


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

Geneva, 25–28 October 2022

Report of the Working Party on Lighting and Light-Signalling on its Eighty-seventh Session
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I. Attendance

1. The Working Party on Lighting and Light-Signalling (GRE) held its eighty-seventh session from 25 to 28 October 2022 in Geneva.¹ The meeting was chaired by Mr. T. Kärkkäinen (Finland). 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) (ECE/TRANS/WP.29/690/Rev.2): Australia, Belgium, China, Czechia, Finland, France, Germany, Hungary, Japan, Latvia, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, Serbia, Spain, United Kingdom of Great Britain and Northern Ireland, United States of America. An expert from the European Commission (EC) participated. Experts from the following non-governmental organizations also took part in the session: American Automotive Policy Council (AAPC), European Association of Automotive Suppliers (CLEPA), International Automotive Lighting and Light Signalling Expert Group (GTB), International Electrotechnical Commission (IEC), International Motor Vehicle Inspection Committee (CITA), International Motorcycle Manufacturers Association (IMMA), International Organization of Motor Vehicle Manufacturers (OICA), SAE International.

II. Adoption of the Agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRE/2022/9, Informal documents GRE-87-01, GRE-87-04, GRE-87-08

2. GRE considered and adopted the agenda (ECE/TRANS/WP.29/GRE/2022/9), as reproduced in GRE-87-01 together with the informal documents distributed during the session. GRE also noted the running order proposed by the Chair (GRE-87-04).

3. The list of informal documents is contained in annex I. The list of GRE informal groups is reproduced in annex IV.

4. GRE noted the highlights of the June 2022 session of WP.29 (GRE-87-08).

III. 1998 Agreement – UN Global Technical Regulations: Development (agenda item 2)

5. No information was reported under this item.

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

6. No documents were considered under this item.

V. Simplification of Lighting and Light-Signalling UN Regulations (agenda item 4)

Documentation: ECE/TRANS/WP.29/GRE/2022/10, ECE/TRANS/WP.29/GRE/2022/11, ECE/TRANS/WP.29/GRE/2022/12, ECE/TRANS/WP.29/GRE/2022/13, Informal documents GRE-87-07, GRE-87-09, GRE-87-10, GRE-87-13-Rev.1, GRE-87-14, GRE-87-24-Rev.1, GRE-87-29

7. GRE noted the progress of the Informal Working Group "Simplification of the Lighting and Light-Signalling Regulations" (IWG SLR) as well as specific items and general topics for consideration under stage 2/ step 2 of the simplification process (GRE-87-10). GRE

¹ The meeting was held in a hybrid format with simultaneous interpretation into the official ECE languages.

invited experts from contracting parties to both 1958 and 1998 Agreements and from non-governmental organizations to contribute to the IWG SLR activities.

8. The expert of IWG SLR presented draft amendments to UN Regulations Nos. 148, 149 and 150 that introduce summary documents to be placed in the electronic Database for the Exchange of Type Approval documentation (DETA) to support the use of the Unique Identifier (UI) (ECE/TRANS/WP.29/GRE/2022/10, ECE/TRANS/WP.29/GRE/2022/11 and ECE/TRANS/WP.29/GRE/2022/12). GRE pointed out that a template summary document should be developed by IWG DETA and endorsed by WP.29. Awaiting WP.29 and/or IWG DETA guidance on the matter, GRE decided to continue consideration at the next session.

9. GRE noted that the use of UI for a particular UN Regulation should only be possible when the following two conditions are met:

- the corresponding summary document has been defined in the Regulation; and
- DETA is providing access to the Summary Document.

10. To stress these requirements, the expert from EC proposed an amendment (GRE-87-24-Rev.1). GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 00 and 01 series of amendments to UN Regulations Nos. 148, 149 and 150.

11. In the context of possible replacement of traditional approval markings by UI, the expert from CITA presented a proposal with the aim to ensure the availability of sufficient information on the device for periodic and roadside inspections (ECE/TRANS/WP.29/GRE/2022/13 and GRE-87-07). GRE agreed to revert to this proposal at the next session.

12. GRE recalled its request to IWG SLR to draft a transitional provision to allow for the phasing out of outdated lamps/devices and noted a first draft (GRE-87-09). GRE invited its experts to provide their inputs to IWG SLR with the aim to finalize the proposals and to submit them as an official document to the next session.

13. GRE was informed about the activities of IWG SLR on a new series of amendments to UN Regulation No. 48 with new requirements for the headlamp levelling and noted contributions by the experts of Poland and OICA (GRE-87-13-Rev.1 and GRE-87-14, respectively). Following an in-depth discussion, GRE agreed on a new diagram for headlamp aiming (the red diagram in GRE-87-29 and annex II to the report) and requested IWG SLR to prepare a final proposal for a new series of amendments to UN Regulation No. 48 for consideration at the next session.

VI. UN Regulations on Light Sources and the Consolidated Resolution on the Common Specification of Light Source Categories (agenda item 5)

Documentation: ECE/TRANS/WP.29/GRE/2022/26, Informal document GRE-87-02

14. The expert from GTB introduced amendment proposals to the Consolidated Resolution on the Common Specification of Light Source Categories (R.E.5) which aimed at amending several sheets and at introducing some new light-emitting diode (LED) light source categories (ECE/TRANS/WP.29/GRE/2022/26). GRE adopted this document and requested the secretariat to submit it for consideration and vote at the March 2023 session of WP.29 as draft Amendment 9 to R.E.5.

15. The expert from IEC analysed the approval process of LED replacement light sources according to UN Regulation No. 37 (GRE-87-02), based on the full photometric equivalence according to the guidelines (GRE-83-15). According to him, full-equivalence solutions were not feasible for high flux categories with the today's LED technology. As a consequence, some countries were issuing national approvals deviating from the full photometric equivalence, based on extensive testing (in headlamps and vehicles) for limited light source specifications and resulting in a positive list for particular vehicle models. GRE stressed the advantages of harmonization at the United Nations level and noted that several contracting

parties were in favour of cautious re-evaluation of the equivalence criteria for LED replacement light sources. GRE invited IEC to start this work as a new activity of the Task Force on Substitutes and Retrofits (TF SR) in cooperation with those contracting parties.

VII. Installation UN Regulations (agenda item 6)

A. UN Regulation No. 48 (Installation of Lighting and Light-Signalling Devices)

Documentation: ECE/TRANS/WP.29/GRE/2022/2, ECE/TRANS/WP.29/GRE/2022/14, ECE/TRANS/WP.29/GRE/2022/17, ECE/TRANS/WP.29/GRE/2022/18, ECE/TRANS/WP.29/GRE/2022/19, ECE/TRANS/WP.29/GRE/2022/20, ECE/TRANS/WP.29/GRE/2022/21, ECE/TRANS/WP.29/GRE/2022/24, ECE/TRANS/WP.29/GRE/2022/25, ECE/TRANS/WP.29/GRE/2022/27, Informal documents GRE-87-11, GRE-87-15, GRE-87-16, GRE-87-18, GRE-87-20, GRE-87-22, GRE-87-23, GRE-87-27, GRE-87-30, GRVA-14-54/Rev.1

16. The experts from Germany and TF AVSR tabled a proposal for vehicles that may be operated by driver support features, automated driving features or by an Automated Driving System (ADS) (ECE/TRANS/WP.29/GRE/2022/14 and GRE-87-11). Having delivered remarks on the proposal and in view of ongoing activities in other Working Parties (GRs), in particular the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) guidance on screening UN Regulations (GRVA-14-54/Rev.1), GRE agreed to revert to this issue at the next session.

17. The expert from GTB proposed to correct and clarify the failure provisions (ECE/TRANS/WP.29/GRE/2022/17). GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 06, 07 and 08 series of amendments to UN Regulation No. 48.

18. The expert from GTB introduced corrections which inter alia re-inserted some parts of paragraphs 6.5.7. and 6.18.9. that had been previously omitted by mistake (ECE/TRANS/WP.29/GRE/2022/18). GRE adopted the document and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 06, 07 and 08 series of amendments to UN Regulation No. 48.

19. The expert from GTB proposed draft amendments which clarified and standardized the use of flashing side marker lamp for all types of vehicles (ECE/TRANS/WP.29/GRE/2022/19). The expert from the United Kingdom made an additional proposal (GRE-87-27). GRE invited both experts to submit a revised proposal for consideration at the next session.

20. The experts from GTB proposed to correct and clarify the provisions for matched pairs in various series of amendments to UN Regulation No. 48 (ECE/TRANS/WP.29/GRE/2022/20). GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 03, 04, 05, 06, 07 and 08 series of amendments to UN Regulation No. 48.

21. The expert from GTB tabled a proposal for amendments to UN Regulations Nos. 48 and 149 that extended the possibility of projecting driver assistance symbols and patterns to passing-beam headlamps of adaptive front-lighting systems (AFS) (ECE/TRANS/WP.29/GRE/2022/21, as amended by GRE-87-30). GRE agreed to modify the beginning of paragraph 5.35.3. to read "Neither flashing nor transforming of ...". In view of

some comments and reservations about the possible distraction of other road users in urban traffic, GRE agreed to revert to this proposal at the next session, based on a revised document to be prepared by the authors.

22. The expert from OICA introduced a correction (ECE/TRANS/WP.29/GRE/2022/24). GRE adopted the correction and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 07 and 08 series of amendments to UN Regulation No. 48.

23. The expert from CLCCR proposed an increase in the number of manoeuvring lamps on trailers according to the length of the trailer (ECE/TRANS/WP.29/GRE/2022/25). GRE noted comments made by several experts from contracting parties. GRE invited CLCCR to take these comments into account and to submit a revised document for consideration at the next session.

24. The expert from China proposed a correction (GRE-87-18). GRE adopted the correction and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as part of draft Supplements to the 06, 07 and 08 series of amendments to UN Regulation No. 48.

25. GRE noted that the expert from GTB had decided to withdraw their proposal to remove the minimum distance between the left and right front/rear position lamps (ECE/TRANS/WP.29/GRE/2022/2).

26. The expert from the Special Interest Group (SIG) on the 09 series of amendments to UN Regulation No. 48 reported on their progress (GRE-87-20) and presented a draft proposal that added the park condition of a vehicle in the scope of UN Regulation No. 48, and minimized glare and distraction to other road users (ECE/TRANS/WP.29/GRE/2022/27, together with its justification in GRE-87-15 and examples in GRE-87-23). GRE delivered comments on the proposal and invited SIG to finalize it for consideration at the next session. The expert of EC was concerned that the SIG proposals might open UN Regulation No. 48 to new features which should not be necessarily regulated.

27. The expert from OICA proposed draft amendments on the use of manufacturer's logo (GRE-87-16). GRE held the view that its wording could lead to wrong interpretations and invited the author to improve the proposal in cooperation with other experts.

28. The expert from Australia introduced a proposal to the 06, 07 and 08 series of amendments to UN Regulation No. 48 on the external status indicators (GRE-87-22). GRE noted comments of several experts and invited the author to liaise with those experts with a view to submitting a working document to the next session.

B. UN Regulation No. 53 (Installation of Lighting and Light-Signalling Devices for L₃ Vehicles)

Documentation: ECE/TRANS/WP.29/GRE/2022/15,
ECE/TRANS/WP.29/GRE/2022/23

29. The experts from Czechia and Germany proposed to improve road safety by limiting the headlamp classes and to ensure the compatibility with the electric propulsion systems. (ECE/TRANS/WP.29/GRE/2022/15). GRE generally supported this proposal, subject to correcting a reference in paragraph 11.12.6. GRE decided to postpone its submission to WP.29 and AC.1 in order to combine it with the amendment proposals being developed by IWG SLR into a new 04 series of amendments to UN Regulation No. 53.

30. The expert from IMMA introduced a proposal that aimed to enable the use of Rear-End Collision Alert Signal (RECAS) on vehicles of category L₃ (ECE/TRANS/WP.29/GRE/2022/23). GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 01, 02 and 03 series of amendments to UN Regulation No. 53.

VIII. Device UN Regulations (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRE/2022/22

31. The experts from GTB proposed to correct the Conformity of Production (CoP) values in Tables 26, 27, 28 and 29 of UN Regulation No. 149 (ECE/TRANS/WP.29/GRE/2022/22). GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 00 series of amendments to UN Regulation No. 149.

IX. UN Regulation No. 10 (Electromagnetic Compatibility) (agenda item 8)

Documentation: Informal documents GRE-87-12-Rev.1, GRE-87-21, GRE-87-25

32. The expert from the Informal Working Group on Electromagnetic Compatibility (IWG EMC) presented their status report and outstanding issues (GRE-87-21). The expert from EC reported on the results of their market surveillance tests of vehicles in different normal conditions of use (GRE-87-12-Rev.1) which had demonstrated that certain vehicles with new technologies (e.g. multiple propulsion engines) may have the electromagnetic emissions occasionally higher than the regulatory threshold. On that basis, the expert from EC requested an extension of IWG EMC mandate (GRE-87-25). GRE agreed that IWG EMC should take over the topic of 'normal conditions of use', as proposed by the expert from EC. Depending on the IWG EMC progress in the coming months, GRE decided to address, at its next session, possible amendments to the Terms of Reference of IWG EMC.

X. Other UN Regulations (agenda item 9)

Documentation: ECE/TRANS/WP.29/GRE/2022/16

33. The expert from Germany proposed to introduce a new annex to UN Regulation No. 65 with a test for the base mounting of magnetically attached special warning lamps (ECE/TRANS/WP.29/GRE/2022/16). Subject to replacement of "kind of metal" with "type of metal" in the new annex, GRE adopted the proposal and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as draft Supplement 12 to UN Regulation No. 65.

XI. Other Business (agenda item 10)

A. Development of the International Whole Vehicle Type Approval

34. GRE recalled its earlier discussion on the summary documents and the use of DETA in the context of the Unique Identifier (UI) (see paragraphs 8 to 11 above).

B. Amendments to the Convention on Road Traffic (Vienna, 1968)

Documentation: ECE/TRANS/WP.1/2017/1/Rev.2, ECE/TRANS/WP.1/181

35. GRE was informed that the Global Forum for Road Traffic Safety (WP.1), at its recent session in September 2022, had reviewed ECE/TRANS/WP.1/2017/1/Rev.2 which contains a set of amendment proposals, largely to annex 5 dealing with lighting and light- signalling devices. After discussion, WP.1 agreed on several corrections and requested the WP.1 secretariat to prepare ECE/TRANS/WP.1/2017/1/Rev.3 for WP.1 consideration and a possible adoption at the next session (ECE/TRANS/WP.1/181, paragraph 12).

36. For the issue of optical and/or audible signals in ADS vehicles, WP.1 considered a presentation by the Netherlands (Informal document No. 11) and noted that they would submit a new informal document for consideration at the next session.

(ECE/TRANS/WP.1/181, paragraph 26). In addition, WP.1 received a regular report from the Chair of GRVA on its activities (ECE/TRANS/WP.1/181, paragraphs 45 and 46).

C. Miscellaneous

Documentation: Informal documents GRE-87-05, GRE-87-06, GRE-87-19, GRE-87-28-Rev.1

37. GRE welcomed the live demonstrations of “Driver Assistance Projections”, organized by GTB in conjunction with the GRE session (GRE-87-06), and noted new useful projection patterns.

38. The expert from SAE presented examples of decorative car body lighting that existed at their market (GRE-87-05), but were not allowed in countries applying the provisions of UN Regulation No. 48. GRE agreed to revert to the discussion at one of its future sessions, based on the outcome of an ongoing GTB study.

39. The expert from GTB briefly presented their recommended practice and software for the Headlamp Safety Performance Rating that were publicly available (GRE-87-19).

40. Based on GRE-87-28-Rev.1, GRE adopted a list of main decisions at its eighty-seventh session (annex III).

XII. Direction of Future Work of GRE (agenda item 11)

Documentation: GRE-87-03, GRE-87-17, GRE-87-26-Rev.1, GRVA-14-15/Rev.3

41. The expert from GTB reported on their ongoing work on signalling road projections and requested GRE for guidance (GRE-87-03). GRE agreed on the timeline for the development of the signalling road projections with direction indicators and reversing lamps and held the view that a future proposal should cover both incorporated and independent projection units.

42. GRE delivered comments on the revised list of priorities and subjects under consideration (GRE-87-26-Rev.1) and requested the Chair to pass the updated list to WP.29 for endorsement. The expert of EC expressed concerns that this list was too long. In his view, it should focus on several key issues only, for the sake of saving resources.

43. The experts of the Task Force on Autonomous Vehicle Signalling Requirements (TF AVSR) reported on their activities (GRE-87-17). GRE noted the GRVA and its Informal Working Group on Functional Requirements for Automated Vehicles (IWG FRAV) recommendations on ADS external light-signalling (GRVA-14-15/Rev.3), in particular:

- no mandatory requirements for additional light-signalling devices beyond those requirements established for manually driven vehicles.
- existing light-signalling devices may be suitable (if permitted) to signal initiation of an automated fallback response designed to place the ADS vehicle in a minimal risk condition.
- establishment of uniform provisions for a light signal to communicate the ADS operational status under certain conditions, should it be required or permitted by an individual contracting party.
- continued monitoring of research into the ADS signalling and safety of interactions between other road users and ADS vehicles.

44. Awaiting final guidance from WP.29 on ADS external light-signalling, GRE requested TF AVSR to liaise with GRVA and IWG FRAV, as appropriate.

XIII. Provisional Agenda for the Next Session (agenda item 12)

45. GRE noted that the next session had been scheduled from 25 to 28 April 2023 and that the deadline for submission of working documents would be on 30 January 2023. GRE agreed that the provisional agenda for the next session should be structured in major blocks as follows:

1. Adoption of the Agenda.
2. 1998 Agreement – UN Global Technical Regulations: Development.
3. 1997 Agreement – Rules: Development.
4. Simplification of Lighting and Light-Signalling UN Regulations.
5. UN Regulations on Light Sources and the Consolidated Resolution on the Common Specification of Light Source Categories.
6. Installation UN Regulations.
7. Device UN Regulations.
8. UN Regulation No. 10 (Electromagnetic Compatibility).
9. Other UN Regulations.
10. Other Business.
11. Direction of Future Work of GRE.
12. Provisional Agenda for the Next Session.

XIV. Election of Officers (agenda item 13)

46. In compliance with Rule 37 of the Rules of Procedure (ECE/TRANS/WP.29/690/Rev.2), GRE elected by acclamation Mr. T. Kärkkäinen (Finland) as Chair and Mr. D. Rovers (Netherlands) as Vice-Chair for the sessions of GRE scheduled in the year 2023.

Annex I

List of Informal Documents Issued in Connection with the Session

Informal documents GRE-87-...

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(secretariat) Updated provisional agenda for the eighty-seventh session of GRE	a
2	(IEC) Approval process of LED replacement light sources	d
3	(GTB) "Signalling Road Projection" (SRP): Status report & Request for guidance	f
4	(Chair) Running order	a
5	(SAE) Car body lighting	d
6	(GTB) "Driver Assistance Projections" (DAP) live demonstrations during GRE-87	f
7	(CITA) Unique Identifier: the impact in periodic and roadside inspection	d
8	(secretariat) General information and WP.29 highlights	f
9	(IWG SLR) Proposal for a new [09] series of amendments to UN Regulation No. 48	c
10	(IWG SLR) Progress report	f
11	(TF AVSR) Revision of ECE/TRANS/WP.29/GRE/2022/14	d
12-Rev.1	(EC) Safety Market Surveillance: Comparison of radiated electromagnetic emission in different normal conditions of use	d
13-Rev.1	(Poland) Levelling test results and the space for levelling compromise	f
14	(OICA) Vehicle Headlamp Levelling	f
15	(Japan and OICA) Justification of the parking lamp conditions, step 1, for ECE/TRANS/WP.29/GRE/2022/27	e
16	(OICA) Proposal for Supplements to UN Regulation No. 48	e
17	(TF AVSR) Progress report	f
18	(China) Proposal for the 06 series of amendments to UN Regulation No. 48	b
19	(GTB) "Headlamp Safety Performance Rating" (HSPR) GTB Recommended Practice	f
20	(SIG) Status report	f
21	(IWG EMC) Status report	f
22	(Australia) Proposal for amendments to Regulation No. 48	c
23	(OICA) Examples to support ECE/TRANS/WP.29/GRE/2022/27	e
24-Rev.1	(EC) Amendment to UN Regulations Nos. 148, 149 and 150	b
25	(EC) Request for an extension of the mandate for the IWG EMC until the end of 2023	d
26-Rev.1	(Chair) Subjects under consideration of GRE	b
27	(UK) Proposal for a new [09] series of amendments to UN Regulation No. 48	e

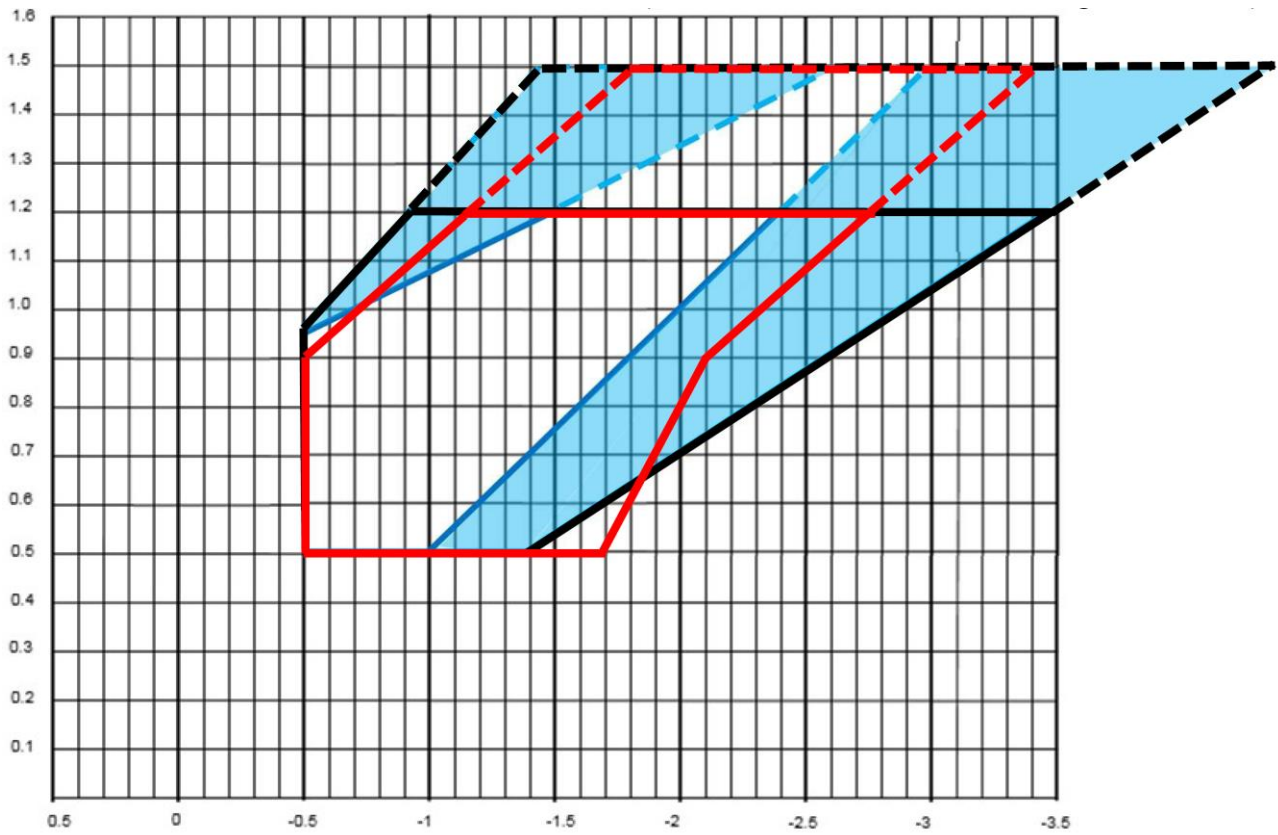
<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
28-Rev.1	(Secretariat) Draft list of main decisions	b
29	(IWG SLR) Aiming diagram	c
30	(GTB) Revision of ECE/TRANS/WP.29/GRE/2022/21	e

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 a reference document/continue consideration.
- e Revised proposal for the next session.
- f Consideration completed or to be superseded.
- g Withdrawn.

Annex II

Aiming Diagram



Annex III

Decisions Adopted Under the Silence Procedure

<i>Decision No.</i>	<i>Agenda Item</i>	<i>Decision</i>
1	1	GRE adopted the provisional agenda ECE/TRANS/WP.29/GRE/2022/9 together with informal documents listed in GRE-87-01.
2	4	GRE took note of the IWG SLR progress report (GRE-87-10).
3	4	GRE addressed ECE/TRANS/WP.29/GRE/2022/10, ECE/TRANS/WP.29/GRE/2022/11 and ECE/TRANS/WP.29/GRE/2022/12 on UI and summary documents and decided to continue consideration at the next session, awaiting WP.29 and/or IWG DETA guidance on this matter.
4	4	GRE discussed ECE/TRANS/WP.29/GRE/2022/13 and agreed to revert to it at the next session.
5	4	GRE adopted GRE-87-24-Rev.1 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 00 and 01 series of amendments to UN Regulations Nos. 148, 149 and 150.
6	4	GRE invited IWG SLR to finalize the proposals in GRE-87-09 with the aim to submit them as an official document to the next session.
7	4	GRE agreed on a new diagram for headlamp aiming (the red diagram in GRE-87-29 and annex II to the report) and requested IWG SLR to prepare a final proposal for a new series of amendments to UN Regulation No. 48 for consideration at the next session.
8	5	GRE adopted ECE/TRANS/WP.29/GRE/2022/26 and requested the secretariat to submit it for consideration and vote at the March 2023 session of WP.29 as draft Amendment 9 to the Consolidated Resolution on the common specification of light source categories (R.E.5).
9	5	GRE considered GRE-87-02 and noted that several Contracting Parties were in favour of cautious re-evaluation of the equivalence criteria for replacement LED light sources. GRE invited IEC to start this work as a new activity of TF SR in cooperation with those Contracting Parties.
10	6 (a)	Having delivered remarks on ECE/TRANS/WP.29/GRE/2022/14 and GRE-87-11 and in view of ongoing activities in other GRs, GRE agreed to revert to this issue at the next session.
11	6 (a)	GRE adopted ECE/TRANS/WP.29/GRE/2022/17 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 06, 07 and 08 series of amendments to UN Regulation No. 48.
12	6 (a)	GRE adopted ECE/TRANS/WP.29/GRE/2022/18 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 06, 07 and 08 series of amendments to UN Regulation No. 48. GRE noted that these amendments inter alia re-inserted some parts of paragraphs 6.5.7. and 6.18.9., that had been previously omitted by mistake, and requested the secretariat to reflect this fact in the GRE report.
13	6 (a)	GRE adopted ECE/TRANS/WP.29/GRE/2022/20 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 03, 04, 05, 06, 07 and 08 series of amendments to UN Regulation No. 48.
14	6 (a)	GRE adopted ECE/TRANS/WP.29/GRE/2022/24 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 07 and 08 series of amendments to UN Regulation No. 48.
15	6 (a)	GRE considered ECE/TRANS/WP.29/GRE/2022/25 and noted comments made by several experts from Contracting Parties. GRE invited CLCCR to take these comments into account and to submit a revised document for consideration at the next session.
16	6 (a)	GRE considered ECE/TRANS/WP.29/GRE/2022/21, as amended by GRE-87-30, on the driver's assistance projections and agreed to modify the beginning of paragraph 5.35.3. to read "Neither flashing nor transforming of ...". In view of some comments and reservations, GRE agreed to revert to this proposal at the next session, based on a revised document to be prepared by the authors.
17	6 (a)	GRE adopted GRE-87-18 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as part of draft Supplements to the 06, 07 and 08 series of amendments to UN Regulation No. 48.
18	6 (a)	GRE noted the SIG status report (GRE-87-20) and delivered comments on ECE/TRANS/WP.29/GRE/2022/27, together with its justification (GRE-87-15). GRE invited SIG to finalize this proposal for consideration at the next session.
19	6 (a)	GRE held the view that GRE-87-16 could lead to wrong interpretations and invited the author to improve the proposal in cooperation with other experts.

20	6 (a)	GRE considered GRE-87-22 with a draft Supplement to the 06, 07 and 08 series of amendments to UN Regulation No. 48 and noted comments of several experts. GRE invited the author to liaise with those experts with a view to submitting a working document to the next session.
21	6 (a)	GRE discussed ECE/TRANS/WP.29/GRE/2022/19 and GRE-87-27 and invited their authors to submit a revised proposal for consideration at the next session.
22	6 (b)	GRE generally supported ECE/TRANS/WP.29/GRE/2022/15 but decided to postpone its submission to WP.29 and AC.1 in order to combine it at the next session with the amendment proposals being developed by IWG SLR into a new 04 series of amendments to UN Regulation No. 53.
23	6 (b)	GRE adopted ECE/TRANS/WP.29/GRE/2022/23 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 01, 02 and 03 series of amendments to UN Regulation No. 53.
24	7	GRE adopted ECE/TRANS/WP.29/GRE/2022/22 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as a draft Supplement to the 00 series of amendments to UN Regulation No. 149.
25	9	GRE adopted ECE/TRANS/WP.29/GRE/2022/16 and requested the secretariat to submit it for consideration and vote at the March 2023 sessions of WP.29 and AC.1 as draft Supplement 12 to UN Regulation No. 65.
26	10 (c)	GRE welcomed the live demonstrations of “Driver Assistance Projections”, organized by GTB in conjunction with the GRE session.
27	8	GRE noted the status report of IWG EMC (GRE-87-21) and a proposal for extension of its mandate (GRE-87-25). Depending on the IWG EMC progress in the coming months, GRE agreed to consider, at its next session, possible amendments to the Terms of Reference of IWG EMC.
28	10 (c)	GRE took note of GRE-87-05 and agreed to come back it at one of its future sessions, based on the outcome of an ongoing GTB study.
29	11	GRE agreed with the timeline proposed in GRE-87-03 and held the view that a future proposal should cover both incorporated and independent projection units.
30	12	GRE agreed that the provisional agenda for the next session should be structured in major blocks as follows: <ol style="list-style-type: none"> 1. Adoption of the Agenda. 2. 1998 Agreement – UN Global Technical Regulations: Development. 3. 1997 Agreement – Rules: Development. 4. Simplification of Lighting and Light-Signalling UN Regulations. 5. UN Regulations on Light Sources and the Consolidated Resolution on the Common Specification of Light Source Categories. 6. Installation UN Regulations. 7. Device UN Regulations. 8. UN Regulation No. 10 (Electromagnetic Compatibility). 9. Other UN Regulations. 10. Other Business. 11. Direction of Future Work of GRE. 12. Provisional Agenda for the Next Session.
31	11	GRE took note of GRE-87-17, in particular some open questions on AVSR. Awaiting WP.29 guidance on the matter, GRE requested TF AVSR to continue liaising with GRVA and IWG FRAV on these issues.
32	11	GRE delivered comments on the revised list of priorities and subjects under consideration (GRE-87-26-Rev.1) and requested the Chair to pass a revised list to WP.29 for endorsement.
33	13	GRE elected by acclamation Mr. T. Kärkkäinen (Finland) as Chair and Mr. D. Rovers (Netherlands) as Vice-Chair for the sessions of GRE scheduled in the year 2023.
34	10 (c)	GRE adopted a list of main decisions at its 87th session (GRE-87-28-Rev.1).

Annex IV

GRE Informal Groups

<i>Informal group</i>	<i>Chair(s) and Co-Chair(s)</i>	<i>Secretary</i>
Simplification of the Lighting and Light-Signalling UN Regulations (SLR)	Mr. Derwin Rovers (Netherlands) Phone: +31 79 345 82 30 Email: drovers@rdw.nl Mr. Aleksander Lazarevic (EC) Phone: +32 2 298 54 89 Fax: +32 2 296 96 37 Email: aleksander.lazarevic@ec.europa.eu	Mr. Davide Puglisi (GTB) Phone: +39 011 562 11 49 Fax: +39 011 53 21 43 Email: secretary@gtb-lighting.org
Electromagnetic Compatibility (EMC)	Mr. Zissis Tsakiridis (Germany) Phone: +49 160 105 22 55 Email: zissis.tsakiridis@bmdv.bund.de	Mr. Jean-Marc Prigent (OICA) Phone: +33 68 566 94 08 Email: jmprigent@oica.net