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Detailed justification to document ECE/TRANS/WP.29/GRE/2008/46

The text reproduced below was prepared by the expert from the Netherlands and complements the general justification of document ECE/TRANS/WP.29/GRE/2008/46. It addresses the changes made to R.48-04 in order to derive the proposal for a draft R.48-H.

DETAILED JUSTIFICATION:

Paragraph 1. (Scope)

- Limited scope. As agreed during the 58<sup>th</sup> session of GRE, the scope of the proposal for a draft R.48-H would be limited to vehicles of category M<sub>1</sub> and N<sub>1</sub> having length ≤ 6 m and width ≤ 2 m (see document ECE/TRANS/WP.29/GRE/58, paragraph 4). To be more precise, the length and width are given in millimeters (mm) rather than in meters (m).
- Since R.48-04 does not include a definition of the length of the vehicle, a reference for this purpose is made to Special Resolution No. 1 (S.R.1) (see document TRANS/WP.29/1045, Annex 4, paragraph 1.1.). Thus also taking into account the length as defined in the draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.2.3.)
- As for the definition of the width of the vehicle, reference is made to the width as defined in R.48-04, however amended to align with the definition as used in the draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.2.4.).

Paragraph 2.4.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.2.2.).

Paragraph 2.7.

- In consequence of limited scope.

Paragraph 2.7.1.1.1.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.3.4.2.)

Paragraph 2.7.1.3.

- Between square brackets. Although R.48 currently includes, and allows, variable intensity control for certain rear light-signalling devices, it was not yet clear whether installation of devices with variable luminous intensities would be acceptable according to National Legislation of countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.).

Paragraph 2.7.17.(old numbering)

- Deleted. Partially in consequence of limited scope, because according to R.48 conspicuity markings are in any case prohibited on vehicles of category M<sub>1</sub>. Although conspicuity marking could be theoretically allowed (optional) on vehicles of category N<sub>1</sub>, it is a fact that such a vehicle without conspicuity marking would be in full compliance with R.48. In addition, it is worth mentioning here that conspicuity markings are primarily intended for the very large and bulky vehicles. Vehicles of category N<sub>1</sub> are vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes, therefore will not (in fact: can not) be very large. Moreover, taking into account that colour combinations allowed for conspicuity marking in the North America's

(FMVSS, CMVSS) are different than those allowed in R.48, the best compromise is not to include conspicuity marking in draft 48-H. Thus it will both avoid problematic discussions on combination of colours to be used, while at the same time no negative effect on the safety is made. Finally, it is important to bear in mind that conspicuity treatment, if so desired for certain use or national requirements, can be applied to the vehicle afterwards in a relatively simple way.

Paragraph 2.7.23.(old numbering)

- Deleted. Again partially in consequence of limited scope, since vehicles with a width not exceeding 2,000 mm are considered. According to R.48 only vehicles with a width exceeding 2,100 mm must be equipped with end-outline marker lamps. According to FMVSS-108 this figure is 2,032 mm for clearance lamps. And on vehicles with a width less than 1,800 mm the installation of end-outline marker lamps is even forbidden according to R.48. This leaves only the vehicles between 1,800 mm and 2,000 mm in width, on which end-outline marker lamps would be allowed (optional), at least according to the “window” determined R.48. As these lamps are intended only for certain vehicles to complement their front and rear position lamps (which are mandatory in any case) by drawing particular attention to their bulk, there are no safety issues involved with regard to the vehicles concerned here in draft 48-H. Moreover, taking into account that the colour prescribed for end-outline marker lamps (clearance lamps) in the North America’s (FMVSS, CMVSS) is different than the colour prescribed by R.48, it is considered that the best compromise possible, at this stage, would be to not include end-outline marker lamps in draft R.48-H.

Paragraph 2.9.2.

- Partially between square brackets. Although R.48 currently includes these additional provisions concerning the illuminating surface, they were not included in the draft gtr. Therefore, it was not yet clear whether these additional provisions would be acceptable according to National Legislation of countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.).

Paragraph 2.10.

- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 2.14.1.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.2.13.)

Paragraph 2.14.4.

- Deletion of end-outline marker lamps, see justification paragraph 2.7.23.

Paragraph 2.14.6.

- In consequence of limited scope.  
- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 3.2.13.)

Paragraph 2.16.1.

- Partially between square brackets. Although R.48 currently includes these additional provisions concerning a single lamp, they were not included in the draft gtr. Therefore, it was not yet clear whether these additional provisions would be acceptable according to National Legislation of countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.).

Paragraph 2.18.2.

- Addition of a failure tell-tale, as per draft gtr (see document ECE/TRANS/WP.29/-GRE/2006/49, paragraph 3.2.6.)

Paragraph 2.23.

- In consequence of limited scope.

Paragraph 2.24.

- In consequence of limited scope.

Paragraph 2.26.

- Between square brackets. Although R.48 currently includes (allows) vehicles (to be) fitted with an “emergency stop signal”, it was not yet clear whether such a signal would be acceptable according to National Legislation of certain countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.). According to R.48 two different (colours of) signals are permitted, being either flashing stop lamps (colour red) or flashing direction indicators (colour amber). Particularly in the case that flashing stop lamps would be used for the emergency stop signal, a conflict could possibly arise in conjunction with the turn signal (the rear direction indicators) of vehicles complying with North American Legislation (FMVSS and CMVSS). Because there, apart from amber, red is allowed as a colour for the rear direction indicators. However, a valid counterargument to that observation would be to draw attention to the fact that the flashing frequency of the emergency stop signal is higher (double) than that of the direction indicators.

Paragraph 4.2.

- To read “00 (series of amendments)” instead of “04 (series of amendments)”.

Paragraph 5.2.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 4.4.)

Paragraph 5.4.

- In consequence of limited scope.

Paragraph 5.9.1.

- Partially between square brackets. Concerns the emergency stop signal, see justification paragraph 2.26.

Paragraph 5.9.2.

- Between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 5.10.2.

- Deletion of conspicuity markings, see justification paragraph 2.7.17.

Paragraph 5.11.

- Deletion of end-outline marker lamps. See justification paragraph 2.7.23.

- Partially deleted. Concerns the side-marker lamps, the installation of which will be mandatory according to draft R.48-H. Mandatory installation of side-marker lamps represents the “common window” between R.48, CMVSS and FMVSS; as per draft gtr (see document ECE/TRANS/WP.29/-GRE/2006/49, paragraph 4.21.) in conjunction with US and Canadian national legislation.

Paragraph 5.13.

- Addition of failure tell-tale, see justification paragraph 2.19.2. In this particular paragraph (5.13.) it is added as a result of application of “common sense”. Since an operating tell-tale indicates both that

a device has been switched on and that a device is operating correctly or not, it is logical to also allow a failure tell-tale to be replaced by an operating tell-tale

#### Paragraph 5.14.4.

- Clarification of the text, as per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 4.14.4.)

#### Paragraph 5.15. (Colours)

- Deletion of colour selective yellow for the front fog lamp. Although the draft gtr (document ECE/TRANS/WP.29/GRE/2006/49) does not (any more) contain requirements with regards to colours, the “common window” for the colour of the front fog lamps seems to be (only) white, as per Working Paper No. GRE-gtr-8-3 (presented during the 8th GRE-gtr informal meeting, in Washington D.C., held from 31 May - 2 June 2005). However, according to R.48 both white and selective yellow are still allowed for the front fog lamps.

- Partially between square brackets. Concerns the emergency stop signal, see justification paragraph 2.27.

- Both the rearmost side-marker lamp and the rearmost side retro-reflector shall be red. This is the common window between R.48, CMVSS and FMVSS, as per Working Paper No. GRE-gtr-8-3 (presented during the 8th GRE-gtr informal meeting, in Washington D.C., held from 31 May - 2 June 2005). However, in order to be able to still comply with the requirements of R.48 it is necessary that the rearmost side-marker lamp is grouped, combined or reciprocally incorporated with the rear position lamp, the rear fog lamp, the stop lamp or is grouped or has part of the light emitting surface in common with the rear retro-reflector. Likewise the rearmost side retro-reflector must be grouped or has part of the light emitting surface in common with: the rear position lamp, rear fog lamp, the stop lamp, the rearmost side-marker lamp or the rear retro-reflector, non-triangular.

- Deletion of end-outline marker lamps, see justification paragraph 2.7.23.

- Deletion of rear retro-reflector, triangular, in consequence of limited scope.

- Deletion of conspicuity markings, including deletion of corresponding footnote 5/, see justification paragraph 2.7.17.

#### Paragraph 5.18.

- In consequence of limited scope.

#### Paragraph 5.21.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 4.17.2.)

#### Paragraph 5.26.

- Between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

#### Paragraph 6.1.1.

- In consequence of limited scope.

#### Paragraph 6.1.2.

- In consequence of limited scope.

#### Paragraph 6.1.3.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.1.2.1.). Although R.48 has no such requirement, it is not necessarily in conflict with R.48. The requirement originates

from National Legislation in North America and was included in order to avoid situations in which an oncoming vehicle, in the distance, when switching from main-beam back to dipped-beam would then all of a sudden appear to be further away. In any case, this requirement is the more stringent one regarding the arrangement of the main-beam headlamps and is therefore included in draft R.48-H.

Paragraph 6.1.4.1.

- See justification paragraph 6.1.3.

Paragraph 6.1.7.1.

- In consequence of limited scope.

Paragraph 6.1.7.4.

- Insertion of new subparagraph, however in square brackets, as per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.1.6.4.). Further clarifies that each vehicle must be equipped with a manual ON / OFF switch for the main-beam headlamps.

Paragraph 6.2.1.

- In consequence of limited scope.

Paragraph 6.2.4.1.

- In consequence of limited scope.

Paragraph 6.2.4.2.

- Partially deleted, including deletion of corresponding footnote 6/, in consequence of limited scope.

Paragraph 6.2.6.1.2.

- Partially deleted, including deletion of upper section of diagram, in consequence of limited scope.  
- Addition of requirement that it must be possible to adjust (the initial aim of) the vertical inclination, without affecting the horizontal aim of the dipped-beam headlamps. According to information received in the past, concerning the testing of headlamps according to FMVSS, there seems to (have) be(en) such an additional requirement. Therefore it is added to the proposal for draft R.48-H, however it is placed between square brackets, awaiting affirmation.

Paragraph 6.2.8.2.

- Insert failure tell-tale, see justification paragraph 2.19.2. It is suggested to use the wording failure tell-tale instead of visual tell-tale, as a result of application of “common sense”.

Paragraph 6.2.9., footnote

- In the footnote it is now states that the use of mechanical cleaning system (wipers) is always prohibited when headlamps with plastic lenses are installed, as per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.2.8.4.)

Paragraph 6.3.1.

- In consequence of limited scope.

Paragraph 6.3.4.1.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.3.3.1.)

Paragraph 6.3.4.2.

- Partially deleted, including deletion of the corresponding footnote, in consequence of limited scope.

Paragraph 6.3.5., footnote

- Not of relevance for draft R.48-H.

Paragraph 6.3.6.1.1., footnote

- Not of relevance for draft R.48-H.

Paragraph 6.3.7.

- Insertion of new subparagraphs, however partially in square brackets, as per draft gtr (see document ECE/TRANS/WP.29/-GRE/2006/49, paragraph 5.3.6.2. and 5.3.6.3.). Further clarifies the electrical connection concerning front fog lamps and, furthermore, that each vehicle equipped with front fog lamps must have a manual ON / OFF switch for the front fog lamps.

Paragraph 6.4.1.

- In consequence of limited scope.

Paragraph 6.4.2.

- In consequence of limited scope.

Paragraph 6.4.4.3.

- In consequence of limited scope.

Paragraph 6.4.5.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.4.4.). During the negotiations for the draft gtr it was at that time found, after closer investigation by some experts of both OICA and “US Alliance”, that the US requirements for the geometric visibility were the most onerous; at least vis-à-vis with the corresponding requirements in R.48. As a result of this, and based on the principle of “common window”, the US requirements were chosen for the draft gtr, hence also chosen now for draft 48-H.

Paragraph 6.4.6.

- In consequence of limited scope.

Paragraph 6.4.7.2.

- In consequence of limited scope.

Paragraph 6.5.1.

- In consequence of limited scope.

Paragraph 6.5.3.

- Several deletions in consequence of limited scope.

- Inclusion of daytime running lamp, as per draft gtr (see document ECE/TRANS/WP.29/-GRE/2006/49, paragraph 5.5.2.)

Paragraph 6.5.4.

- Numerous deletions, also in subparagraphs, in consequence of limited scope.

Paragraph 6.5.5.

- Several deletions in consequence of limited scope.

- Re-arrangement of the lay-out of the texts for vertical and horizontal angles, partially as per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.5.4.)

Paragraph 6.5.7.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.5.6.). This includes the requirement that automatic deactivation of direction indicator lamps is mandatory.  
- In consequence of limited scope.

Paragraph 6.5.8.

- In consequence of limited scope.  
- Deletion of the corresponding footnote, which is not of relevance for draft R.48-H.

Paragraph 6.5.9.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.5.8.1.)  
- In consequence of limited scope.

Paragraph 6.6.7.1.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.5.6.2.1.)

Paragraph 6.6.7.3.

- In consequence of limited scope.

Paragraph 6.6.9.

- In consequence of limited scope.

Paragraph 6.7.1.

- In consequence of limited scope.

Paragraph 6.7.2.

- In consequence of limited scope.  
- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 6.7.4.

- In consequence of limited scope.  
- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 6.7.5.

- In consequence of limited scope.  
- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.  
- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.7.4.3.)

Paragraph 6.7.8.

- Use failure tell-tale instead of operating tell-tale. In this particular paragraph (6.7.8.) it is changed as a result of application of the introduced definition of a failure tell-tale; see justification paragraph 2.19.2

Paragraph 6.7.9.

- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 6.8.3.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.8.2.)

Paragraph 6.8.9.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.8.8.)

Paragraph 6.9.1.

- In consequence of limited scope.

Paragraph 6.9.4.

- In consequence of limited scope.

Paragraph 6.9.5.

- In consequence of limited scope.

- Partially deleted, since side-marker lamps become mandatory; see justification paragraph 6.18.1.

Paragraph 6.9.9.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.9.8.2.)

Paragraph 6.10.1.

- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 6.10.2.1.

- In consequence of limited scope.

Paragraph 6.10.4.

- In consequence of limited scope.

Paragraph 6.10.5.

- In consequence of limited scope.

- Partially deleted, since side-marker lamps become mandatory, see justification paragraph 6.18.1.

Paragraph 6.10.9.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.10.8.2.)

Paragraph 6.11.1.

- Partially between square brackets. Concerns variable luminous intensities, see justification paragraph 2.7.1.3.

Paragraph 6.11.4.2.

- In consequence of limited scope.

Paragraph 6.11.7.5.

- Between square brackets. Although R.48 currently includes the provision that the rear fog lamp(s) of a drawing motor vehicle may be automatically switched off while a trailer is connected and the rear fog lamp(s) of the trailer is (are) activated, it was not yet clear whether such provision would be



acceptable according to National Legislation of countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.).

Paragraph 6.11.7.6.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.11.6.1.)

Paragraph 6.12.1.

- In consequence of limited scope.

Paragraph 6.12.4.2.

- In consequence of limited scope.

Paragraph 6.13.

- Deleted mainly in consequence of limited scope, see justification paragraph 2.7.23.

Paragraph 6.14.1.

- In consequence of limited scope.

Paragraph 6.14.4.1.

- In consequence of limited scope.

Paragraph 6.14.5.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 6.14.4.)

Paragraph 6.15.

- Deleted in consequence of limited scope.

Paragraph 6.16.1.

- In consequence of limited scope.

Paragraph 6.16.4.1.

- In consequence of limited scope.

Paragraph 6.16.5.

- In consequence of limited scope.

Paragraph 6.17.1.

- In consequence of limited scope.

Paragraph 6.17.4.3.

- In consequence of limited scope.

Paragraph 6.18.1.

- Partially deleted in consequence of limited scope. Moreover, side-marker lamps are in principle required (mandatory) according to the National requirements in the US (FMVSS) and Canada (CMVSS), also on the vehicles concerned here in draft 48-H. Since side-marker lamps are at least allowed (optional), according to R.48, on the vehicles concerned here in draft 48-H, it is by application of the “common window” principle that the most onerous requirement is chosen as the compromise. Hence, side-marker lamps are mandatory in draft 48-H.

Paragraph 6.18.4.3.

- In consequence of limited scope.

Paragraph 6.18.5.

- Partially deleted, since side-marker lamps become mandatory; see justification paragraph 6.18.1.  
- Deletion of “and rear”, since according to draft 48-H the rearmost side-marker lamp shall be of the colour red; see justification paragraph 5.15. Rear direction indicators, however, are only allowed to have the colour amber. Hence, applying “common sense”, it seems to be wise not to consider the situation in which the side-marker lamp (which would have to be the rearmost one) would supplement the rear direction indicator, because of the difference in colour.

Paragraph 6.18.7.

- In consequence of limited scope.  
- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.17.6.)

Paragraph 6.18.9.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.17.6.); see also partially justification paragraph 5.15.

Paragraph 6.19.1.

- In consequence of limited scope.

Paragraph 6.19.4.2.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.18.3.2.); application of “common window” principle, hence the most onerous requirement is chosen for draft 48-H.

Paragraph 6.19.7.

- As per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.18.6.1.); however, not including the neutral position of the automatic transmission control. This to avoid possible restless ON and OFF switching.

Paragraph 6.19.7., footnote

- Not of relevance for draft R.48-H.

Paragraph 6.20.7.2.

- Deleted. Although R.48 currently includes the provision that when the reversing lamp is switched ON, both cornering lamps may be switched on simultaneously, it is thought that such provision would not be acceptable according to certain National Legislation of countries which are not signatories to R.48 (e.g. FMVSS USA, CMVSS Canada, etc.). Moreover, the possible benefit from such a provision is believed primarily to be applicable to large vehicles (e.g. trucks), which are clearly not within the scope of draft 48-H anyway.

Paragraph 6.21.

- Deleted mainly in consequence of limited scope, see justification paragraph 2.7.17.

Paragraph 6.22.1.

- In consequence of limited scope.

Paragraph 6.22.4.1.4., including figure

- In consequence of limited scope.

Paragraph 6.22.9.1., footnote

- In the footnote it is now states that the use of mechanical cleaning system (wipers) is always prohibited when headlamps with plastic lenses are installed, as per draft gtr (see document ECE/TRANS/WP.29/GRE/2006/49, paragraph 5.2.8.4.)

Paragraph 6.23.

- Between square brackets, see justification paragraph 2.26.

Paragraph 6.23.9.2.

- In consequence of limited scope.

Paragraph 12

- Deleted. Not of relevance for draft R.48-H.

Annex 1

- Addition of “-H”, to read “Regulation No. 48-H” instead of “Regulation No. 48”.

- Partially between square brackets. Concerns the emergency stop signal, see justification paragraph 2.26.

- Partially deleted, in consequence of limited scope.

Annex 2

- Addition of “-H”, to read “48-H R” instead of “48 R”.

- To read “00 (series of amendments)” instead of “04 (series of amendments)”.

Annex 5, paragraph 2.2.

- In consequence of limited scope.

Annex 5, paragraph 2.3.

- In consequence of limited scope.

Annex 5, paragraph 2.4.

- In consequence of limited scope.

Annex 6, paragraph 2.2., Note 1.

- In consequence of limited scope.

Annex 6, paragraph 5.4.2.

- In consequence of limited scope.

Annex 9, paragraph 1.3.2.

- In consequence of limited scope.

Annex 11

- Deleted in consequence of limited scope; see also justification paragraph 2.1.17.

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