


**Economic Commission for Europe**
**Inland Transport Committee**
**World Forum for Harmonization of Vehicle Regulations**
**Working Party on Lighting and Light-Signalling**
**Seventy-fourth session**

Geneva, 20 – 23 October 2015

**Report of the Working Party on Lighting and Light-Signalling on its seventy-fourth session**
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## **I. Attendance**

1. The Working Party on Lighting and Light-Signalling (GRE) held its seventy-fourth session from 20 to 23 October 2015 in Geneva, under the chairmanship of Mr. M. Loccufier (Belgium). Experts from the following countries participated in the work according to Rule 1 (a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690, ECE/TRANS/WP.29/690/Amends. 1 and 2): Austria; Belgium; Canada; China; Czech Republic; Finland; France; Germany; Hungary; India; Italy; Japan; Luxemburg; Netherlands; Norway; Poland; Republic of Korea; Russian Federation; Spain; Sweden and the United Kingdom of Great Britain and Northern Ireland (UK). An expert from the European Commission (EC) participated. Experts from the following non-governmental organizations also took part in the session: European Association of Automotive Suppliers (CLEPA); International Automotive Lighting and Light Signalling Expert Group (GTB); International Electrotechnical Commission (IEC); International Motorcycle Manufacturers Association (IMMA); International Organization of Motor Vehicle Manufacturers (OICA). Upon invitation of the Chair, the experts from the European Committee of Associations of Manufacturers of Agricultural Machinery (CEMA) participated.

## **II. Adoption of the agenda (agenda item 1)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/24,  
Informal documents GRE-74-01-Rev.1 and GRE-74-13

2. GRE considered and adopted the agenda proposed for the seventy-fourth session (ECE/TRANS/WP.29/GRE/2015/24), as reproduced in GRE-74-01-Rev.1 (including the informal documents distributed during the session).
3. The list of informal documents is contained in Annex I to the report. The list of GRE informal groups is reproduced in Annex VI to the report.
4. GRE took note of the highlights of the June 2015 session of WP.29 and the official document submission deadline of 8 January 2016 for the April 2016 session of GRE (GRE-74-13).

## **III. 1998 Agreement - Global Technical Regulations: Development (agenda item 2)**

*Documentation:* ECE/TRANS/WP.29/GRE/71, para. 5

5. No proposals were introduced under this agenda item.

## **IV. 1997 Agreement – Rules: Development (agenda item 3)**

6. No new information was reported under this agenda item.

## **V. Simplification of lighting and light-signalling Regulations (agenda item 4)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/25,  
ECE/TRANS/WP.29/GRE/2015/26,

ECE/TRANS/WP.29/GRE/2015/27,  
ECE/TRANS/WP.29/GRE/2015/28, ECE/TRANS/WP.29/1116,  
Informal documents WP.29-166-22, GRE-74-03, GRE-74-04, GRE-  
74-05, GRE-74-06, GRE-74-07, GRE-74-15, GRE-74-17, GRE-74-18  
and GRE-74-24

7. GRE took note of the progress of the Informal Working Group "Simplification of the Lighting and Light-Signalling Regulations" (IWG SLR) and of its forthcoming meetings. The secretariat informed GRE about the guidance provided by the United Nations Office for Legal Affairs (OLA) and WP.29 on different options for the so-called Horizontal Reference Document (HRD) (ECE/TRANS/WP.29/1116, WP.29-166-18 and GRE-74-15). In particular, OLA had pointed out that using a new part B of Regulation No. 48 as HRD would contradict the terms of the 1958 Agreement. With regard to establishing a new Resolution, OLA had indicated that Regulations can only be amended in accordance with the procedure set out in Article 12 of the Agreement and that a Resolution cannot be employed to amend a Regulation. OLA had also proposed, as an alternative solution, to amend the 1958 Agreement with a specific procedure applicable in those cases when an amendment to one Regulation would affect the application of other Regulations.

8. The expert from EC was of the view that the alternative solution proposed by OLA would bring no results, in view of its complexity and the advanced stage of work on Revision 3 of the 1958 Agreement. He also expressed concerns about the regulatory status of a new Resolution outside the legal text of the 1958 Agreement. The expert from UK shared these concerns. Various experts raised questions on using dynamic or static references to HRD in the individual device Regulations. GRE noted that dynamic references could provide more benefits in terms of simplifying the text, but some Contracting Parties might prefer static references for legal reasons. GRE also wondered about the correlation between amendments to HRD and supplements or new series of amendments to individual device Regulations, including transitional provisions. GRE requested IWG SLR to address the identified issues and to report to the next session on its findings.

9. On behalf of IWG SLR, the expert from IEC introduced a draft Resolution on the common specification of light source categories (ECE/TRANS/WP.29/GRE/2015/28 and GRE-74-06), proposals for simplifying Regulations Nos. 37, 99 and 128 by moving data sheets for various light sources from these Regulations to the Resolution as well as some further modifications (ECE/TRANS/WP.29/GRE/2015/25, ECE/TRANS/WP.29/GRE/2015/26, ECE/TRANS/WP.29/GRE/2015/27, GRE-74-03, GRE-74-04, GRE-74-05, GRE-74-17, GRE-74-18 and GRE-74-24). The experts from Germany, France, Italy, Netherlands and EC delivered a number of remarks on these proposals, mainly of a terminology nature. The expert from France also requested that all modifications to Regulations Nos. 37, 99 and 128 be clearly explained in the "Justification" section of the respective documents.

10. GRE stressed the need to ensure the high quality of these documents before submitting them to WP.29 and requested IWG SLR to update the proposals based on the comments received and to submit a revised package for consideration at the next session. Some experts pointed out that the guidance by OLA on establishing a new HRD Resolution (see para. 7 above) was also applicable to the draft Resolution on light sources. GRE recalled that this approach had already been endorsed by WP.29 at its November 2014 session. Nevertheless, GRE requested its Chair to ask WP.29, at its forthcoming session in November 2015, to reconfirm this mandate in the light of the OLA guidance.

## **VI. Regulation Nos. 37 (Filament lamps), 99 (Gas discharge light sources) and 128 (Light emitting diodes light sources) (agenda item 5)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/29,  
ECE/TRANS/WP.29/GRE/2015/30

11. The expert from GTB proposed to phase out a set of light source categories in Regulation No. 37 (ECE/TRANS/WP.29/GRE/2015/29). GRE agreed that this proposal should be incorporated into the revised draft Resolution on the common specification of light source categories (see paras. 9 and 10 above). GRE also discussed whether phasing out of light source categories could be done only by amending the Resolution or specific transitional provisions should also be introduced into Regulation No. 37. GRE decided to revert to this issue at a later stage.

12. The expert from GTB proposed to introduce new light source categories into Regulation No. 128 and to align some drawings (ECE/TRANS/WP.29/GRE/2015/30). GRE agreed that, bearing in mind its importance for the industry, this proposal should be treated separately from the draft Resolution on light sources. GRE adopted the proposal and requested the secretariat to submit them to WP.29 and the Administrative Committee of the 1958 Agreement (AC.1) for consideration and vote at their March 2016 sessions as draft Supplement 5 to the original series of Regulation No. 128.

## **VII. Regulation No. 48 (Installation of lighting and light-signalling devices) (agenda item 6)**

### **A. Proposals for amendments to the 05 and 06 series of amendments**

*Documentation:* ECE/TRANS/WP.29/GRE/73, ECE/TRANS/WP.29/GRE/2015/21,  
ECE/TRANS/WP.29/GRE/2015/31,  
ECE/TRANS/WP.29/GRE/2015/32,  
ECE/TRANS/WP.29/GRE/2015/33,  
ECE/TRANS/WP.29/GRE/2015/34, ECE/TRANS/WP.29/1116,  
Informal documents GRE-73-14, GRE-74-10, GRE-74-16,  
GRE-74-19 and GRE-74-22-Rev.1

13. The expert from the Netherlands, in his capacity of Chair of the Task Force on Tell-Tales (TF TT), reported on the progress made by the Task Force. The expert from OICA, Secretary of TF TT, proposed amendments to Regulations Nos. 7, 87 and 48 on tell-tales indicating a failure (ECE/TRANS/WP.29/GRE/2015/31, ECE/TRANS/WP.29/GRE/2015/32, ECE/TRANS/WP.29/GRE/2015/33 GRE-74-16). He pointed out that the proposed amendments would also require an amendment to Regulation No. 121 and, to this end, a separate proposal would be submitted to the Working Party on General Safety Provisions (GRSG). GRE requested TF TT to specify the legal form of the proposed amendments and to submit revised proposals for consideration at the next session.

14. GRE reverted to the proposal by the expert from France to delete a design restrictive requirement in Regulation No. 48 for an auto-levelling device for low beam produced by light emitting diodes (LED) light sources (ECE/TRANS/WP.29/GRE/2015/21 and ECE/TRANS/WP.29/GRE/73, para. 20). The secretariat informed GRE about the discussion on this issue at the June 2015 session of WP.29. The World Forum had stressed that Regulations should be technologically neutral and invited GRE to adopt the French

proposal and to submit it to WP.29 for consideration (ECE/TRANS/WP.29/1116, paras. 50 and 51).

15. GRE was not in a position to reach a consensus on this matter. The experts from Germany and Japan did not support the French proposal and suggested that it first be referred to the Informal Working Group on Visibility, Glare and Levelling (IWG VGL) and considered in one package with various other proposals. The experts from Belgium, Italy, Finland, France, Spain, EC, CLEPA and OICA supported the French proposal and called for its adoption independently from the IWG VGL activities. The experts from Austria and Poland reserved their positions. Finally, in view of the WP.29 guidance, GRE agreed to adopt the proposal in ECE/TRANS/WP.29/GRE/2015/21 and to submit it to the March 2016 session of WP.29 for a final decision. The Chair was also requested to brief WP.29 on the different views expressed by experts in GRE.

16. To improve road safety, the expert from Germany proposed to reduce the intensity of a daytime running lamp (DRL) in situations where a direction indicator is activated during the functioning of DRL (GRE-73-14). The experts from Canada, France, Netherlands, UK and OICA supported the idea of the proposal, but pointed out the need to further discuss its technical details. GRE invited experts to transmit their comments, if any, to the expert from Germany and requested him to submit an official document for consideration at the next session.

17. The expert from Germany presented a proposal on fitting end-outline marker lamps when a device for indirect vision is installed (ECE/TRANS/WP.29/GRE/2015/34 and GRE-74-22-Rev.1). GRE adopted this proposal, as contained in Annex II, and requested the secretariat to submit it to WP.29 and the Administrative Committee of the 1958 Agreement (AC.1) for consideration and vote at their March 2016 sessions as draft Supplement 9 to the 05 series of amendments to and draft Supplement 7 to the 06 series of amendments Regulation No. 48.

18. The experts from the Czech Republic and OICA proposed to add a new transitional provision for the 06 series of amendments (GRE-74-10). This proposal received comments from the experts from Italy and EC. The experts from France and Germany requested more time to study the proposal. GRE decided to come back to this issue at the next session on the basis of an official document to be prepared by OICA.

19. The expert from OICA identified a possible conflict between the provisions of Regulation No. 48 and the rule to switch off lamps for circulation inside refineries (GRE-74-19). GRE was of the view that this issue should be addressed in the framework of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and invited OICA to contact the respective ADR bodies.

## **B. Other proposals for amendments to Regulation No. 48**

*Documentation:* Informal document GRE-74-21-Rev.1

20. The expert from Germany, in his capacity of Chair of IWG VGL, reported on the activities of the Informal Working Group and presented its draft terms of reference (ToR). GRE adopted ToR of IWG VGL (Annex III).

## **VIII. Other Regulations (agenda item 7)**

### **A. Regulation No. 7 (Position, stop and end-outline lamps)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/32

21. GRE noted that this issue was discussed together with document ECE/TRANS/WP.29/GRE/2015/31 (para. 13 above).

## **B. Regulation No. 10 (Electromagnetic compatibility)**

*Documentation:* ECE/TRANS/WP.29/GRE/2014/41,  
ECE/TRANS/WP.29/GRE/2015/35,  
ECE/TRANS/WP.29/GRE/2015/36, Informal document GRE-74-12

22. GRE considered a proposal transmitted by GRSG to align the provisions of Regulation No. 10 with the proposed amendments to Regulation No. 46 (Devices for indirect vision) to optionally replace rear-view mirrors by camera-monitor systems (ECE/TRANS/WP.29/GRE/2015/35). GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft Supplement 3 to the 04 series of amendments and draft Supplement 1 to the 05 series of amendments to Regulation No. 10.

23. The expert from the Russian Federation introduced amendment proposals on the electromagnetic compatibility (EMC) of trolleybuses (GRE-74-12) with the intention to replace ECE/TRANS/WP.29/GRE/2014/41. The expert from Belgium commented on these proposals. The expert from China proposed a set of amendments to different provisions of Regulation No.10 (ECE/TRANS/WP.29/GRE/2015/36). This proposal received preliminary comments from Finland. Various GRE experts pointed out that, before taking a position on the Chinese and Russian proposals, they had to consult national EMC experts who do not normally attend GRE sessions.

24. To make further progress on the above proposals, GRE decided to create a task force (TF EMC) and invited GRE participants and experts on EMC to take part in this work. OICA volunteered to act as secretary of the task force. GRE agreed that TF EMC should start its activities as soon as possible to address the electromagnetic compatibility of trolleybuses.

## **C. Regulation No. 50 (Position, stop, direction indicators lamps for mopeds and motorcycles)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/37,  
ECE/TRANS/WP.29/GRE/2015/38

25. The expert from IMMA proposed to introduce sequential activation of light sources of direction indicators (ECE/TRANS/WP.29/GRE/2015/37). GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft Supplement 18 to the original series of amendments to Regulation No. 50.

26. The expert from IMMA introduced a proposal amending the angle of incidence for the rear registration plate illuminating device (ECE/TRANS/WP.29/GRE/2015/38). The experts from Austria, Germany, France and the Netherlands commented on this proposal. GRE invited the expert from IMMA to take these comments into consideration and to submit a revised proposal to the next session.

## **D. Regulation No. 53 (Installation of lighting and light-signalling devices for L<sub>3</sub> vehicles)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/39,  
ECE/TRANS/WP.29/GRE/2015/40,  
ECE/TRANS/WP.29/GRE/2015/41,  
ECE/TRANS/WP.29/GRE/2015/42, Informal document GRE-74-09

27. The expert from IMMA proposed to allow the installation of light-signalling devices with light sources that can be sequentially activated (ECE/TRANS/WP.29/GRE/2015/39). GRE adopted this proposal as amended by Annex IV and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft Supplement 18 to the 01 series of amendments to Regulation No. 53.

28. The expert from IMMA presented a proposal introducing an emergency stop signal on motorcycles with the aim to increase safety (ECE/TRANS/WP.29/GRE/2015/40). GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft Supplement 18 to the 01 series of amendments to Regulation No. 53, subject to the following modification:

*Paragraph 5.8., amend to read:*

"5.8. In the absence of specific instructions, no lamps other than direction indicator lamps, ~~and~~ the vehicle-hazard warning signal **lamps and the emergency stop signal** shall be flashing lamps."

29. The experts from Germany and IMMA proposed to delete in Regulation No. 53 the references to headlamps of Class B of Regulation No. 113 (ECE/TRANS/WP.29/GRE/2015/41 and GRE-74-09). GRE adopted this proposal as contained in Annex V and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft 02 series of amendments to Regulation No. 53.

30. The expert from IMMA introduced a proposal allowing for the use of different brake lamp activation methods and aligning the brake lamp provision with those applicable for four-wheelers (ECE/TRANS/WP.29/GRE/2015/42). The experts of France, Germany, Italy and Japan delivered remarks. GRE noted that this proposal might need to be accompanied by a modification of Regulation No. 78 under the responsibility of the Working Party on Braking and Running Gear (GRRF). IMMA was invited to contact GRRF and to present an updated document for the next session.

## **E. Regulation No. 86 (Installation of lighting and light-signalling devices for agricultural tractors)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/43, GRE-74-02

31. The expert from Finland, co-chairing the informal Group on Agricultural Vehicle Lighting Installation (AVLI), introduced a draft proposal for the 01 series of amendments to Regulation No. 86 (ECE/TRANS/WP.29/GRE/2015/43 and GRE-74-02). GRE noted that the only outstanding issue was the text in square brackets in paragraph 6.8.1. on the front position lamps. Following an in-depth discussion, GRE decided to delete this text.

32. The expert from EC pointed out the need to analyse, together with the EC legal services, the consistency between the EU legislation and the proposed draft of the 01 series of amendments to Regulation No. 86. Therefore, he reserved his position and suggested that the adoption of the proposal be postponed to the next session. GRE agreed with his suggestion.

## **F. Regulation No. 87 (Daytime running lamps)**



*Documentation:* ECE/TRANS/WP.29/GRE/2015/33, Informal document GRE-74-20

33. GRE noted that document ECE/TRANS/WP.29/GRE/2015/33 on tell-tales was discussed together with ECE/TRANS/WP.29/GRE/2015/31 (para. 13 above).

34. The expert from Japan presented the outcome of a study on daytime running lamps (DRL) (GRE-74-20). The purpose of the study was to verify the effects of DRL on road traffic in Japan from the perspectives of other road users (glare and visibility for pedestrians and oncoming vehicle drivers) as well as to check the conspicuity of a motorcycle in front of the four-wheeled vehicle with DRL. The test conditions included different levels of sky illuminance and DRL intensity. According to the expert, the study did not identify negative effects of DRL. He also pointed out that, based on the study results, legal consultations had started in Japan with the aim to find a solution for DRL for the purposes of listing Regulation No. 48 in an annex to UN Regulation No. 0. GRE commended Japan for such a comprehensive study and welcomed its outcome.

### **G. Regulation No. 113 (Headlamps emitting a symmetrical passing-beam)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/17

35. GRE considered a pending proposal submitted by the expert from GTB to align the requirements on moving the cut-off line after heat test with those adopted in Regulations Nos. 98, 112 and 123 and to correct an error in the provisions on the use of light-emitting diode modules (ECE/TRANS/WP.29/GRE/2015/17). The experts from Austria, Germany and the Netherlands stressed the urgency of this proposal. GRE adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their March 2016 sessions as draft Supplement 6 to the 01 series of amendments to Regulation No. 113.

## **IX. Pending amendment proposals (agenda item 8)**

*Documentation:* ECE/TRANS/WP.29/GRE/2015/7,  
ECE/TRANS/WP.29/GRE/2015/16,  
ECE/TRANS/WP.29/GRE/2015/23

36. GRE recalled that, at the previous session, it approved several amendment proposals to various Regulations, but agreed to postpone a decision to submit them to WP.29 for consideration, awaiting other possible proposals for amendments to the same Regulations in the course of the simplification process (ECE/TRANS/WP.29/GRE/73, paras. 21, 33 and 35). GRE decided to keep these amendment proposals pending.

## **X. Other business (agenda item 9)**

### **A. Amendments to the Convention on Road Traffic (Vienna 1968)**

37. The Secretary to the Working Party on Road Traffic Safety (WP.1) informed GRE that WP.1, at its October 2015 session, had continued considering the amendment proposals on Article 32 and Chapter II of Annex 5 of the Vienna 1968 Convention regarding lighting and light-signalling. In particular, WP.1 had discussed ECE/TRANS/WP.1/2011/4/Rev.5 which included several proposals made by IMMA. WP.1 agreed to several changes and requested the secretariat to prepare ECE/TRANS/WP.1/2011/4/Rev.6 to reflect these changes. At the same time, Italy, France and Laser Europe had proposed to rearrange the

text of the Convention, including Chapter II of Annex 5. Their proposal would be considered at the next session of WP.1.

## **B. Decade of action for road safety 2011-2020**

38. The secretariat informed GRE that the United Nations Secretary-General Ban Ki-moon had appointed Mr. Jean Todt, President of the Fédération Internationale de l'Automobile (FIA), as Special Envoy for road safety. Substantive and technical support to the functions of the Special Envoy will be provided by UNECE, and the direct costs of the provision of secretariat support and other logistical costs are to be met from extrabudgetary funding to be mobilised by the Special Envoy.

## **C. Development of an International Whole Vehicle Type Approval (IWVTA)**

39. The expert from EC, in his capacity of GRE Ambassador, informed GRE about the progress in preparing Revision 3 of the 1958 Agreement and developing Regulation No. 0 on IWVTA. The latest draft of Regulation No. 0 had been presented to the June 2015 session of WP.29 (ECE/TRANS/WP.29/2015/68). GRE recalled its discussion on DRL (para. 16 above) and hoped that a solution would soon be found for the purposes of listing Regulation No. 48 in an annex to Regulation No. 0 on IWVTA.

## **D. Phantom light and colour washout**

40. The expert from Germany informed GRE about an ongoing study and that a proposal would be submitted to the next session of GRE.

## **XI. New business and late submissions (agenda item 10)**

*Documentation:* Informal documents GRE-74-08, GRE-74-11, GRE-74-14 and GRE-74-23

41. The expert from GTB introduced a final consolidated version of the former 03 series of amendments to Regulation No. 48 (GRE-74-08) which could still be of assistance to the industry and type approval authorities. GRE noted that, under Revision 3 of the 1958 Agreement, a series of amendments to a Regulation, together with all subsequent supplements, would be called "a version of a UN Regulation" and that no further modifications could be made to former versions of a Regulation ("frozen" text). GRE invited experts to verify the consolidation by GTB and to report on any possible inconsistencies. Following such verification, the secretariat was requested to publish the consolidated version of the 03 series of amendments to Regulation No. 48 under an appropriate number.

42. The expert from Poland proposed to introduce a new optional "Class B1" headlamp into Regulation No. 112 (GRE-74-11, GRE-74-23). The experts from Germany, Finland and the Netherlands supported the idea of the Polish proposal and posed clarifying questions. The Chair encouraged all experts to send their comments, if any, to the expert from Poland, with a view to discussing an updated proposal at the next session.

43. GRE took note of a draft list of acronyms/abbreviations used in Regulations under the responsibility of GRE, which had been prepared by the secretariat with the assistance of

the experts from the Netherlands and IEC (GRE-74-14). GRE invited experts to send to the secretariat their comments on this list.

44. GRE was informed that Mr. Marcin Gorzkowski (Canada), who had chaired GRE in 2002-2014, would no longer attend its sessions. GRE expressed its high appreciation of Mr. Gorzkowski's contributions to the work of GRE and wished him success in his future activities.

45. GRE also took note that Mr. Masahito Yamashita (Japan) would no longer attend its sessions. GRE thanked him for his contributions and wished him success in the future.

## **XII. Direction of future work of GRE (agenda item 11)**

### **A. Work tasks of GRE**

*Documentation:* ECE/TRANS/WP.29/2012/119

46. GRE addressed this item in conjunction with agenda item 4 (paras. 7-10 of this report).

### **B. Work progress of the International Automotive Lighting and Light Signalling Expert Group (GTB) task forces**

47. GRE noted that a status report of the GTB Working Groups would be presented at the next session.

## **XIII. Provisional agenda for the next session (agenda item 12)**

48. GRE decided to keep the same structure of the provisional agenda for the next session.

## **XIV. Election of officers (agenda item 13)**

49. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 and ECE/TRANS/WP.29/690/Amend.1), GRE called for the election of officers. The representatives of the Contracting Parties, present and voting, elected unanimously Mr. Michel Loccuffier (Belgium) as Chair and Mr. Derwin Rovers (Netherlands) as Vice-Chair for the sessions of GRE scheduled in the year 2016.

## Annex I

### List of informal documents considered during the session

Informal documents GRE-74-...

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1-Rev.1	(Secretariat) Updated provisional agenda for the 74th session of GRE	b
2	(AVLI) Proposal for the 01 series of amendments to Regulation No. 86	b
3	(IWG SLR) - Proposal simplification of Regulation No. 37	e
4	(IWG SLR) - Proposal simplification of Regulation No. 99	e
5	(IWG SLR) - Proposal simplification of Regulation No. 128	e
6	(IWG SLR) - Proposal for a new draft Resolution on the common specifications of light source categories	e
7	(IWG SLR) – List of amendments to Regulations Nos. 37, 99 and 128	e
8	(GTB) - Consolidation of the 03 series of amendments to Regulation No. 48	d
9	(Germany and IMMA) - Revised proposal for amendments to Regulation No. 53	b
10	(Czech Republic and OICA) - Proposal for a Supplement to the 06 series of amendments to Regulation No. 48	c
11	(Poland) - Proposal for a Supplement to the 01 series of amendments to Regulation No. 112	e
12	(Russian Federation) - Proposals for amendments to Regulation No. 10	e
13	(Secretariat) - General information and WP.29 highlights	f
14	(Secretariat) – Acronyms/abbreviations used in vehicle Regulations under responsibility of GRE	d
15	(Secretariat) - Second exchange of communications between the secretariat and OLA on the simplification of lighting and light-signalling Regulations (SLR)	d
16	(TF TT) Proposal to amend document ECE/TRANS/WP.29/GRE/2015/31	e
17	(IWG SLR) - Proposals to amend documents ECE/TRANS/WP.29/GRE/2015/26 and ECE/TRANS/WP.29/GRE/2015/28	e
18	(IWG SLR) - Clarification on simplification of light sources Regulations	d
19	(OICA) - Lamps switch-off in refineries	f
20	(Japan) - Research on daytime running lamps of four-wheeled vehicles	f
21-Rev.1	(IWG VGL) - Draft terms of reference of IWG VGL	b
22-Rev.1	(Germany and Italy) - Proposal for a supplement to Regulation No. 48	b
23	(Poland) - Explanations to GRE-74-11	e
24	(IEC) - Simplification of Light Sources Regulations Nos. 37, 99 and 128	d

*Notes:*

(a) Endorsed or adopted without amendment;

- (b) Endorsed or adopted with amendments;
- (c) Resume consideration on the basis of a document with an official symbol;
- (d) Kept as reference document/continue consideration;
- (e) Revised proposal for the next session;
- (f) Consideration completed or to be superseded;
- (g) Withdrawn.

## Annex II

### Adopted amendments to Regulation No. 48

*Paragraph 6.13.2.*, amend to read:

"6.13.2.      Number

Two visible from the front and two visible from the rear.

Additional lamps may be fitted as follows:

- (a) Two visible from the front;
- (b) Two visible from the rear."

*Paragraph 6.13.4.2., last indent*, amend to read:

"6.13.4.2.      ...

The additional lamps, as specified in paragraph 6.13.2. (b), shall be fitted as far separated in height as practicable in respect to the mandatory ones, provided that their position is compatible with design/operational requirements of the vehicle and symmetry of the lamps."

*Paragraph 6.13.4.3.*, amend to read:

"6.13.4.3.      In length, no special requirement.

The additional lamps, as specified in paragraph 6.13.2. (a), shall be fitted as close as practicable to the rear; this requirement shall be deemed to be satisfied if the distance between the additional lamps and the rear of the vehicle does not exceed 400 mm."

*Paragraph 6.13.9., last indent*, amend to read:

"6.13.9.      ...

The additional lamps, as specified in paragraph 6.13.2. (a), used to mark the rear end outline of the vehicle, the trailer or the semi-trailer shall be fitted in such a way to make it visible within the fields of vision of the approved main rear-view devices for indirect vision."

## Annex III

### **Adopted Terms of Reference and Rules of Procedure for the "Informal Working Group on Visibility, Glare and Levelling (IWG VGL)"**

#### **I. Introduction**

1. At its sixty-fifth session, GRE considered ECE/TRANS/WP.29/GRE/2011/27, introducing mandatory automatic levelling for headlamps (superseding ECE/TRANS/WP.29/GRE/2011/2 and ECE/TRANS/WP.29/GRE/2011/22). The proposal received comments from the experts of GTB (GRE-65-03 and GRE-65-17) and OICA (GRE-65-16) among others. The expert from Poland presented "Analysis of the influence of aiming, on visibility distance and glare" (GRE-65-30) concerning important aspects of present state of aiming/levelling in Regulation No. 48.

2. GRE adopted ECE/TRANS/WP.29/GRE/2011/27, as amended by Annex IV to this report. GRE agreed that this adoption was subject to the development of a further proposal to be prepared by the expert from GTB who would lead a comprehensive study of the whole issue of glare and visibility during night-time driving. Accordingly, it was agreed in case the results of the study revealed alternatives to the adopted mandatory requirements for automatic levelling and cleaning, the provisions of Regulation No. 48 would be re-examined at any time during the 90 months transitional period provided by ECE/TRANS/WP.29/GRE/2011/27. It was further agreed that, while the study would be managed by a dedicated working group based on the GTB structure, participation would be open to any GRE expert wishing to contribute. The secretariat was requested to submit ECE/TRANS/WP.29/GRE/2011/27 to WP.29 and AC.1 at their November 2011 sessions as draft [06] series of amendments to Regulation No. 48 (ECE/TRANS/WP.29/GRE/65, para. 17).

3. At its 155th session, WP.29 agreed to defer consideration of document ECE/TRANS/WP.29/2011/99 and Corr.1 to its June 2012 session, subject to a final review by GRE at its March 2012 session (ECE/TRANS/WP.29/1093, para. 55).

4. At its 156th session, WP.29 agreed to defer consideration of the amendments to Regulations under agenda items 4.16.1 to 4.16.3 to the next session of WP.29 (ECE/TRANS/WP.29/1093, para. 79).

5. At its 157th session, WP.29 also agreed to refer back the documents of agenda item 4.14.2 to GRE for its further consideration. In this respect, the EU requested a cost/benefit analysis (ECE/TRANS/WP.29/1097, para. 55).

6. In conjunction with the further consideration in GRE, GTB (Groupe de Travail "Bruxelles 1952") established a Task Force Coordination of Automotive Visibility and Glare Studies (TF CAVGS). The tasks of TF CAVGS were defined as follows: project management and quality control of activities by GTB working groups in relation to automotive visibility and glare studies; informal communication with GRE, OICA and CLEPA through liaisons in this TF, optional collaboration with SAE and CIE through liaisons; communication via GTB to GRE and to a public accessible section on the GTB web site.

7. In the meantime, the expert from Poland prepared for all consecutive GRE sessions formal and informal documents with proposals based on the basic analysis of photometry

and geometry with explanations according GRE comments and suggestions (ECE/TRANS/WP.29/ GRE/2011/32 (initial Polish proposal for aiming/levelling tolerance connected with objective road illumination distance of 75m +/- 25 m), GRE-66-17, ECE/TRANS/WP.29/GRE/ 2012/21, GRE-67-33, GRE-67-37, ECE/TRANS/WP.29/GRE/2012/27, GRE-68-31, GRE-68-32, GRE-68-34, ECE/TRANS/WP.29/GRE/2013/15, GRE-70-41, ECE/TRANS/WP.29/GRE/2013/57 and ECE/TRANS/WP.29/GRE/2014/11 (coming back to the values in the initial Polish proposal)). The Polish proposals aimed to guarantee the minimum range of illuminated road while ensuring the avoidance of glare regardless of the historical requirements oriented to the design.

8. At the seventy-first session of GRE, the experts from GTB presented the outcome of a study on visibility and glare of automotive low beam headlamps (GRE-71-32). The study concentrated on levelling in relation to load. The major objectives of the study were to improve the understanding of different factors that influence visibility and glare and to identify results of the study that might reveal alternatives for automatic static levelling. According to the GRE suggestion, it also included the studies done by Poland (GRE-71-32). The resulting proposal for amendments to Regulation No. 48 based on this study was presented to the seventy-second session of GRE (GRE-72-07).

9. At its seventy-third session, GRE considered a joint proposal by the experts from the International Organization of Motor Vehicle Manufacturers (OICA) and GTB to introduce new criteria on the automatic levelling of headlamps based on the GTB glare and visibility studies (ECE/TRANS/WP.29/GRE/2015/5). The expert from Poland suggested further modifications to this proposal (GRE-73-18 and GRE-73-28). The experts from Germany and Japan proposed to impose automatic levelling in all cases, in order to reduce glare problems for drivers (GRE-73-17). Following an in-depth exchange of views on these three documents, GRE realized that no consensus could be found as long as there was no single proposal.

10. To make progress on this issue and prepare a comprising proposal, GRE decided to establish an Informal Working Group with a draft title "on Visibility, Glare and Levelling" (IWG VGL), for which the experts from Germany and Poland agreed to act as Chair and Secretary, respectively. GRE requested IWG VGL to submit its terms of reference for consideration at the next session of GRE and mandated the Chair to obtain, in June 2015, the consent of WP.29 for the establishment of this IWG (ECE/TRANS/WP.29/GRE/73, paras. 17 and 18).

11. During the 166th session of WP.29, AC.2 considered the possibility of establishing an Informal Working Group (IWG) on Visibility, Glare and Levelling. Germany expressed its interest to chair the group, Poland to be Vice-Chair and OICA the secretary. WP.29 was requested to provide advice on this issue (ECE/TRANS/WP.29/1116, paragraph 12). WP.29 noted that, to prepare a consolidated proposal on new criteria for the automatic levelling of headlamps, GRE decided to establish a new Informal Working Group on Visibility, Glare and Levelling (IWG on VGL). WP.29 gave its consent for establishing this IWG (ECE/TRANS/WP.29/1116, para. 25).

12. At the same session of WP.29, the representative of France proposed to delete a design restrictive requirement in Regulation No. 48 for auto-levelling of headlamps equipped with any Light Emitting Diodes (LED) light sources (ECE/TRANS/WP.29/GRE/2015/21, ECE/TRANS/WP.29/GRE/73 and WP.29-166-23). The representative explained that, if LED were treated the same way as other light sources, more LED headlamps would be fitted on new vehicles, and thus improving road safety and reducing CO<sub>2</sub> emissions. WP.29 noted that recent studies indicate that the type of light source does not seem to be a major factor of headlamp glare, and that GRE had established an IWG to review all levelling requirements in Regulation No. 48. The EU representative



stressed that also for this subject OLA should be involved to provide their analysis and preferred option.

13. WP.29 stressed that, in line with the text and spirit of the 1958 Agreement, Regulations should be technologically neutral and performance based. Therefore, WP.29 advocated the French proposal and invited GRE to adopt it and to submit it to WP.29 for consideration. WP.29 also pointed out the importance of the newly established IWG for finding a general solution for glare and visibility issues. WP.29 also instructed IWG and GRE to verify, as a matter of priority, that LED headlamps do not produce more glare compared to other light sources, to review all levelling requirements and to report back to WP.29 (ECE/TRANS/WP.29/1116, paras. 50 and 51).

14. At its seventy-fourth session, GRE reverted to the proposal by the expert from France to delete a design restrictive requirement in Regulation No. 48 for an auto-levelling device for low beam produced by light emitting diodes (LED) light sources (ECE/TRANS/WP.29/GRE/2015/21 and ECE/TRANS/WP.29/GRE/73, para. 20). The secretariat informed GRE about the discussion on this issue at the June 2015 session of WP.29. The World Forum had stressed that Regulations should be technologically neutral and invited GRE to adopt the French proposal and to submit it to WP.29 for consideration (ECE/TRANS/WP.29/1116, paras. 50 and 51).

15. GRE was not in a position to reach a consensus on this matter. The experts from Germany and Japan did not support the French proposal and suggested that it first be referred to the Informal Working Group on Visibility, Glare and Levelling (IWG VGL) and considered in one package with various other proposals. The experts from Belgium, Italy, Finland, France, Spain, EC, CLEPA and OICA supported the French proposal and called for its adoption independently from the IWG VGL activities. The experts from Austria and Poland reserved their positions. Finally, in view of the WP.29 guidance, GRE agreed to adopt the proposal in ECE/TRANS/WP.29/GRE/2015/21 and to submit it to the March 2016 session of WP.29 for a final decision. The Chair was also requested to brief WP.29 on the different views expressed by experts in GRE (ECE/TRANS/WP.29/GRE/74, paras. 14 and 15).

## II. Objectives

16. The following Terms of Reference describe the principle tasks of the new IWG focusing at the development of a proposal to Regulation No. 48, which takes into account the visibility and glare concerns.

17. The IWG on VGL shall:

### *Phase 1*

- (a) Define technology neutral requirements as instructed by WP.29, in particular to find a general solution for glare and visibility issues, and to review all levelling requirements.

### *Phase 2*

- (b) Identify, review and assess the status of various researches being carried out by various governments, universities and non-governmental organizations on visibility and glare.
- (c) Invite, consult with and consider the input of safety experts.
- (d) Develop if necessary additional researches and studies related to visibility and glare issue.

- (e) Determine potential visibility and glare characteristics and mechanisms that convey desired vehicle performance information to the human by focusing on:
  - (i) the relevant general data (roads, environment and ecology, standard use of vehicles, future technologies, etc.) explaining the different situations of glaring and the critically situations with regard to visibility;
  - (ii) the relevant parameters for installation of headlamps with regard to visibility and glare, taking into account:
    - aiming of the headlamps;
    - levelling of the passing beam pattern;
    - mounting height of the headlamps, with a clear definition of reference condition;
    - ergonomic aspects to be investigated;
    - washing;
    - other requirements.
- (f) Develop test procedures for evaluating the conformity of visibility and glare characteristics and mechanisms. Define as good as possible the essential requirements in performance (technology neutral) terms to provide opportunities for innovation and to prepare acceptable transitional provisions.
- (g) Develop a proposal for amendment to Regulation No. 48 accordingly and if needed headlamps beam pattern will have to be considered with necessary additional amendment to headlamps Regulations.
- (h) Determine the costs and benefits associated with this proposal of amendment of Regulation No. 48. Note that the analysis is not intended to address specific countries or regions, but rather general considerations each Contracting Party (to WP.29) should consider when implementing the potential proposal.
- (i) Provide a draft proposal to the GRE by April 2017 and to the WP.29/AC.1 by November 2017.

### **III. Rules of Procedure**

- 18. The Informal Working Group on Visibility, Glare and Levelling (IWG on VGL) is a subgroup of GRE and is open to all participants of GRE, including Contracting Parties to the 1958 and 1998 Agreements and non-governmental organisations. However, it is recommended that a maximum of three technical experts per country and organization participate in this group.
- 19. IWG will be chaired by Germany and co-chaired by Poland. OICA will act as Secretary.
- 20. The official language of the informal group will be English.
- 21. An agenda and related documents shall be made available on the dedicated UNECE website (<https://www2.unece.org/wiki/pages/viewpage.action?pageId=26903055>) by the Secretary of the group in advance of all scheduled meetings.
- 22. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format in advance of the meetings. The group may postpone discussing any item or proposal which has not been circulated five working days in advance of the scheduled meeting.

23. The Secretary of the group shall distribute the draft meeting minutes to the informal group members within fifteen working days after the meeting of the group. The draft minutes shall be considered and adopted at the next session of IWG. The adopted minutes shall be submitted to GRE and will be used by the IWG Chair as a basis for his reporting to GRE about the activities of the IWG.
24. IWG shall develop its opinions and draft proposals by consensus, and submit these to GRE for further consideration and decision. If IWG cannot reach common agreement on particular items or proposals, the Chair shall present the issue to the GRE and/or the WP.29/AC.1 for resolution. The IWG Chair may seek guidance from GRE as appropriate.
25. Sessions shall be held in agreement with the majority of the participants after the group has been established in a constitutional meeting. Sessions may be in person or virtual using web-based technology.
26. A provisional agenda shall be drawn up by the Secretary in accordance with the proposals and requests received from the members of the group and with the agreement of the Chair. The first item upon the provisional agenda for each session shall be the adoption of the agenda.
27. The second item on the provisional agenda shall be the discussion on matters arising and adoption of the minutes of the previous session.
28. IWG shall provide GRE with status reports at each GRE session.

#### **IV. Work plan and time schedule**

29. The aim of IWG VGL is to present an informal document related to Phase 1 for consideration at the seventy-fifth and seventy-sixth sessions of GRE in April 2016 and October 2016, respectively.
30. The final objective of IWG is to present a formal document related to Phase 1 for consideration at the seventy-seventh session of GRE in April 2017 and then for consideration at the 173th session of WP.29 in November 2017.
31. The time-line for Phase 2 shall be proposed at the seventy-sixth session of GRE in October 2016.
32. Meetings of the informal group shall be scheduled to meet the timeline for deliverables. These meetings may be “in-person” or virtual (WebEx or similar).

## Annex IV

### Adopted amendments to ECE/TRANS/WP.29/GRE/2015/39

*Insert a new paragraph 2.32., to read:*

**"2.32. "Sequential activation" means an electrical connection where the individual light sources of a lamp are wired such that they are activated in a predetermined sequence."**

*Insert a new paragraph 5.8.1., to read:*

**"5.8.1. The photometric characteristics of a direction indicator lamp except for categories 5 and 6 specified in Regulation No. 6, and of a direction indicator lamp specified in Regulation No. 50 may be varied during a flash by sequential activation of light sources as specified in paragraph 5.6. of Regulation No. 6 or in paragraph 6.8. of Regulation No. 50.**

**This provision shall not apply when direction indicator lamps of categories 2a and 2b of Regulation No. 6 or category 12 of Regulation No. 50 are operated as emergency stop signal according to paragraph 6.14. of this Regulation."**

## Annex V

### Adopted amendments to Regulation No. 53

*Paragraph 6.1.1. to 6.1.1.2., amend to read:*

"6.1.1. Number:

6.1.1.1. For motorcycles having a cylinder capacity  $\leq 125 \text{ cm}^3$

One or two of approved type according to:

- (a) Class ~~B~~, C, D or E of Regulation No. 113;
- (b) Regulation No. 112;
- (c) Regulation No. 1;
- (d) Regulation No. 8;
- (e) Regulation No. 20;
- (f) Regulation No. 57;
- (g) Regulation No. 72;
- (h) Regulation No. 98.

6.1.1.2. For motorcycles having a cylinder capacity  $> 125 \text{ cm}^3$

One or two of approved type according to:

- (a) Class ~~B~~, D or E of Regulation No. 113;
- (b) Regulation No. 112;
- (c) Regulation No. 1;
- (d) Regulation No. 8;
- (e) Regulation No. 20;
- (f) Regulation No. 72;
- (g) Regulation No. 98.

Two of approved type according to:

- (h) Class C of Regulation No. 113."

*Paragraph 6.2.1 to 6.2.1.2., amend to read:*

"6.2.1. Number:

6.2.1.1. For motorcycles having a cylinder capacity  $\leq 125 \text{ cm}^3$

One or two of approved type according to:

- (a) Class ~~B~~, C, D or E of Regulation No. 113;
- (b) Regulation No. 112;
- (c) Regulation No. 1;
- (d) Regulation No. 8;
- (e) Regulation No. 20;

- (f) Regulation No. 57;
  - (g) Regulation No. 72;
  - (h) Regulation No. 98.
- 6.2.1.2. For motorcycles having a cylinder capacity > 125 cm<sup>3</sup>
- One or two of approved type according to:
- (a) Class ~~B~~, D or E of Regulation No. 113;
  - (b) Regulation No. 112;
  - (c) Regulation No. 1;
  - (d) Regulation No. 8;
  - (e) Regulation No. 20;
  - (f) Regulation No. 72;
  - (g) Regulation No. 98.
- Two of approved type according to:
- (h) Class C of ~~draft~~ Regulation No. 113."

*Insert new paragraphs 11.4. to 11.6., to read:*

- "11.4. As from the official date of entry into force of the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approvals under this Regulation as amended by the 02 series of amendments.**
- 11.5. As from 48 months after the date of entry into force mentioned in paragraph 11.4. above, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type with regard to the number and mode of installation of the lighting and light-signalling devices corresponds to the requirements of the 02 series of amendments to this Regulation.**
- 11.6. Existing approvals granted under this Regulation before the date mentioned in paragraph 11.5. above shall remain valid."**

## Annex VI

## GRE informal groups

<i>Informal group</i>	<i>Chair(s)</i>	<i>Secretary</i>
Agricultural Vehicle Lighting Installation (AVLI) <sup>1</sup>	Mr. Derwin Rovers (Netherlands) Phone: +31 793458230 Fax: +31 793458041 E-mail: drovers@rdw.nl	Mr. Andreas Schauer (CEMA) Phone: +49 69 66 01 1308 Fax: +49 69 66 03 1464 E-mail: andreas.schauer@vdma.org
	<i>and</i> Mr. Timo Kärkkäinen (Finland) Phone: +358 50 595 26 17 Fax: +358 29 534 5095 E-mail: timo.karkkainen@trafi.fi	
Simplification of the Lighting and Light-Signalling Regulations (SLR)	Mr. Michel Loccufier (Belgium) Phone: +32 474 989 023 E-mail: michel.loccufier@mobilite.fgov.be	Mr. Davide Puglisi (GTB) Phone: +39 011 562 11 49 Fax: +39 011 53 21 43 E-mail: secretary@gtb-lighting.org
Visibility, Glare and Levelling (VGL)	Mr. Karl Manz (Germany) Phone: +49 721 6084 6278 Fax: +49 721 66 19 01 E-mail: karl.manz@kit.edu	Mrs. Françoise Silvani (OICA) Fax: +33 1 76 86 92 89 E-mail: francoise.silvani@renault.com
	<i>and</i> Mr. Tomasz Targosinski (Poland) Phone: +48 22 4385 157 Fax: + 48 22 4385 401 E-mail: tomasz.targosinski@its.waw.pl	

<sup>1</sup> The mandate of AVLI expired in October 2015.