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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonisation of Vehicle Regulations (WP.29)

Working Party on Lighting and Light-Signalling (GRE)  
(30 September – 4 October 2002)

**REPORT OF THE WORKING PARTY ON LIGHTING  
AND LIGHT-SIGNALLING (GRE) ON ITS FORTY-NINTH SESSION**

**ATTENDANCE**

1. GRE held its forty-ninth session from 30 September (afternoon only) to 4 October (morning only) 2002 in Geneva, under the chairmanship of Mr. M. Gorzkowski (Canada). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of WP.29 (TRANS/WP.29/690): Canada; Czech Republic; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Russian Federation; Spain; Sweden; United Kingdom; United States of America. A representative of the European Commission (EC) participated. Experts from the following non-governmental organizations also participated: International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); European Association of Automobile Suppliers (CLEPA); Working Party "Brussels 1952" (GTB); International Electrotechnical Commission (IEC).
2. The documents without a symbol distributed during the session are listed in annex 1 to this report.

GE.02-24924

REGULATION No. 48 – Development (Installation of lighting and light-signalling devices)

(a) Definition of a "single lamp"

Documentation: TRANS/WP.29/GRE/2001/39.

3. The expert from Italy reintroduced TRANS/WP.29/GRE/2001/39 concerning the revised definition of a “single lamp” and he recalled the consideration from the previous session.
4. The expert from GTB confirmed that some research work had been done in the meantime and that the detailed examination of the results was still in progress.
5. GRE agreed to resume consideration at its next session on the basis of a new proposal by GTB.

(b) Distributed Lighting Systems (DLS)

Documentation: TRANS/WP.29/GRE/2001/31/Rev.1.

6. With regard to TRANS/WP.29/GRE/2001/31/Rev.1, the experts from Germany, Italy, the United Kingdom and the Netherlands raised some concerns on the failure mode and the substitution function for the distributed lighting systems (DLS), in particular regarding dipped-beam headlamps.
7. The expert from Japan recalled his request from the last GRE session to include, into the proposal, provisions for reduced light intensity, in order to avoid glare in case of failure of the dipped-beam headlamps.
8. GRE agreed to reconsider this subject at the next GRE session on the basis of a revised document by GTB.

(c) Installation of retro-reflective markings and materials

Documentation: TRANS/WP.29/GRE/2001/13/Rev.2; informal documents Nos. 8 and 10 of annex 1 to this report.

9. The expert from GTB introduced informal document No. 8 and the proposal TRANS/WP.29/GRE/2001/13/Rev.2 concerning the installation requirements for supplementary retro-reflective markings and additional rear marking plates.
10. GRE agreed to deal only with retro-reflective markings and to delete from the proposal the references to rear marking plates.
11. Following the discussion, the expert from GTB tabled informal document No. 10 based on TRANS/WP.29/GRE/2001/13/Rev.2, informal document No. 8 and the conclusions of the GRE

Discussion. The experts from Germany and the Netherlands registered reservations regarding this document.

12. However, GRE adopted the revised proposal as reproduced in annex 2 to this report. The secretariat was requested to transmit the adopted proposal to WP.29 and AC.1 as draft Supplement 7 to the 02 series of amendments to Regulation No. 48, for consideration at their June 2003 sessions. The Chairman decided to have a final review in GRE at its April 2003 session in order to resolve the reservations by Germany and the Netherlands (see para. 11 above).

(d) Development of the Regulation

Documentation: TRANS/WP.29/2001/8; TRANS/WP.29/GRE/2002/8; TRANS/WP.29/GRE/2002/25; TRANS/WP.29/GRE/2002/38; TRANS/WP.29/GRE/2002/50; informal document No. 7 of annex 1 to this report.

13. The Chairman recalled the decision of WP.29 at its June 2002 session (TRANS/WP.29/861, para. 6(d)) to refer TRANS/WP.29/2001/8 to GRE for reconsideration.

14. GRE agreed to delete from the proposal the amendment to paragraph 2.16.1. and the proposed paragraphs 5.7.1. to 5.7.1.2. GRE also agreed to amend the proposed new paragraph 5.23., to read:

"5.23. Lamps shall be fitted in a vehicle in such a way that the light source can be correctly replaced according to the instructions of the vehicle manufacturer without the use of special tools, other than those provided with the vehicle by the manufacturer. This requirement is not applicable to devices approved with a non-replaceable light source."

15. GRE requested the secretariat to submit the modified document to WP.29 and AC.1 as a part of the proposal for draft Supplement 7 to the 02 series of amendments to Regulation No. 48 (see para. 12 above), for consideration during their June 2003 sessions.

16. With regard to TRANS/WP.29/GRE/2002/8 (tabled by Japan and partially adopted by GRE at its last session) the expert from France expressed her concerns with the introduction of provisions requesting the mandatory presence of the S3 stop lamp on vehicles of category N1 and she proposed to amend the requirements in paragraph 6.7.1. for an optional presence of S3 on N1 vehicles. The expert from Italy supported that position and mentioned that the reason was not the installation of the S3 device on the vehicle, but primarily the visibility problems in some conditions of use, especially on pick-up vehicles. Some solutions, such as the fixing of an additional portable lamp were given, but were deemed not suitable.

17. The Chairman requested the expert from Japan to prepare, with the experts from France and Italy, a new proposal for amendments to paragraph 6.7.1., taking into account special use conditions. GRE agreed to resume consideration of this subject at its next session.

18. The expert from the Netherlands introduced TRANS/WP.29/GRE/2002/25 proposing an

Improved text concerning the presence of lamps and allowing the choice of an extra pair of main-beam headlamps for heavy vehicles.

19. GRE adopted TRANS/WP.29/GRE/2002/25 with the following amendments:

Paragraph 5.22., amend to read:

"5.22. With the exception of retro-reflectors, a lamp even bearing an approval mark is deemed not to be present, when it cannot be made to operate by the sole installation of a **light source**."

Paragraph 6.1.2., amend to read:

"6.1.2. Number

Two or four

**For vehicles of the category N<sub>3</sub>:**

**Two extra main-beam headlamps may be installed.**

Where a vehicle is fitted with ...."

20. The secretariat was requested to transmit the amended document to WP.29 and AC.1 as a part of the proposal for draft Supplement 7 to the 02 series of amendments to Regulation No. 48 (see paras. 12 and 15 above), for consideration during their June 2003 sessions.

21. The expert from GTB presented TRANS/WP.29/GRE/2002/38 concerning new provisions for the evolution of the shape of lamps and pointed out the urgency of these amendments to Regulation No. 48.

22. GRE adopted TRANS/WP.29/GRE/2002/38 with an amendment to paragraph 2.9.2., i.e. in the third subparagraph, the text "the peripheral shape" should read "the shape of the periphery".

23. GRE requested the secretariat to submit TRANS/WP.29/GRE/2002/38, as amended, to WP.29 and AC.1 as a proposal for draft Supplement 6 to the 02 series of amendments to Regulation No. 48, for consideration during their March 2003 sessions.

24. The expert from Japan introduced TRANS/WP.29/GRE/2002/50 proposing additional transitional provisions in order to enable Japan the application of the Regulation limited to M1 and N1 categories of vehicles only.

25. GRE adopted TRANS/WP.29/GRE/2002/50 and requested the secretariat to transmit the document to WP.29 and AC.1 as draft Corrigendum 1 to Supplement 2 to 02 series of amendments to Regulation No. 48, for consideration during their November 2002 sessions (TRANS/WP.29/2002/76).

26. The expert from Finland presented informal document No. 7 (together with informal document No. 6, see paras. 124 and 125) to introduce into the Regulation provisions allowing the installation on vehicles of triangular retro-reflectors of Class IIIB. The experts from Germany and the United Kingdom insisted that the unambiguous recognition of the shape of the triangular retro-reflector must be maintained for trailer identification and raised a study reservation on that proposal.

27. GRE agreed to resume consideration of this subject at its fiftieth session and requested the secretariat to distribute informal document No. 7 with an official symbol (note by the secretariat: see document TRANS/WP.29/GRE/2003/1).

#### AMENDMENTS TO ECE REGULATIONS

(a) Regulation No. 7 (Position, stop, and end-outline marker lamps)

Documentation: TRANS/WP.29/GRE/2002/48; informal document No. 11 of annex 1 to this report.

28. The expert from Germany introduced TRANS/WP.29/GRE/2002/48 concerning new provisions to allow the use of changeable "light source modules" instead of non-replaceable light sources. After the discussion, he introduced a revised text of the document (informal document No. 11).

29. GRE adopted TRANS/WP.29/GRE/2002/48 as reproduced in annex 3 to this report.

30. The secretariat was requested to submit TRANS/WP.29/GRE/2002/48, as amended, to WP.29 and AC.1 as a proposal for draft Supplement 8 of the 02 series of amendments to Regulation No. 7, for consideration during their June 2003 sessions.

(b) Regulation No. 10 (Electromagnetic compatibility)

Documentation: TRANS/WP.29/GRE/2002/4/Rev.1; TRANS/WP.29/GRE/2002/5.

31. The expert from Japan stated the intention of his Government to sign Regulation No. 10 during the next legislation period. For the reason of standardizing the FM frequency band, the expert from Japan presented TRANS/WP.29/GRE/2002/4/Rev.1 concerning the expansion of the FM band in Europe and proposing to change the frequency range for testing to 76-108 MHz instead of 88-108 MHz.

32. The experts from Germany, Spain and the United Kingdom supported the proposal.

33. The expert from OICA stated that the proposed amendments to Regulation No. 10 were still under discussion within his organization. Consequently, the experts from the Czech Republic, France and Italy raised study reservations.

34. The Chairman encouraged all involved experts to work together towards the resolution of the study reservations. GRE agreed to have a final review of the document in the next GRE session.

35. Considering TRANS/WP.29/GRE/2002/5, GRE noted that in the French version of the document the title should read:

"PROPOSITION DE PROJET DE COMPLÉMENT 2 À LA SÉRIE 02 D'AMENDEMENTS  
AU RÈGLEMENT No 10  
(Compatibilité électromagnétique)"

36. With regard to the test facility dimensions and to the test procedure for the electromagnetic compatibility of long vehicles, the expert from the Netherlands pointed out that open air tests must still be possible.

37. As the publication of the corresponding European Union Directive was still in progress, GRE agreed to keep the document TRANS/WP.29/GRE/2002/5 on the agenda and to resume consideration at the next GRE meeting.

(c) Regulations Nos. 50, 53 and 74

Documentation: TRANS/WP.29/GRE/2001/25; TRANS/WP.29/GRE/2001/26;  
TRANS/WP.29/GRE/2001/27; TRANS/WP.29/GRE/2002/26; TRANS/WP.29/GRE/2002/27.

38. With regard to the draft amendments to Regulations Nos. 50, 53 and 74 (TRANS/WP.29/GRE/2001/25, TRANS/WP.29/GRE/2001/26 and TRANS/WP.29/GRE/2001/27) adopted by GRE at its forty-eighth session (TRANS/WP.29/GRE/48, para. 32), the expert from the United Kingdom raised some concerns on the use of amber colour front position lamps for motorcycles and stated that some research studies on this subject were still in progress.

39. Following the discussion GRE, decided to have a final review on the documents at its next session in order to lift the study reservations of the United Kingdom.

40. With regard to the fitting of new categories of headlamps on motorcycles, the expert from IMMA introduced documents TRANS/WP.29/GRE/2002/26 and TRANS/WP.29/GRE/2002/27 concerning the alignment of the prescriptions in Regulations Nos. 53 and 74 with those in Regulation No. 113.

41. GRE adopted both documents, not amended, and requested the secretariat to transmit them to WP.29 and AC.1 as a proposal for draft Supplement 4 to Regulation No. 53 and as a proposal for draft Corrigendum 1 to Supplement 2 to the 01 series of amendments to Regulation No. 74, for consideration during the June 2003 sessions.

(d) Regulation No. 65 (Special warning lamps)

Documentation: TRANS/WP.29/GRE/2002/3; TRANS/WP.29/GRE/2002/3/Add.1.

42. The expert from Germany introduced TRANS/WP.29/GRE/2002/3 and its Addendum 1 proposing provisions to improve the visibility of vehicles using special warning lamps. The proposal was in general supported by GRE.

43. The expert from the United Kingdom maintained his concerns with the glaring effect of such lamps and stated his objection to that proposal. With regard to a solution of the glaring problem, he volunteered to prepare a new document for consideration at the next GRE session.

44. The Chairman welcomed the suggestion and pointed out his preference to resume consideration on the basis of a consolidated document. GRE agreed to continue consideration of this subject at its April 2003 session.

(e) Regulation No. 86 (Installation of lighting and light-signalling devices for tractors)

Documentation: TRANS/WP.29/GRE/2002/33; TRANS/WP.29/GRE/2002/49; informal document No. 3 of the forty-seventh GRE session.

45. The expert from GTB introduced TRANS/WP.29/GRE/2002/33 concerning amendments to the installation requirements for rear marking plates.

46. Following the discussion of the optional or mandatory presence of rear marking plates on slow moving vehicles, GTB preferred to withdraw its proposal and to submit in due time a new proposal for consideration in the next GRE session.

47. The expert from Poland introduced TRANS/WP.29/GRE/2002/49, based on informal document No. 3 submitted by Belarus during the forty-seventh GRE session, proposing an increase of the design speed of agricultural and forestry tractors as defined in the scope of Regulation No. 86 from 30 to 40 km/h in order to align this Regulation with the European Union Directives 78/933/EEC as amended by Directive 97/54/EC.

48. GRE adopted the document and requested the secretariat to submit it as a proposal for draft Supplement 2 to Regulation No. 86 to WP.29 and AC.1, for consideration during their June 2003 sessions.

(f) Regulation No. 98 (Headlamps with gas-discharge light sources)

Documentation: TRANS/WP.29/GRE/2001/30; TRANS/WP.29/GRE/2002/9; TRANS/WP.29/GRE/2002/11; TRANS/WP.29/GRE/2002/34; TRANS/WP.29/GRE/2002/41; informal document No. 10 of the forty-seventh GRE session.

49. The expert from GTB introduced documents TRANS/WP.29/GRE/2001/30 and TRANS/WP.29/GRE/2002/9 concerning the Distributed Lighting System (DLS). The experts from the United Kingdom and from Germany expressed their concerns regarding paragraph 2.2.3. Following the discussion, the expert from GTB proposed to prepare a revised document consolidating both proposals and taking into account the amendments agreed by GRE during the session.

50. GRE agreed with the Chairman's intention to have in the next GRE session a final reading of that revised proposal.

51. The expert from GTB introduced TRANS/WP.29/GRE/2002/11 concerning the specifications of the harmonized driving beam pattern. The expert from France expressed her concerns on the additional plus symbol (+) in the approval mark. The expert from GTB suggested to submit for the next GRE session Revision 1 of the document containing a new proposal for paragraph 4.2.3.1. and the amendments agreed by GRE during the session.

52. With regard to TRANS/WP.29/GRE/2002/34 submitted by GTB, GRE adopted the document with the following amendment to its annex:

Annex, abbreviations, amend the words "means a cycle of 15 minutes off and 1 minutes lit." to read "means a cycle of 15 minutes off and **5** minutes lit".

53. GRE requested the secretariat to submit TRANS/WP.29/GRE/2002/34, as amended, to WP.29 and AC.1 as a proposal for draft Supplement 3 to both Regulations Nos. 98 and 112, for consideration during their March 2003 sessions.

54. The expert from GTB introduced TRANS/WP.29/GRE/2002/41. The expert from the United Kingdom raised a study reservation on paragraph 6.2.2.3. He suggested to discuss his concerns with GTB before the next GRE session, in an attempt to find an acceptable solution. With regard to the mandatory test procedure mentioned in the new paragraph 1.5. of annexes 8 and 9, the expert from Italy expressed his concerns and suggested to prepare for the next meeting a reformulation of the present text. The expert from CLEPA proposed to amend the value for vertical scanning through the horizontal part of the cut-off line in angular steps and to read "steps of 0.05°" instead of "steps of 0.01°".

55. GRE agreed to resume consideration of the document at the next GRE session, pending the resolution of the United Kingdom's study reservation and the proposed text from Italy.



56. As the concerns on the approval of headlamps with gas-discharge light sources, designed to provide alternatively a driving beam and passing beam have been clarified, the expert from France withdrew informal document No. 10 of the forty-seventh GRE session.

(g) Regulation No. 112 (Headlamps emitting an asymmetrical passing beam)

Documentation: TRANS/WP.29/GRE/1997/14; TRANS/WP.29/GRE/1999/18;  
TRANS/WP.29/GRE/2001/28; TRANS/WP.29/GRE/2002/12; TRANS/WP.29/GRE/2002/34;  
TRANS/WP.29/GRE/2002/42.

57. The expert from the United States of America withdrew document TRANS/WP.29/GRE/1997/14 and suggested to introduce a new proposal concerning the optional passing beam pattern at a later time. The expert from GTB also withdrew his proposal TRANS/WP.29/GRE/2001/28.

58. GRE resumed its consideration of TRANS/WP.29/GRE/1999/18, proposing a harmonized beam pattern. Following the discussion, the Contracting Parties agreed on the need for a harmonization of the beam pattern, but only seven of them supported the proposal, five of them had objections and four of them still had study reservations.

59. GTB was requested to revise the document with regard to the photometric values and to consider also the different type approval and conformity of production procedures in UNECE and United States Regulations.

60. GRE considered TRANS/WP.29/GRE/2002/12 tabled by GTB, proposing a harmonized driving beam pattern. GRE agreed to delete in paragraph 4.2.2.3. at the end of the sentence the words "or ?WC? for Class C headlamp".

61. As in paragraph 4.2.3.1. the same provisions concerning an additional plus symbol (+) in the approval marking were mentioned (see para. 51), GRE agreed to resume consideration of this subject at the next GRE session and requested GTB to prepare for that purpose a revised document.

62. GRE noted that TRANS/WP.29/GRE/2002/34 had already been adopted during its consideration on Regulation No. 98 (see para. 52).

63. With regard to TRANS/WP.29/GRE/2002/42 submitted by GTB, the same concerns were raised by the experts from Italy and the United Kingdom as for document TRANS/WP.29/GRE/2002/41 (see para. 54).

64. GRE agreed to resume consideration of that document at its next session, awaiting the proposals from Italy and the results of discussion between the United Kingdom and GTB.

(h) Regulation No. 113 (Headlamps emitting a symmetrical passing beam)

Documentation: TRANS/WP.29/GRE/2000/24; TRANS/WP.29/GRE/2001/24;  
TRANS/WP.29/GRE/2002/37; informal document No. 5 of annex 1 to this report.

65. The expert from IMMA withdrew documents TRANS/WP.29/GRE/2000/24 and TRANS/WP.29/GRE/2001/24. He introduced TRANS/WP.29/GRE/2002/37, proposing provisions on a world-wide harmonized passing beam pattern. The expert from the United Kingdom raised a study reservation.

66. Due to its close link to the documents TRANS/WP.29/GRE/2002/26 and TRANS/WP.29/GRE/2002/27 (see para. 40 above), GRE agreed on TRANS/WP.29/GRE/2002/37 with the following amendments:

The proposed amendments to paragraph 4.2.3.1. should be deleted.

Paragraph 6.2.5.3., in the second line of the table the words "Minimum Intensity cd" and "Maximum Intensity cd" should read "Minimum" and "Maximum" (deletion of the words "Intensity cd").

Paragraph 6.3.2.1., amend to read:

"6.3.2.1. The point of intersection (HV) of lines h-h and v-v shall be situated within the isolux 80 per cent of maximum illumination. This maximum value (EM) shall not be less than 32 lux for Class B or C headlamps and 51.2°lux for Class D headlamps. The maximum value shall in no circumstances exceed 240lux in the case of Class B headlamps and 180 lux in the case of Class C and D headlamps."

Paragraph 6.3.2.2., amend to read:

"6.3.2.2. The point of intersection (HV) of lines h-h ...

...

starting from point HV, horizontally to the right and left, the illumination shall be not less than 12 lux for Class B and C headlamp, and 24 lux for Class D headlamp to a distance of 1125 mm and not less than 3 lux for Class B and C headlamp, and 6 lux for Class D headlamp to a distance of 2250 mm.

In the case of a Class C and D headlamp, the intensities shall conform to the tables A or B in annex 3. Table A applies in the case where a primary driving beam is being produced with a single light source. Table B applies in the case where the driving beam is being produced by a secondary driving beam headlamp operated with a harmonized passing beam headlamp or a primary driving beam headlamp."

Annex 3, after the title "MEASURING SCREEN for Class A headlamps" read "Figure A" and after the title "MEASURING SCREEN for Class B headlamps" read "Figure B".

67. The secretariat was requested to submit TRANS/WP.29/GRE/2002/37, as amended, to WP.29 and AC.1 as draft Supplement 2 to Regulation No. 113 for consideration during their June 2003 sessions. GRE agreed to have a final review of this proposal at its next session in order to lift the study reservation by the United Kingdom.

68. The expert from IMMA presented informal document No. 5 proposing the front position lamp to be optional for motorcycles with the automatic headlamp "ON" switching (AHO).

69. The expert from Japan expressed his concerns regarding this subject. He was requested to prepare a document for consideration at the next GRE session.

70. GRE agreed to resume consideration of this subject at its next session. For that purpose the secretariat was requested to distribute informal document No. 5 with an official symbol (note by the secretariat: see document TRANS/WP.29/GRE/2003/3).

(i) Measurement of luminance of "slightly curved registration plates"

Documentation: TRANS/WP.29/GRE/2002/15; TRANS/WP.29/GRE/2002/16/Rev.1.

71. The expert from GTB introduced documents TRANS/WP.29/GRE/2002/15 and TRANS/WP.29/GRE/2002/16/Rev.1 concerning provisions for the installation of slightly curved registration plates.

72. GRE adopted both proposals with the following amendments to TRANS/WP.29/GRE/2002/15:

Paragraphs 5. to 5.2.1., amend to read (footnote \*/ by the secretariat replaced by the footnote 3/ of the former text, not amended):

"5. GENERAL SPECIFICATIONS

Each device shall satisfy the provisions of paragraph 9. 3/

5.1. The devices for the illumination of ..."

Paragraph 5.3. (former), renumber to paragraph 5.4.

73. GRE requested the secretariat to submit TRANS/WP.29/GRE/2002/15, as amended, and TRANS/WP.29/GRE/2002/16/Rev.1 (not amended) to WP.29 and AC.1 as a proposal for draft Supplements 10 and 7 to Regulations Nos. 4 and 50 respectively, for consideration during their June 2003 sessions.

PROPOSALS FOR NEW ECE REGULATIONS (1958 Agreement)

(a) Adaptive Front-lighting System (AFS)

Documentation: TRANS/WP.29/GRE/2002/18; TRANS/WP.29/GRE/2002/18/Add.1; TRANS/WP.29/GRE/2002/19; informal documents Nos. 1 and 4 of annex 1 to this report.

74. The expert from GTB reported on the results of the AFS informal meeting, held in Frankfurt from 2 to 4 July 2002 (informal document No. 1). The Chairman thanked the German Association of the Automobile Industry (VDA) for facilitating the meeting and the participants of the informal group for their fruitful contribution to the work done.

75. With regard to documents TRANS/WP.29/GRE/2002/18 and Add.1 as well as TRANS/WP.29/GRE/2002/19 and informal document No. 4, the expert from GTB informed GRE that the AFS informal group was still working on those documents. He stated the intention of the group to conclude the discussion on a draft revision during its next meeting scheduled to be held in Frankfurt (Germany) from 28 to 30 January 2003. The final document would be submitted to GRE as Revision 1 to TRANS/WP.29/GRE/2002/18 for consideration at its next session.

(b) Amendments concerning the AFS

Documentation: TRANS/WP.29/GRE/2002/20; TRANS/WP.29/GRE/2002/44; TRANS/WP.29/GRE/2002/45.

76. The expert from GTB informed GRE of the status of work on TRANS/WP.29/GRE/2002/20 by the AFS informal group. He stated that the informal group was preparing a Revision 1 of the document, in parallel to the work proceedings for the revised proposal TRANS/WP.29/GRE/2002/18 (para. 75 above). GRE experts were requested to participate in the AFS informal group meeting in Frankfurt and to submit to the secretariat of the informal group (E-mail address: bernhard.woerner@al-lighting.com) all their concerns and proposals relating to both documents under consideration.

77. GRE agreed to resume consideration at its next session on the basis of Revisions 1 of documents TRANS/WP.29/GRE/2002/18 and TRANS/WP.29/GRE/2002/20. The Chairman suggested that GRE should extend its fiftieth session in April 2003 (see paras. 129 and 131 below), with or without interpretation, in order to finalize the new UNECE Regulation regarding AFS and associated amendments facilitating the introduction of AFS. This should be subject to endorsement by WP.29 at its November 2002 session.

78. With regard to TRANS/WP.29/GRE/2002/44 tabled by the expert from Poland, the Chairman confirmed that the AFS informal group has already taken this proposal into consideration in the draft Revision to TRANS/WP.29/GRE/2002/18.

79. The expert from Poland introduced TRANS/WP.29/GRE/2002/45 proposing amendments to TRANS/WP.29/GRE/2002/18 in order to change the coordinate system for defining photometric requirements from 25 m screen to the road level surface and the surface at the eye-level of the glare exposed to drivers. Following the discussion, the Chairman suggested to resume consideration on this interesting subject at the next GRE session and requested the GRE participants to exchange in the meantime their remarks and concerns on that seemingly revolutionary proposal via email with the expert from Poland (E-mail-address: ttar@its.waw.pl).

## PROPOSALS FOR GLOBAL TECHNICAL REGULATIONS (gtr)

### Installation requirements for lighting and light-signalling devices

Documentation: TRANS/WP.29/GRE/2001/6; TRANS/WP.29/GRE/2002/28.

80. With regard to the programme of work of the 1998 Global Agreement, the secretariat recalled that the programme of work had been adopted by the Executive Committee AC.3 at its March 2002 session (TRANS/WP.29/841, para. 109 and annex 4) and that additional details were given in June 2002 (TRANS/WP.29/861, para. 116). The Secretary informed GRE that AC.3 had adopted at its June 2002 session (TRANS/WP.29/861, paras. 118 and 119) the Guidelines Regarding Proposing and Developing Global Technical Regulations (TRANS/WP.29/882) as well as the Format of Global Technical Regulations (TRANS/WP.29/883). Both documents can be consulted or downloaded under "Final Documents – 800 Series" from the WP.29 website:

<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29age.html>

81. The expert from Canada informed GRE of the status of the candidate draft global technical regulation (gtr) on the installation of lighting and light-signalling devices (TRANS/WP.29/GRE/2001/6). He said that the provisions of TRANS/WP.29/GRE/2002/28 were still under discussion in GRRF. He stated his intention to finalize Revision 1 of TRANS/WP.29/GRE/2001/6 for consideration at the next GRE session.

82. The expert from the European Commission questioned the introduction of derogations and specifications on colours into the gtr.

83. The expert from the United States of America suggested to work out a table of the differences between the specifications in the draft gtr, the UNECE Regulation and the respective national requirements, and proposing agreeable solutions.

84. The expert from OICA pointed out the importance of clear provisions in gtrs with regard to optional, mandatory and prohibited specifications. Furthermore, he volunteered to assist the expert from the United States in working out a table of differences (see para. 83 above).

85. GRE agreed to resume consideration at its next session on the basis of the table of differences and Revision 1 of TRANS/WP.29/GRE/2001/6. Furthermore, GRE stressed the need of a document concerning the status of the 1998 Agreement, of the annexed gtrs and of the amendments thereto (analogue to TRANS/WP.29/343 under the 1958 Agreement) and expressed its wish to include in this document columns indicating the national requirements in the Contracting Parties for optional devices specified in the gtrs.

## NEW INVENTIONS

### Guidelines for the submission and evaluation of petitions concerning international automotive lighting regulations

Documentation: TRANS/WP.29/GRE/2000/25.

86. After final review of TRANS/WP.29/GRE/2000/25 tabled by GTB, GRE adopted the document and requested the secretariat to transmit it as a draft proposal for a new annex 17 to the Consolidated Resolution on the Construction of Vehicles (R.E.3) to WP.29 and AC.1, for consideration during their June 2003 sessions.

## ELECTION OF OFFICERS

87. Following the announcement by the secretariat on Monday afternoon, 30 September 2002, and in compliance with Rule 37 of the Rules of Procedure of WP.29 (TRANS/WP.29/690), GRE called the election of officers on Thursday afternoon. Mr. Marcin Gorzkowski (Canada) was re-elected Chairman for the sessions scheduled for the year 2003, and he thanked the group for its confidence.

## OTHER BUSINESS

### (a) Glare of headlamps

Documentation: informal document No. 12 of annex 1 to this report.

88. The expert from the United States of America informed GRE about a presentation he had given in May 2002 at the Society of Automotive Engineers in Washington DC (USA) relating to night-time headlighting glare, conspicuity and visibility (informal document No. 12). He added that the presentation might be downloaded from the following Internet address:

<http://www-nrd.nhtsa.dot.gov/departments/nrd-01/presentations/SAE.html>

89. The Chairman suggested to keep this subject on the agenda and to wait for further results from CLEPA (TRANS/WP.29/GRE/48, para. 59) and from the United States of America.

### (b) Conditions for the illumination of stop lamps

Documentation: TRANS/WP.29/GRE/2002/28.

90. The expert from the European Commission introduced TRANS/WP.29/GRE/2002/28 on illumination of the stop lamps in case of activation of the retarder. He informed GRE on the status of consideration within the Working Party on Brakes and Running Gear (GRRF) at its fifty-second session.

91. The secretariat recalled GRRF's intention to finalize, during its February 2003 session, an official recommendation to GRE of an appropriate retarding deceleration value for the illumination of the normal stop lamp, intended to be presented for consideration to WP.29 and AC.2 in their June 2003 sessions. GRE agreed to resume consideration of this matter at its next session on the basis of the advice from GRRF and WP.29.

(c) Emergency brake light display

Documentation: TRANS/WP.29/GRE/2002/21/Rev.1; TRANS/WP.29/GRE/2002/22/Rev.1; TRANS/WP.29/GRE/2002/43; TRANS/WP.29/GRE/2002/47; informal document No. 9 of annex 1 to this report.

92. The expert from Germany introduced TRANS/WP.29/GRE/2002/21/Rev.1 and TRANS/WP.29/GRE/2002/22/Rev.1, proposing amendments to Regulations Nos. 7 and 48 in order to insert provisions for an emergency brake signalling by flashing stop lamps. He also presented TRANS/WP.29/GRE/2002/43 giving explanatory notes of the two proposals.

93. The expert from OICA gave a presentation of research results relating to the safety of flashing brake lights (see informal document No. 9). GRE noted that the reaction times to flashing brake lights (4 Hz and 7 Hz) in the emergency braking manoeuvres were significantly shorter than reaction times to conventional brake lights, whereas hazard warning signals (1.5 to 2 Hz) did not reduce reaction times. The expert from Germany pointed out that the flashing effect and the flashing rate of the lamp were the dominant variables for reaction time, not the colour of the lamp.

94. Based on former study results, the expert from Italy expressed his concerns regarding the use of flashing rates of incandescent light sources higher than 3 Hz. The expert from OICA gave a demonstration of different flashing-frequencies of a stop lamp. A flashing frequency of 7 Hz was deemed to be too high.

95. The expert from France introduced TRANS/WP.29/GRE/2002/47 proposing the flashing of the existing hazard warning signals in the case of emergency braking.

96. The experts from Germany, Italy and OICA objected to the introduction of the new paragraph 5.13. Following the discussion, the Chairman concluded to take this paragraph out of the proposal and suggested to the expert from the United Kingdom to submit to GRE a separate proposal regarding the new paragraph 5.13. for consideration at the next GRE session.

97. Furthermore, the expert from Germany expressed his concerns with the activation and deactivation provisions in that proposal and raised a study reservation on paragraph 6.6.7.

98. As the use of an emergency brake lighting system was a quite rare event, the expert from the United States of America requested GRE to consider the cost-effectiveness in the case of introduction of such a system. He reminded GRE that, during the introduction process, older vehicles, which were not equipped with the new emergency brake lighting system, would be disadvantaged. For such vehicles, he suggested to consider the aftermarket equipment.

99. GRE agreed to introduce into the Regulations provisions for only one emergency brake lighting system (flashing stop lamp or hazard warning signal).

100. Following the discussion, the Chairman requested the experts from France, Germany, Italy, the Netherlands and the United Kingdom to work out a new consolidated proposal for an emergency brake lighting system for consideration at the next GRE session.

101. The expert from the European Commission pointed out that, in addition to the deceleration value for the illumination of the stop lamps in case of a retarding system (see paras. 90 and 91), GRRF would have to advise GRE on an appropriate deceleration value in case of an emergency braking in order to illuminate the emergency braking light-signalling.

102. GRE supported the Chairman's conclusion to resume consideration at the next session and to inform GRRF, WP.29 and AC.2 on the urgency and complexity of that problem at their November 2002 sessions. Furthermore, the Chairman requested all GRE participants to inform their colleagues in industry and Governments, involved in the GRRF Working Party, about the GRE's dilemma regarding deceleration rates associated with the retarder function and the emergency braking.

(d) Proposals for amendments to the Convention on Road Traffic (Vienna 1968)

Documentation: TRANS/WP.29/GRE/2002/29; TRANS/WP.29/GRE/2002/39.

103. The expert from GTB introduced documents TRANS/WP.29/GRE/2002/29 and TRANS/WP.29/GRE/2002/39 proposing necessary amendments to the 1968 Vienna Convention on Road Traffic with the aim of aligning its provisions with the technical requirements present or soon to be introduced in the UNECE lighting and light-signalling Regulations.

104. The secretariat informed GRE that a special session of the Working Party on Road Traffic (WP.1) was scheduled to be held from 27 to 29 November 2002 and should finalize a proposal for amendments to the above-mentioned Vienna Convention. It was concluded that GRE's amendments, even if immediately adopted, could not be considered in the upcoming session of WP.1. Nevertheless, GRE decided to continue the work on the proposal so the resulting amendments would be ready for the next considerations of future amendments to the Vienna Convention.



105. As no common agreement could be reached in GRE for the adoption of the GTB proposals, the Chairman suggested to resume consideration of the document at the next GRE session. For that purpose, GTB was requested to prepare Revision 1 of TRANS/WP.29/GRE/2002/29, including the amendments of TRANS/WP.29/GRE/2002/39 and the amendments GRE agreed on during the session.

(e) Technical requirements regarding the use of head lighting during daytime

Documentation: TRANS/WP.1/2002/12; TRANS/WP.29/GRE/2002/30.

106. GRE took note of TRANS/WP.29/GRE/2002/30 concerning the commitment of ACEM (European Association of Motorcycle Manufacturers) to adopt an automatic headlamp "ON" (AHO) specification.

107. Referring to the results of the questionnaire on daytime running lamps (annexes 1 to 3 of document TRANS/WP.1/2002/12), the expert from Italy informed GRE on the recent changes in his country of the legislation related to the lighting and light-signalling devices on vehicles. He agreed to prepare for the next GRE session a document, providing all the requested data concerning the Italian legislation, in order to be included in the next Revision of TRANS/WP.1/2002/12.

108. The experts from CLEPA and OICA welcomed the suggestion and stressed the importance of these very useful data for the manufacturers.

109. GRE agreed to resume consideration of this subject at its next session.

(f) 42 Volt electric systems for motor vehicles

Documentation: Informal document No. 5 of the forty-seventh GRE session.

110. Referring to the above-mentioned informal document, the expert from GTB informed GRE that a study document concerning the introduction of the 42 Volt electric systems was still under consideration within the GTB working group. He pointed out that the main question was the introduction of a complete 42 Volt electric system or a split system (mixed 42 and 12 Volt system). He stated that, for that purpose, some investigations and research work had to be done world-wide and that the results would soon be available.

111. The expert from GTB volunteered to prepare, as soon as possible, a formal document reflecting the results for consideration at the next GRE session.

(g) Interpretation of ECE "fast track" decisions on bend lighting

Documentation: TRANS/WP.29/GRE/2002/10/Rev.1; TRANS/WP.29/GRE/2002/11; TRANS/WP.29/GRE/2002/13; informal document No. 19 of the forty-eighth GRE session.

112. Referring to informal document No. 19 of the forty-eighth GRE session, the expert from CLEPA confirmed that their interpretation problem concerning UNECE "fast track" decisions on bend lighting had

been resolved to their satisfaction and that the above-mentioned documents should be removed from the agenda.

(h) Regulation No. 37 (Filaments lamps)

Documentation: TRANS/WP.29/GRE/2002/31; TRANS/WP.29/GRE/2002/36; informal document No. 2 of annex 1 to this report.

113. With regard to the introduction of coated filament lamps emitting red light, the expert from IEC presented documents TRANS/WP.29/GRE/2002/31, TRANS/WP.29/GRE/2002/36 and informal document No. 2, proposing some amendments to Regulation No. 37.

114. The experts from Germany and the United Kingdom raised study reservations regarding these proposals and expressed their concerns with the endurance of the red coating of incandescent light sources and the interchangeability with non-red bulbs. The expert from IEC confirmed that interchangeability with other bulbs was not possible due to the different shapes of the bases of the red filament bulbs. With regard to the endurance of the coating, he stated that, at the present time, no provisions for an endurance test were fixed in Regulation No. 37, but that such a test procedure had already been defined by IEC.

115. Following the discussion, GRE noted its preference to introduce into the Regulation specifications on an endurance test procedure for coated filament lamps prior to adopting an allowance for coated filament lamps emitting red light. The expert from IEC was requested to prepare a consolidated document on the basis of the proposals TRANS/WP.29/GRE/2002/31, TRANS/WP.29/GRE/2002/36 and informal document No. 2, as amended, including provisions for the new endurance test procedure. GRE agreed to consider this document at its next session.

(i) Collective amendments to Regulations No. 6, 7, 23, 38, 50, 77, 87 and 91

Documentation: TRANS/WP.29/GRE/2002/32; TRANS/WP.29/GRE/2002/35.

116. The expert from GTB introduced documents TRANS/WP.29/GRE/2002/32 and TRANS/WP.29/GRE/2002/35 proposing some collective amendments (Supplements) to Regulations Nos. 6, 7, 23, 38, 50, 77, 87 and 91 in order to align the test provisions and the definitions of these Regulations with those of Regulation No. 48.

117. GRE adopted the collective amendments and requested the secretariat to transmit both documents, not amended, for consideration to WP.29 and AC.1 at their June 2003 sessions.

(j) Regulation No. 99 (Gas-discharge light sources)

Documentation: TRANS/WP.29/GRE/2002/40; informal document No. 3 of annex 1 to this report.

118. The expert from IEC presented TRANS/WP.29/GRE/2002/40 and informal document No. 3 proposing the introduction into the Regulation of two new gas-discharge light sources.

119. The expert from Germany stated his preference for going further, and deleting from the list in the Regulation all light sources which contain mercury. The experts from IEC and GTB expressed their concerns with such action, if it would be carried out immediately. The expert from GTB proposed to adopt the above-mentioned documents and volunteered to prepare for the next GRE session and with the cooperation of Germany, OICA and CLEPA, a proposal of transitional provisions for the case of a deletion of the light sources containing mercury.

120. GRE adopted TRANS/WP.29/GRE/2002/40 with the amendments of informal document No. 3 as reproduced below:

Annex 1, amend to read:

### "SHEETS FOR GAS-DISCHARGE LIGHT SOURCES

List of categories of gas-discharge light sources and their sheet numbers:

<u>Category</u>	<u>Sheet number(s)</u>
D1R	DxR/1..7
D1S	DxS/1..6
D2R	DxR/1..7
D2S	DxS/1..6
D3R	DxR/1..7
D3S	DxS/1..6
D4R	DxR/1..7
D4S	DxS/1..6

List of sheets for gas-discharge light sources and their sequence in this annex:

<u>Sheet number(s)</u>	
DxR/1..7	
DxS/1..6	"

121. The secretariat was requested to transmit the proposal to WP.29 and AC.1, as draft Supplement 2 to Regulation No. 99, for consideration at their June 2003 sessions.

(k) Regulation No. 8 (Headlamps (H1, H2, H3, HB3, HB4, H7, H8, H9, HIR1, HIR2 and/or H11))

Documentation: TRANS/WP.29/GRE/2002/46.

122. The Secretary introduced TRANS/WP.29/GRE/2002/46, correcting an error in annex 3 of Regulation No. 8 (English version only).

123. GRE adopted the document and requested the secretariat to submit it to WP.29 and AC.1, as draft Corrigendum 1 to Revision 4 to Regulation No. 8, for consideration at their March 2003 sessions.

(l) Regulation No. 3 (Retro-reflecting devices)

Documentation: Informal document No. 6 of annex 1 to this report.

124. The expert from Finland presented informal document No. 6 (together with informal document No. 7, see paras. 26 and 27) in order to introduce into Regulations Nos. 3 and 48 new provisions regarding the combination of triangular retro-reflectors of Class IIIB with other light signalling devices.

125. GRE agreed to consider this subject in GRE during its fiftieth session and requested the secretariat to distribute informal document No. 6 with an official symbol (note by the secretariat: see TRANS/WP.29/GRE/2003/2).

(m) Draft Regulation on uniform provisions concerning the approval of cornering lamps for power-driven vehicles

Documentation: TRANS/WP.29/GRE/2001/35; TRANS/WP.29/2002/62.

126. With regard to TRANS/WP.29/GRE/2001/35, amended and adopted by GRE at its forty-eighth session, the expert from the United Kingdom insisted on the introduction into the Regulation of the definition of a cornering lamp, in spite of the existing reference in paragraph 1.1. to the definitions of Regulation No. 48. As the concerned document was already submitted to WP.29 and AC.1 (TRANS/WP.29/2002/62) for consideration at their November 2002 sessions, GRE preferred not to amend it. However, GRE agreed to introduce the definition on the occasion of any next amendment to the Regulation.

127. GRE agreed for the future to introduce into a Regulation only the definition of the concerned lighting or light-signalling device and to refer for other definitions to the installation Regulation.

(n) Provisional calendar of meetings for 2003

128. The secretariat recalled the adoption by WP.29 in its June 2002 session of the provisional agenda of meetings of WP.29 and its subsidiary bodies in 2003 (TRANS/WP.29/861, para. 22. and annex 2).

129. In case of endorsement by WP.29, GRE wished to have a meeting of the AFS informal group, to be held prior to the next GRE session in April 2003, with or without interpretation.

130. The Chairman informed GRE about the possibility of holding the fifty-first session of GRE, scheduled from 15 to 19 September 2003, in Darmstadt (Germany). The final decision would depend on the invitation from the German Government and the approval by WP.29.

#### AGENDA FOR THE NEXT SESSION

131. For the fiftieth session, scheduled to be held in Geneva, Palais des Nations, from 7 (from 9.30 h) to 11 (until 12.30 h) April 2003, GRE agreed on the following agenda:

(a) Informal meeting of GRE informal group on AFS (subject to confirmation by WP.29 at its November 2002 session)

To be held from Monday, 7 April (9.30 h) till Tuesday, 8 April 2003 (12.30 h).

The secretariat of the AFS informal group would prepare the agenda of the meeting and would distribute it to the GRE members prior to the meeting. Note by the secretariat: This informal meeting would be held without interpretation (see paras. 77 and 129).

(b) Fiftieth session of the GRE proper 1/ :

To be held from Tuesday, 8 April 2003 (14.30 h) till Friday, 11 April 2003 (12.30 h).

1. REGULATION No. 48 – Development (Installation of lighting and light-signalling devices)

- 1.1. Definition of a "single lamp"
- 1.2. Distributed Lighting Systems (DLS)
- 1.3. Installation of retro-reflective markings and materials
- 1.4. Development of the Regulation

2. AMENDMENTS TO ECE REGULATIONS

- 2.1. Regulation No. 3 (Retro-reflecting devices)
- 2.2. Regulation No. 7 (Position, stop, and end-outline marker lamps)
- 2.3. Regulation No. 10 (Electromagnetic compatibility)
- 2.4. Regulation No. 37 (Filament lamps)
- 2.5. Regulation No. 65 (Special warning lamps)
- 2.6. Regulation No. 98 (Headlamps with gas-discharge light sources)
- 2.7. Regulation No. 112 (Headlamps emitting an asymmetrical passing beam)
  - General
  - Passing beam
  - Driving beam
- 2.8. Regulation No. 113 (Headlamps emitting a symmetrical passing beam)
- 2.9. Regulations Nos. 50, 53 and 74

3. PROPOSALS FOR NEW ECE REGULATIONS (1958 Agreement)

- 3.1. Adaptive Front-lighting System (AFS)
- 3.2. Amendments concerning the AFS systems
- 3.3. Amendments to the measurement coordinate system

4. PROPOSALS FOR GLOBAL TECHNICAL REGULATIONS

- 4.1. Installation requirements for lighting and light-signalling devices

5. NEW INVENTIONS

6. OTHER BUSINESS

- 6.1. Glare of headlamps
- 6.2. Conditions for the illumination of stop lamps
- 6.3. Emergency brake light display
- 6.4. Proposal for amendments to the Convention on Road Traffic (Vienna 1968)
- 6.5. Technical requirements regarding the use of headlight during daytime
- 6.6. 42 Volt electric systems for motor vehicles

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1/ As part of the secretariat's efforts to reduce expenditure, all the official documents distributed prior to the session by mail or placed on the UNECE web-site (<http://www.unece.org/trans/main/welcwp29.htm>) will not be available in the conference room for distribution to session participants. Delegates are kindly requested to bring their copies of documents to the meeting.

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Annex 1LIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL  
DURING THE SESSION

No.	Transmitted by	Agenda item	Language	Title
1.	GTB	3.1.	E	Report of the Working Party on lighting and light-signalling (GRE) on its informal meeting, held in Frankfurt from 2 to 4 July 2002
2.	IEC	7.8.	E	Proposal for Draft amendments to Regulation No. 37 Revision 3
3.	IEC	7.10.	E	Proposal for Draft amendments to Regulation No. 99
4.	CLEPA	3.1.	E	Proposal for Draft amendments to Draft document TRANS/WP.29/GRE/2002/18/Rev.1
5.	IMMA	2.3.	E	IMMA proposal for amending the front position lamp requirements as a result of the introduction of Automatic Headlamp On (AHO)
6.	Finland	7.12.	E	Proposal for Draft amendments to Regulation No. 3
7.	Finland	1.4.	E	Proposal for Draft amendments to Regulation No. 48
8.	Secretariat	1.3.	E	Proposal for Draft amendments to Regulation No. 48
9.	OICA	7.3.	E	Presentation on emergency braking system
10.	GTB	1.3.	E	Proposal for Draft amendments to Regulation No. 48
11.	Germany/Italy	2.1.	E	Proposal for Draft amendments to Regulation No. 7
12.	United States of America	7.1.	E	Review of Comments from NHTSA's Notice of Request for Comments on Nighttime Headlight Glare Lighting, Conspicuity and Visibility

Redistribution of informal documents from the previous sessions of GRE  
(referring to agenda items of the current session):

**48th GRE session:**

19.	CLEPA	7.7.	E	Interpretation of UNECE "fast track" decisions on bend lighting
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**47th GRE session:**

3.	Belarus	2.5.	E	Proposal for draft amendments to Regulation No. 86
5.	Secretariat	7.6.	E	Revision of standards for 42 Volt automotive electric systems
10.	France	2.7.	E	Information concerning the approval of a headlamp, passing and driving beams according Regulation No. 98

Annex 2

This proposal by GTB was intended to include into Regulation No. 48 provisions for side and rear retro-reflective strip and contour markings (Regulation No. 104). GRE adopted in its forty-ninth session the following text on the basis of TRANS/WP.29/GRE/2001/13/Rev.2 (see paras. 11 and 12).

Paragraph 2.7.16.3., amend to read:

"2.7.16.3. other retro-reflective markings which must be used to comply with national requirements for use as regards certain categories of vehicles or certain methods of operation."

Insert a new paragraph 2.7.17., to read:

"2.7.17. "Retro-reflective marking" means an additional marking of characteristic shape and/or pattern intended to increase the visibility and easy identification of certain categories of vehicles and their trailers."

Paragraphs 2.7.17. (former) to 2.7.24., renumber as paragraphs 2.7.18. to 2.7.25.

Paragraph 2.9.1., amend the reference to "(paragraphs 2.7.9., 2.7.10., 2.7.18. and 2.7.20.)", to read "(paragraphs 2.7.9., 2.7.10., 2.7.19. and 2.7.21.)".

Paragraph 2.9.2., amend the reference to "(paragraphs 2.7.11. to 2.7.15., 2.7.17., 2.7.19. and 2.7.21. to 2.7.24.)" to read "(paragraphs 2.7.11. to 2.7.15., 2.7.18., 2.7.20. and 2.7.22. to 2.7.25.)".

Paragraph 5.2., amend the reference to "paragraphs 2.7.9., 2.7.10. and 2.7.18." to read "paragraphs 2.7.9., 2.7.10. and 2.7.19."

Paragraph 5.15., amend to read (inserting a new entry at the end):

"5.15. ....  
retro-reflective lines and contour markings: white or yellow to the side;  
red to the rear. 1/"

Insert new paragraphs 6.21. to 6.21.3.2., to read:

"6.21. SIDE AND REAR RETRO-REFLECTIVE STRIP AND CONTOUR MARKINGS  
(Regulation No. 104)

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1/ Nothing in this Regulation shall preclude the Contracting Parties applying this Regulation from allowing the use of yellow line or contour markings to the rear in their territories.



6.21.1. Presence

Optional.

6.21.2. Arrangement

6.21.2.1. Retro-reflective marking materials installed on vehicles may be made up of an element or of several elements and must be mounted as close as possible to horizontally or vertically, compatible to the design and operation requirements of the vehicle.

6.21.2.2. The lower edge of the retro-reflective marking shall have a minimum height above the ground of at least 250 mm.

6.21.3. Position

6.21.3.1. The mounting of the markings should identify as close as possible the entire length and width (strips) or shape (contour markings) of the vehicle. "Entire" means at least 80 per cent of the length and/or width of a marked vehicle.

6.21.3.2. In case of non-continuous strips the distance between single elements should be as small as possible and should not exceed 50 per cent of the shortest element length."

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Annex 3

This proposal by Germany and Italy aimed to allow the use of changeable "light source modules" into Regulation No. 7. GRE adopted in its forty-ninth session (see para. 29) the following text on the basis of TRANS/WP.29/GRE/2002/48 as amended by informal document No. 11 \*/.

Paragraph 1.6., amend to read:

"1.6. "Front and rear position (side) lamps, stop-lamps and end-outline marker lamps" means lamps, which differ in each said category in such essential respects as:

The trade name or mark,

The characteristics of the optical system, (levels of intensity, light distribution angles, category of filament lamp, light source module, etc.),

The system used to reduce illumination at night - in the case of stop-lamps with two levels of intensity."

Paragraph 2.2.2., amend to read:

"2.2.2. A brief technical description stating, in particular, with the exception of lamps with non-replaceable light sources:

- the category or categories of filament lamp prescribed; this filament lamp category shall be one of those contained in Regulation No. 37; or
- the light source module specific identification code.

In the case of a category S3 stop lamp, which is intended to be mounted inside the vehicle, the technical description shall contain the specification of the optical properties (transmission, colour, inclination, etc.) of the rear window(s);"

Paragraph 3.2., amend to read:

"3.2. With the exception of lamps with non-replaceable light sources it must bear a clearly legible and indelible marking indicating:

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\*/ When drafting the amendments in this annex, the secretariat took into consideration the latest amendments to Regulation No. 7 (TRANS/WP.29/820), which had already been adopted by WP.29/AC.1 at their November 2001 sessions as well as a correction, in annex 5, to the trichromatic coordinates of the colour WHITE.

- the category or categories of filament lamp prescribed; and/or
- the light source module specific identification code."

Paragraph 3.4., amend to read:

"3.4. In the case of lamps with non-replaceable light sources or light source module(s), the lamp shall bear the marking of the rated voltage and rated wattage."

Insert new paragraphs 3.6. to 3.6.3., to read:

"3.6. Light source module(s) submitted along with the approval of lamp:

3.6.1. Shall bear the trade name or mark of the applicant; this marking must be clearly legible and indelible;

3.6.2. Shall bear the specific identification code of the module; this marking must be clearly legible and indelible.

This specific identification code shall comprise the starting letters "MD" for "MODULE" followed by the approval marking without the circle as prescribed in paragraph 4.2.1. below; this specific identification code shall be shown in the drawings mentioned in paragraph 2.2.1. above. The approval marking does not have to be the same as the one on the lamp in which the module is used, but both markings shall be from the same applicant.

3.6.3. Shall be marked with the rated voltage "

Insert new paragraphs 5.6. to 5.6.2., to read:

"5.6. Light source module

5.6.1. The design of the light source module(s) shall be such that even in darkness the light source module(s) can be fitted in no other position, but the correct one.

5.6.2. The light source module(s) shall be tamperproof."

Annex 2, item 9., amend to read:

"9. ....

Only for limited mounting height of equal to or less than 750 mm above the  
ground yes/no 2/

Light source module: yes/no 2/

Light source module specific identification code: .....  
....."

Annex 3, example 7., amend to read:

"7. Light source modules

**MD E3 17325**

The light source module bearing the identification code shown above has been approved together with a lamp approved in Italy (E3) under approval number 17325."

Annex 5, in the trichromatic coordinates of the colour WHITE, the limit towards red " $y = 0.382$ " correct to read " $y = 0.382$ ".

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