

Transmitted by the experts from Germany

Informal document GRE-85-23
(85th GRE, 26-29 October 2021,
Item 4 (e) of the agenda)

**Proposal for a new supplement to the 06, 07 and 08 series of amendments to UN Regulation
No. 48**

This informal document is an additional proposal to GRE/2021/16. Modifications are **yellow**.

I. Proposal

A. Proposal for a new Supplement to the 06 series of amendments to UN Regulation No. 48

Add a new paragraph 2.5.1.1. to read:

“2.5.1.1. “Auxiliary driving-beam (auxiliary main-beam) lamp” means a driving-beam approved as separate lamp in such a way that it is supplementing a driving-beam of another class.”

Paragraph 5.10. and its sub-paragraphs, amend to read:

~~“5.10. No red light which could give rise to confusion shall be emitted from a lamp as defined in paragraph 2.1.5. in a forward direction and no white light which could give rise to confusion, shall be emitted from a lamp as defined in paragraph 2.1.5. in a rearward direction. No account shall be taken of lighting devices fitted for the interior lighting of the vehicle. In case of doubt, this requirement shall be verified as follows:~~

Provisions regarding light which could give rise to confusion:

5.10.1. ~~For the visibility of red light towards the front of a vehicle, with the exception of a red rearmost side marker lamp, there shall be no direct visibility of the apparent surface of a red lamp if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Annex 4);~~

Red light emitted by a lamp fitted on the rear of the vehicle (as defined in paragraph 2.1.5.) shall not be visible from the front of the vehicle.

5.10.2. ~~For the visibility of white light towards the rear of a vehicle, with the exception of reversing lamps and white side conspicuity markings, there shall be no direct visibility of the apparent surface of a white lamp if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Annex 4);~~

White light emitted by a lamp fitted on the front of the vehicle (as defined in paragraph 2.1.5.) shall not be visible from the rear of the vehicle.

5.10.3. ~~In their respective planes, the zones 1 and 2 explored by the eye of the observer are bounded:~~

~~**No account shall be taken of light emitted by devices for the interior lighting of the vehicle. No account shall be taken of lighting devices fitted for the interior lighting of the vehicle.**~~

~~5.10.3.1. In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;~~

~~5.10.3.2. In width, by two vertical planes which, forming to the front and to the rear respectively an angle of 15° outwards from the vehicle's median longitudinal plane, pass through the point or points of contact of vertical planes parallel to the vehicle's median longitudinal plane delimiting the vehicle's overall width; if there are several points of contact, the foremost shall correspond to the forward plane and the rearmost to the rearward plane.~~

5.10.4. To verify paragraphs 5.10.1. and 5.10.2.:

5.10.4.1. For the visibility of red light towards the front of a vehicle, with the exception of a red rearmost side-marker lamp, there shall be no direct visibility of the apparent surface of a red lamp if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Annex 4);

5.10.4.2. For the visibility of white light towards the rear of a vehicle, with the exception of reversing lamps and white side conspicuity markings, there shall be no direct visibility of the apparent surface of a white lamp if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Annex 4);

5.10.4.3. In case of doubt, the requirement above shall be deemed fulfilled if the luminous intensity of the red light emitted to the front and/or the white light emitted to the rear, as verified during type approval of the lamps, is less than 0.25 cd per lamp taking into account the influence of the vehicle body if applicable.”

Paragraph 6.1.2., amend to read:

“6.1.2. Number

Two or **four** ~~or four~~, type approved according to:

(a) ~~— Regulations Nos. 98 or 112, excluding Class A headlamp~~

~~or~~

(b) ~~— UN Regulation [RID], Classes B and D headlamps only~~

- UN Regulation No. 98,

or

- Class B of UN Regulation No. 112,

or

- Classes B or D of the 00 series of amendments to UN Regulation No. 149,

or

- Class B of the 01 and subsequent series of amendments to UN Regulation No. 149.

Optionally, one ~~or more~~ additional pair ~~(s)~~ type approved according to:

- UN Regulation No. 98,

~~and/or~~

- Classes A ~~and/or~~ B of UN Regulation No. 112,

~~and/or~~

- Classes A ~~and/or~~ B ~~and/or~~ RA of UN Regulation No. 149.

~~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, at short intervals (see paragraph 5.12. above) in daylight. ”~~

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 that more than one pair-e 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.~~

The auxiliary driving-beam(s), class RA, shall only be switched ON together with the driving-beams of another class, except when one or more pair(s) of auxiliary driving-beams, class RA, are used to produce light signals consisting of intermittent switching ON at short intervals (paragraph 5.12.)."

Paragraph 6.1.7.6., delete.

Paragraph 6.1.9.2., amend to read:

"6.1.9.2. This maximum intensity shall be obtained by adding together the individual reference marks which are indicated on the several headlamps. ~~The reference mark "10" shall be given to each of the headlamps marked "R" or "CR".~~"

Paragraph 6.2.2., amend to read:

"6.2.2. Number

Two, type approved according to:

(a) ~~UN Regulation No. 98 or 112, excluding Class A headlamp,~~

~~or~~

(b) ~~UN Regulation [RID], Classes B and D headlamps only.~~

- **UN Regulations Nos. 98 or 112, excluding Class A,**

or

- **Classes B or D of the 00 series of amendments to UN Regulation No. 149,**

or

- **Class C of the 01 and subsequent series of amendments to UN Regulation No. 149."**

Paragraph 6.3.9., amend to read:

"6.3.9. Other requirements

In the case where there is a positive indication in the communication form in **item 10.9. of Annex 1 of Regulation No. 19 or item 9.5.8. in of Annex 1 of Regulation No. [RID] 149** the alignment and the luminous intensities of the class "F3" front fog beam may be automatically adapted in relation to the prevailing ambient conditions. Any variations of the luminous intensities or alignment shall be performed automatically and in such a way that no discomfort, neither ..."

Paragraph 6.22.6.1.2.1., amend to read:

"6.22.6.1.2.1. In case the passing-beam is generated by several beams from different lighting units, the provisions according to paragraph 6.22.6.1.2. above apply to each said beam's "cut-off" (if any), which is designed to project into the angular zone, as indicated under item ~~9.3~~ **9.4.** of the communication form conforming to the model in Annex 1 to Regulations Nos. 123 or ~~item 9.3.3. in Annex 1 to UN Regulation No. [RID] 149.~~"

Paragraph 6.22.9.1., amend to read:

"6.22.9.1. An AFS shall be permitted only in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 4518 for at least those lighting units, which are indicated under item 9.3. of the communication form conforming to the model in Annex 1 to Regulation No. 123 or under item ~~9.3.2.3.~~ **9.3.3.** in Annex 1 to Regulation No. [RID] 149, if the total objective luminous flux of the light sources of these units exceeds 2,000 lm per side, and which..."

Paragraph 6.26.9.2., amend to read:

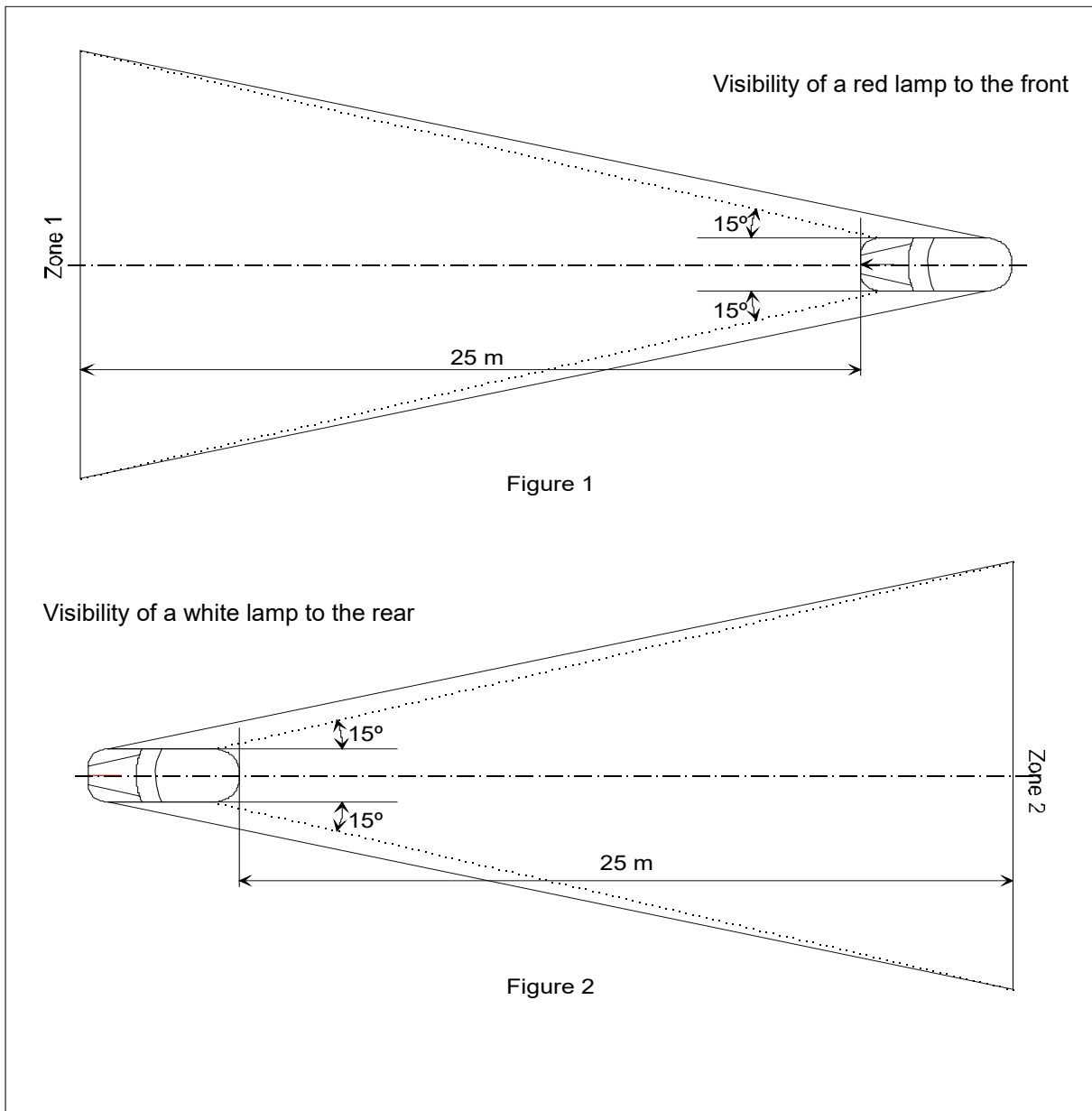
"6.26.9.2. At the request of the applicant and with the consent of the Technical Service the requirement of 6.26.9.1 may be verified by a drawing or simulation or deemed be satisfied if the installation conditions comply with paragraph 6.2.2. of UN Regulation No. 23 or paragraph 5.10.2. of **the 00 series of amendments to UN Regulation No. 148 or paragraph 5.10.1.2. of the 01 and subsequent series of amendments to UN Regulation No. 148**, as noted ~~noticed~~ in the communication document in Annex 1, paragraph 9."

Annex 4, amend to read:

“Annex 4

Visibility of a red lamp to the front and visibility of a white lamp to the rear

(See paragraphs ~~5.10.1. and 5.10.2.~~ **5.10.4.** of this Regulation)



In their respective planes, the zones 1 and 2 explored by the eye of the observer are bounded:

- In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;
- In width, by two vertical planes which, forming to the front and to the rear respectively an angle of 15° outwards from the vehicle's median longitudinal plane, pass through the point or points of contact of vertical planes parallel to the vehicle's median longitudinal plane delimiting the vehicle's overall width; if there are several points of contact, the foremost shall correspond to the forward plane and the rearmost to the rearward plane.”

B. Proposal for a new Supplement to the 07 and 08 series of amendments to UN Regulation No. 48

Add a new paragraph 2.5.1.1. to read:

“2.5.1.1. “Auxiliary driving-beam (auxiliary main-beam) lamp” means a driving-beam approved as separate lamp in such a way that it is supplementing a driving-beam of another class.”

Paragraph 5.10. and its sub-paragraphs, amend to read:

~~“5.10. No red light which could give rise to confusion shall be emitted from a lamp as defined in paragraph 2.1.5. in a forward direction and no white light which could give rise to confusion, shall be emitted from a lamp as defined in paragraph 2.1.5. in a rearward direction. No account shall be taken of lighting devices fitted for the interior lighting of the vehicle. In case of doubt, this requirement shall be verified as follows:~~

Provisions regarding light which could give rise to confusion:

5.10.1. ~~For the visibility of red light towards the front of a vehicle, with the exception of a red rearmost side marker lamp, there shall be no direct visibility of the apparent surface of a red lamp if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Annex 4);~~

Red light emitted by a lamp fitted on the rear of the vehicle (as defined in paragraph 2.1.5.) shall not be visible from the front of the vehicle.

5.10.2. ~~For the visibility of white light towards the rear of a vehicle, with the exception of reversing lamps and white side conspicuity markings, there shall be no direct visibility of the apparent surface of a white lamp if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Annex 4);~~

White light emitted by a lamp fitted on the front of the vehicle (as defined in paragraph 2.1.5.) shall not be visible from the rear of the vehicle.

5.10.3. ~~In their respective planes, the zones 1 and 2 explored by the eye of the observer are bounded:~~

~~No account shall be taken of light emitted by devices for the interior lighting of the vehicle.~~ **No account shall be taken of lighting devices fitted for the interior lighting of the vehicle.**

~~5.10.3.1. In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;~~

~~5.10.3.2. In width, by two vertical planes which, forming to the front and to the rear respectively an angle of 15° outwards from the vehicle's median longitudinal plane, pass through the point or points of contact of vertical planes parallel to the vehicle's median longitudinal plane delimiting the vehicle's overall width; if there are several points of contact, the foremost shall correspond to the forward plane and the rearmost to the rearward plane.~~

- 5.10.4. To verify paragraphs 5.10.1. and 5.10.2.:
- 5.10.4.1. For the visibility of red light towards the front of a vehicle, with the exception of a red rearmost side-marker lamp, there shall be no direct visibility of the apparent surface of a red lamp if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Annex 4);
- 5.10.4.2. For the visibility of white light towards the rear of a vehicle, with the exception of reversing lamps and white side conspicuity markings, there shall be no direct visibility of the apparent surface of a white lamp if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Annex 4);
- 5.10.4.3. In case of doubt, the requirement above shall be deemed fulfilled if the luminous intensity of the red light emitted to the front and/or the white light emitted to the rear, as verified during type approval of the lamps, is less than 0.25 cd per lamp taking into account the influence of the vehicle body if applicable.”

Paragraph 6.1.2., amend to read:

- “6.1.2. Number
- Two **or four** ~~or four~~, type approved according to:
- (c) ~~— Regulations Nos. 98 or 112, excluding Class A headlamp~~
- ~~or~~
- (d) ~~— UN Regulation [RID], Classes B and D headlamps only~~
- UN Regulation No. 98,
 - or
 - Class B of UN Regulation No. 112,
 - or
 - Classes B or D of the 00 series of amendments to UN Regulation No. 149,
 - or
 - Class B of the 01 and subsequent series of amendments to UN Regulation No. 149.

Optionally, one **or more** additional pair **(s)** type approved according to:

- UN Regulation No. 98,
- and/or**
- Classes A **and/or** B of UN Regulation No. 112,
- and/or**
- Classes A **and/or** B **and/or** RA of UN Regulation No. 149.

~~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, at short intervals (see paragraph 5.12. above) in daylight. ”~~

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.

The auxiliary driving-beam(s), class RA, shall only be switched ON together with the driving-beams of another class, except when one or more pair(s) of auxiliary driving-beams, class RA, are used to produce light signals consisting of intermittent switching ON at short intervals (paragraph 5.12.)."

Paragraph 6.1.7.6., delete.

Paragraph 6.1.9.2., amend to read:

"6.1.9.2. This maximum intensity shall be obtained by adding together the individual reference marks which are indicated on the several headlamps. ~~The reference mark "10" shall be given to each of the headlamps marked "R" or "CR".~~ "

Paragraph 6.2.2., amend to read:

"6.2.2. Number

Two, type approved according to:

~~(e) — UN Regulation No. 98 or 112, excluding Class A headlamp,~~

~~or~~

~~(d) — UN Regulation [RID], Classes B and D headlamps only.~~

- **UN Regulations Nos. 98 or 112, excluding Class A,**

or

- **Classes B or D of the 00 series of amendments to UN Regulation No. 149,**

or

- **Class C of the 01 and subsequent series of amendments to UN Regulation No. 149."**

Paragraph 6.3.9., amend to read:

"6.3.9. Other requirements

In the case where there is a positive indication in the communication form in **item 10.9. of Annex 1 of Regulation No. 19 or item 9.5.8. in of Annex 1 of Regulation No. [RID] 149** the alignment and the luminous intensities of the class "F3" front fog beam may be automatically adapted in relation to the prevailing ambient conditions. Any variations of the luminous intensities or alignment shall be performed automatically and in such a way that no discomfort, neither ..."

Paragraph 6.22.6.1.2.1., amend to read:

"6.22.6.1.2.1. In case the passing-beam is generated by several beams from different lighting units, the provisions according to paragraph 6.22.6.1.2. above apply to each said beam's "cut-off" (if any), which is designed to project into the angular zone, as indicated under item ~~9.3~~ **9.4.** of the communication form conforming to the model in Annex 1 to Regulations Nos. 123 or ~~item 9.3.3. in Annex 1 to UN Regulation No. [RID] 149.~~"

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 UN Regulation No. 123 **or paragraph 4.13. of UN Regulation No. 149.** 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 propulsion system is switched ON and OFF.”

Paragraph 6.22.9.1., amend to read:

"6.22.9.1. An AFS shall be permitted only in conjunction with the installation of headlamp cleaning device(s) according to Regulation No. 4518 for at least those lighting units, which are indicated under item 9.3. of the communication form conforming to the model in Annex 1 to Regulation No. 123 or under item ~~9.3.2.3.~~ **9.3.3.** in Annex 1 to Regulation No. ~~[RID]~~ **149**, if the total objective luminous flux of the light sources of these units exceeds 2,000 lm per side, and which...”

Paragraph 6.26.9.2., amend to read:

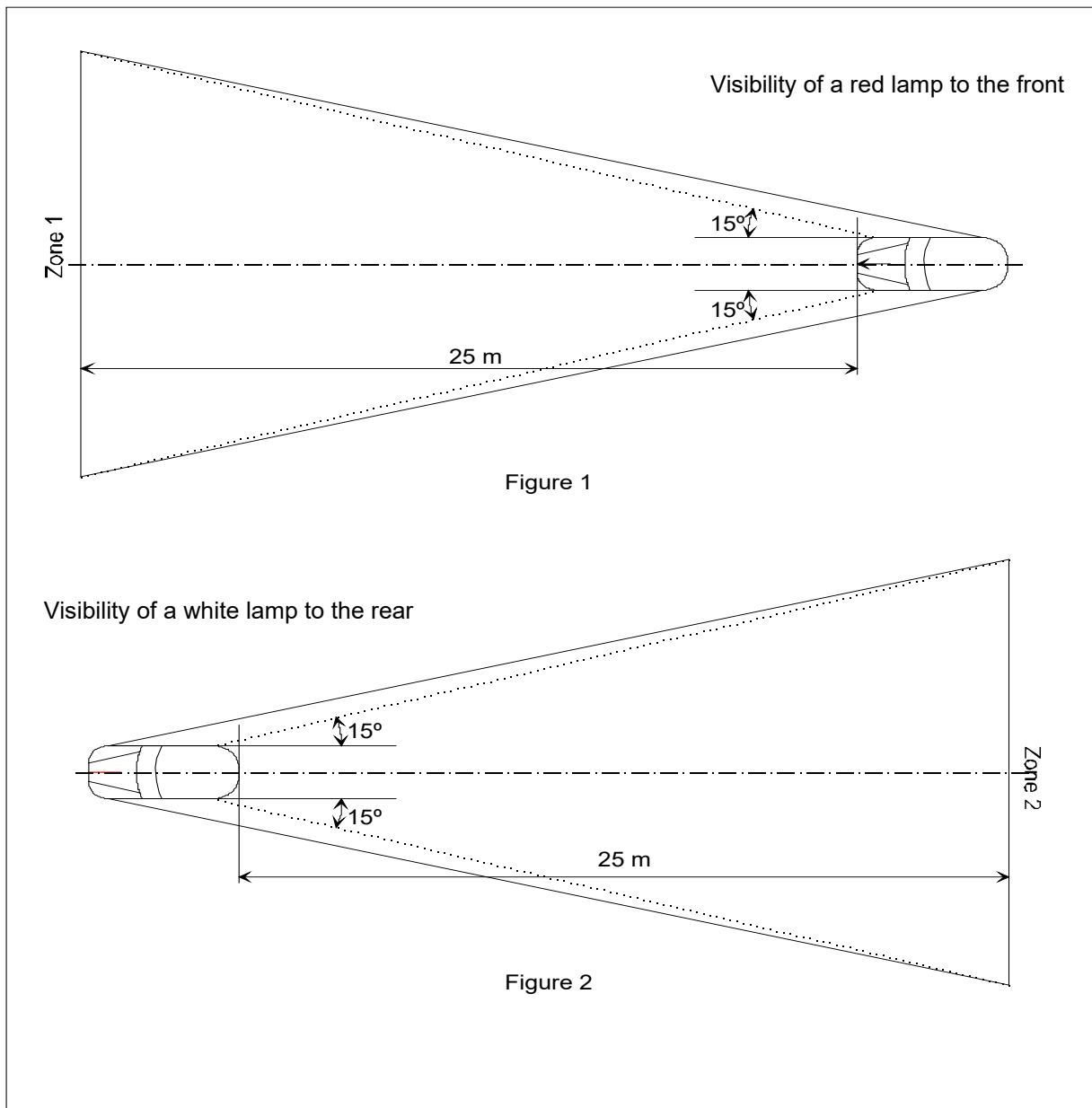
"6.26.9.2. At the request of the applicant and with the consent of the Technical Service the requirement of 6.26.9.1 may be verified by a drawing or simulation or deemed be satisfied if the installation conditions comply with paragraph 6.2.2. of UN Regulation No. 23 or paragraph 5.10.2. of **the 00 series of amendments to UN Regulation No. 148 or paragraph 5.10.1.2. of the 01 and subsequent series of amendments to UN Regulation No. 148**, as ~~noted~~ **notified** in the communication document in Annex 1, paragraph 9."

Annex 4, amend to read:

“Annex 4

Visibility of a red lamp to the front and visibility of a white lamp to the rear

(See paragraphs ~~5.10.1. and 5.10.2.~~ **5.10.4.** of this Regulation)



In their respective planes, the zones 1 and 2 explored by the eye of the observer are bounded:

- **In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;**
- **In width, by two vertical planes which, forming to the front and to the rear respectively an angle of 15° outwards from the vehicle's median longitudinal plane, pass through the point or points of contact of vertical planes parallel to the vehicle's median longitudinal plane delimiting the vehicle's overall width; if there are several points of contact, the foremost shall correspond to the forward plane and the rearmost to the rearward plane."**

II. Justification

1. Should the original proposal for high beam headlamps come into force, this will result in a further complication with regard to the verification of the permissibility/compliance of the vehicles during roadside inspections by the police/ or other control authorities and during the periodic technical inspection (e.g. for the EU Directive 2014/45/EU) examinations (checks) by the inspection organizations.

2. The proposal would considerably increase the effort required for roadside inspections and periodical inspections, as accessible (walkable) portals would now have to be required for the inspection of buses and trucks on ground of the work (industrial) safety of the inspectors.
 3. The relevant provisions of UN Regulation No. 48 currently already permit the installation of up to six (three pairs) high-beam headlamps, provided that only a maximum of four (two pairs) of these are illuminated at the same time and their combined number does not exceed 100. These regulations allow sufficient leeway for retrofitting/modification of passenger cars, buses and trucks (keyword "truck styling") and have proven themselves in practice, especially during the above-mentioned inspections and tests of motor vehicles. In addition, the implementation of the proposal is not associated with any sustainable gain in road safety.
 4. Against the background of the continuing problem of the installation of an unacceptably large number of lighting devices on heavy commercial vehicles, Germany (German government and federal states) is opposed to a further increase in the permissible number of high beam headlamps.
 5. The change in 5.10.3. from "No account shall be taken of light emitted by devices for the interior lighting of the vehicle." to the original "No account shall be taken of lighting devices fitted for the interior lighting of the vehicle." will avoid misunderstanding based on the fact that a device can be installed for interior lighting, but isn't fitted for the interior lighting. Retrofitted and distracting stylish and outside facing interior lighting should not be allowed through interpretation of the revised regulation.
 6. For these reasons, the proposal was revised and modified.
-