer-back signal. The answer-back signal shall be provided by approved lighting and light-signalling and exterior courtesy lamps where in all these cases, the maximum luminous intensity does not exceed 700 cd on or above the HH line. However, front fog lamps, rear fog lamps and stop lamps are not permitted to be used.

*Maximum intensity and colour*

19. With regard to the maximum intensity, colour, etc. of the answer-back signal, each lamp shall comply with the requirements prescribed in the individual specifications in paragraph 6. However, lamps with the specifications equal to or less than the individual specifications applicable to the particular lamp are permitted.

*Answer-back light is allowed to flash*

20. Paragraph 5.9.4. prescribes that the answer-back signal can flash and vary in luminous intensity and/or apparent surface. Moreover, paragraph 6.27.7.2. prescribes that the flashing frequency be restricted to 2.0 Hz or less. This is prescribed based on the flashing frequency of direction indicator lamps.

*Paragraph 9.31.*

21. Additional details were added to the communication form for the Answer-Back Signal.