


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

Geneva, 23-26 October 2018

Report of the Working Party on Lighting and Light-Signalling on its eightieth session
Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1	3
II. Adoption of the agenda (agenda item 1)	2–4	3
III. 1998 Agreement – UN Global Technical Regulations: Development (agenda item 2)	5	3
IV. 1997 Agreement – Rules: Development (agenda item 3).....	6	3
V. Simplification of lighting and light-signalling UN Regulations (agenda item 4)....	7–15	4
VI. UN Regulations Nos. 37 (Filament lamps), 99 (Gas discharge light sources), 128 (Light emitting diodes light sources) and the Consolidated Resolution on the common specifications of light source categories (agenda item 5)	16–22	5
VII. UN Regulation No. 48 (Installation of lighting and light-signalling devices) (agenda item 6).....	23–26	7
A. Proposals for amendments to the 05 and 06 series of amendments	23	7
B. Other proposals for amendments to UN Regulation No. 48	24–26	7
VIII. Other UN Regulations (agenda item 7)	27–32	7
A. UN Regulation No. 10 (Electromagnetic compatibility)	27	7
B. UN Regulation No. 53 (Installation of lighting and light-signalling devices for L ₃ vehicles)	28–31	8
C. UN Regulation No. 74 (Installation of lighting and light-signalling devices for mopeds).....	32	9



IX.	Other business (agenda item 8)	33–36	9
	A. Amendments to the Convention on Road Traffic (Vienna, 1968)	33	9
	B. Decade of action for road safety 2011–2020	34	9
	C. Development of the International Whole Vehicle Type Approval	35	9
	D. Phantom light and colour washout	36	9
X.	New business and late submissions (agenda item 9)	37–39	10
XI.	Direction of future work of GRE (agenda item 10).....	40	10
XII.	Provisional agenda for the next session (agenda item 11).....	41	10
XIII.	Election of officers (agenda item 12)	42	10

Annexes

I.	List of informal documents considered during the session		11
II.	Updated Terms of Reference and Rules of Procedure for the Informal Working Group "Simplification of the Lighting and Light-Signalling UN Regulations" (IWG SLR)		13
III.	Adopted amendments to ECE/TRANS/WP.29/GRE/2018/42		17
IV.	Adopted amendments to ECE/TRANS/WP.29/GRE/2018/43		18
V.	GRE informal groups		22

I. Attendance

1. The Working Party on Lighting and Light-Signalling (GRE) held its eightieth session from 23 to 26 October 2018 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): Belgium, China, Czechia, Finland, France, Germany, Hungary, India, Italy, Japan, Latvia, Luxembourg, Netherlands, Norway, Poland, Republic of Korea, Serbia, Spain, Switzerland, 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 Automobile Federation (FIA), 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), Society of Automotive Engineers (SAE).

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRE/2018/31, Informal documents GRE-80-01, GRE-80-11 and GRE-80-15

2. GRE considered and adopted the agenda (ECE/TRANS/WP.29/GRE/2018/31), as reproduced in GRE-80-01 together with the informal documents distributed during the session. GRE also noted the running order proposed by the Chair (GRE-80-11).

3. The list of informal documents is contained in Annex I to the report. The list of GRE informal groups is reproduced in Annex V to the report.

4. GRE took note of the highlights of the June 2018 session of WP.29 and the official document submission deadline of 18 January 2019 for the April 2019 session of GRE (GRE-80-15).

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

5. GRE noted that, in the future, a new UN Global Technical Regulation (UN GTR) could be developed under stage 2 of the simplification of the lighting and light-signalling UN Regulations (SLR) (see para. 7 below) or as a result of consideration of light-signalling functions of automated/autonomous vehicles (see para. 40 below).

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

6. No information was reported under this agenda item.

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

Documentation: ECE/TRANS/WP.29/GRE/2018/33,
ECE/TRANS/WP.29/GRE/2018/34,
ECE/TRANS/WP.29/GRE/2018/36,
ECE/TRANS/WP.29/GRE/2018/37,
ECE/TRANS/WP.29/GRE/2018/38,
ECE/TRANS/WP.29/GRE/2018/32,
ECE/TRANS/WP.29/GRE/2018/42,
ECE/TRANS/WP.29/GRE/2018/35, Informal documents GRE-80-04,
GRE-80-05, GRE-80-14, GRE-80-21, GRE-80-30, GRE-80-32

7. The Secretary of the Informal Working Group "Simplification of the Lighting and Light-Signalling UN Regulations" (IWG SLR) presented their progress report (GRE-80-30) and proposed revising its Terms of Reference (GRE-80-14). Following an in-depth discussion, GRE agreed that stage 2 of IWG SLR should take over the outcome of the Informal Working Group on Visibility, Glare and Levelling (IWG VGL), and so, adopted the revised Terms of Reference and Rules of Procedure of IWG SLR, as laid down in Annex II. GRE mandated its Chair to seek the consent of WP.29, at its November 2018 session, to extend the mandate of IWG SLR until the end of 2022. At the same time, GRE agreed not to extend the mandate of IWG VGL beyond 2018.

8. GRE was informed that the full package of amendment proposals drafted by IWG SLR under stage 1 of SLR, including the three new simplified UN Regulations on Light-Signalling Devices (LSD), Road Illumination Devices (RID) and Retro-Reflective Devices (RRD), in August 2018 had been submitted to WP.29 and to the Administrative Committee of the 1958 Agreement (AC.1) for consideration at their November 2018 sessions. GRE noted that the SLR package, if adopted, would be scheduled to enter into force at the end of May – beginning of June 2019. Therefore, under the above assumption, the June 2019 sessions of WP.29 and AC.1 would provide for the very first opportunity to introduce amendments to the new LSD, RID and RRD UN Regulations.

9. GRE recalled that, at its previous session, it had provisionally adopted transitional provisions to "freeze" UN Regulations Nos. 3, 4, 6, 7, 19, 23, 27, 38, 50, 69, 70, 77, 87, 91, 98, 104, 112, 113, 119 and 123 (ECE/TRANS/WP.29/GRE/2018/11), with square brackets around the third transitional provision on the validity of existing type approvals, and had agreed to take a final decision at this session (ECE/TRANS/WP.29/GRE/79, paras. 11 and 17). The Secretary of IWG SLR presented the revised transitional provisions (ECE/TRANS/WP.29/GRE/2018/34) which propose the deletion of the third transitional provision for all concerned UN Regulations. The expert from OICA expressed concerns that this deletion might lead to different interpretation among type approval authorities and that some of them might question the validity of existing type approvals (GRE-80-21). GRE confirmed that the revised transitional provisions, as proposed in ECE/TRANS/WP.29/GRE/2018/34, do not affect the validity of type approvals already granted pursuant to the UN Regulations concerned.

10. Upon this understanding, GRE adopted ECE/TRANS/WP.29/GRE/2018/34 and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their November 2018 sessions as corrigenda to the original SLR package. GRE also expressed a hope that, in spite of the late submission of these modifications, contracting parties would be in a position to take them into consideration and to vote for the complete updated SLR package in November 2018.

11. The Secretary of IWG SLR introduced the first proposals for amendments to the original versions of the LSD, RID and RRD UN Regulations (ECE/TRANS/WP.29/GRE/2018/36, ECE/TRANS/WP.29/GRE/2018/37 and ECE/TRANS/WP.29/GRE/2018/38). GRE adopted these proposals and noted that some of these amendments were essentially corrections of errors in the original SLR package while others were improvements. GRE stressed the need to rectify the discovered errors, such as the correction of Table 9 in the RID UN Regulation (as proposed in ECE/TRANS/WP.29/GRE/2018/37) and the correction of Annex 7 of the RRD UN Regulation (as proposed in ECE/TRANS/WP.29/GRE/2018/38) and requested the secretariat to submit these corrections to WP.29 and AC.1 for consideration at their November 2018 sessions as corrigenda to the original SLR package. The “improvement” amendments would be submitted to WP.29 and AC.1 for consideration at their June 2019 sessions, as explained in para. 8 above.

12. The experts from IWG SLR and IMMA proposed to amend the inboard visibility angle for rear position lamps in pairs in the new LSD UN Regulation (ECE/TRANS/WP.29/GRE/2018/33 and GRE-80-32). GRE adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2018 sessions as draft Supplement 1 to the original LSD UN Regulation. GRE also recalled that this modification should be submitted together with the corresponding proposal to amend UN Regulation No. 53 (ECE/TRANS/WP.29/GRE/2018/28), which had been agreed upon at the previous session, and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2019 sessions as draft Supplement 4 to the 02 series and draft Supplement 22 to the 01 series of amendments to UN Regulation No. 53.

13. The expert from IMMA proposed a modification to the presentation on change index (GRE 79-12-Rev.1). GRE adopted the modification and requested the secretariat to publish the revised presentation as a reference document on the GRE website.

14. The expert of SAE presented collective amendments to UN Regulations Nos. 98, 112, 113 and 123 for the purposes of the recently updated Canadian Federal Motor Vehicle Safety Standard (CMVSS) No. 108 (ECE/TRANS/WP.29/GRE/2018/32). GRE adopted the proposals and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their June 2019 sessions as draft Supplement 1 to the new 02 series of amendments of UN Regulation No. 98, draft Supplement 1 to the 02 series of amendments of UN Regulation No. 112, draft Supplement 1 to the 03 series of amendments of UN Regulation No. 113 and draft Supplement 1 to the 02 series of amendments of UN Regulation No. 123.

15. The expert from IMMA proposed amended definitions for UN Regulation No. 53 (ECE/TRANS/WP.29/GRE/2018/35 and GRE-80-05). GRE adopted the proposals and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their June 2019 sessions as draft Supplement 4 to the 02 series of amendments to UN Regulation No. 53.

VI. UN Regulation Nos. 37 (Filament lamps), 99 (Gas discharge light sources), 28 (Light emitting diodes light sources) and the Consolidated Resolution on the common specification of light source categories (agenda item 5)

Documentation: ECE/TRANS/WP.29/GRE/2018/48,
ECE/TRANS/WP.29/GRE/2017/49,
ECE/TRANS/WP.29/GRE/2018/39,
ECE/TRANS/WP.29/GRE/2018/40,
ECE/TRANS/WP.29/GRE/2018/41,

ECE/TRANS/WP.29/GRE/2018/42,
ECE/TRANS/WP.29/GRE/2018/48,
ECE/TRANS/WP.29/GRE/2018/49 and Add.1, Informal documents
GRE-80-02, GRE-80-03, GRE-80-19, GRE-80-23, GRE-80-33, GRE-
80-34

16. GRE was informed about the progress of the Task Force on Substitutes and Retrofits (TF SR) (GRE-80-23). GRE noted that TF SR had prepared proposals on the use of light emitting diode (LED) substitute light sources for light-signalling applications (see below) and would continue with LED substitutes for front-lighting applications.

17. On behalf of TF SR, the expert from Germany introduced amendment proposals to UN Regulation No. 128 for the use of LED substitute light sources (ECE/TRANS/WP.29/GRE/2018/39) as well as corresponding amendments to the Consolidated Resolution on the common specification of light source categories (R.E.5) (ECE/TRANS/WP.29/GRE/2018/40). GRE adopted the proposals and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their March 2019 sessions as draft Supplement 9 to the original version of UN Regulation No. 128 and as draft amendment 3 to R.E.5. GRE noted that both amendments are part of the same package and should enter into force on the same date.

18. To introduce requirements for LED substitute light sources in the installation UN Regulations, the expert from Germany presented collective amendments to UN Regulations Nos. 48, 53, 74 and 86 (ECE/TRANS/WP.29/GRE/2018/41). The expert from OICA submitted comments (GRE-80-19). GRE adopted the proposals unamended and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their June 2019 sessions as draft Supplement 12 to the 06 series of amendments to UN Regulation No. 48, draft Supplement 4 to the 02 series of amendments to UN Regulation No. 53, draft Supplement 11 to the 01 series of amendments to UN Regulation No. 74 and draft Supplement 2 to the 01 series of amendments of UN Regulation No. 86.

19. The expert from Germany also introduced equivalence criteria for LED substitute light source categories which substitute the corresponding filament light source categories (GRE-80-02), as well as the interlock solution, for the BA15-cap system developed by IEC (GRE-80-03). GRE decided to keep GRE-80-02 as a reference document and took note of GRE-80-03.

20. GRE also considered a parallel proposal by TF SR which introduced requirements for the use of LED substitute light sources in the new LSD UN Regulation (ECE/TRANS/WP.29/GRE/2018/42). GRE adopted the proposal, as amended by Annex III, and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their June 2019 sessions.

21. The expert of SAE delivered a presentation on standardization of technical requirements for forward lighting LED replacement light sources (GRE-80-34) and offered to organize a live demonstration at the next session of GRE. The expert from FIA highlighted the advantages of using LED retrofits for front lighting application of vehicles in use and argued in favour of developing regulations in this area (GRE-80-33). He suggested that TF SR should prepare proposals. In this regard, some GRE experts expressed doubts whether this issue could be solved by UN Regulations and felt that it should be treated within national law. Those experts were also of the view that TF SR should finalize LED substitutes for front-lighting applications and then stop its activities without addressing LED retrofits. GRE decided to revert to this discussion at the next session and requested TF SR to continue its work in the interim.

22. The expert of GTB introduced amendment proposals that modified light source category LR4 in UN Regulation No. 128 and in the Consolidated Resolution R.E.5

(ECE/TRANS/WP.29/GRE/2018/48, ECE/TRANS/WP.29/GRE/2018/49 and Add.1). GRE adopted the proposals and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their March 2019 sessions as draft Supplement 9 to the original version of UN Regulation No. 128 and draft amendment 3 to R.E.5. GRE noted that both amendments are part of the same package and should enter into force on the same date.

VII. UN 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/2018/51, Informal document GRE-80-20

23. The expert from GTB introduced amendment proposals with the aim to reduce discomfort glare from rear signalling lamps when viewed at close proximity in slow moving traffic (ECE/TRANS/WP.29/GRE/2018/51). The expert from OICA suggested further improvements (GRE-80-20). Following an exchange of comments, GRE invited GTB, OICA and other interested parties to produce a revised document for consideration at the next session.

B. Other proposals for amendments to UN Regulation No. 48

Documentation: ECE/TRANS/WP.29/GRE/2018/44, Informal documents GRE-80-07, GRE-80-08, GRE-80-09, GRE-80-10, GRE-80-17, GRE-80-18, GRE-80-22 and GRE-80-29

24. GRE considered a proposal for a new 07 series of amendments prepared by the former Co-Chairs of the Task Force on Headlamp Switching (TF HS), which updated the requirements for headlamps and daytime running lamps (DRL) (ECE/TRANS/WP.29/GRE/2018/44, GRE-80-09 and GRE-80-10). The experts from EC and Japan, Russian Federation, OICA and SAE commented on the proposal (respectively, GRE-80-22, GRE-80-29, GRE-80-18 and GRE-80-07). Separately, the expert from EC proposed a new requirement of mandatory presence of emergency stop signal (ESS) on all categories of motor vehicles and trailers (GRE-80-08) and the expert from SAE submitted an amendment proposal on side retro-reflectors (GRE-80-17).

25. Following a brief exchange of views on the above proposals, GRE noted that each of them would require a new series of amendments to UN Regulation No. 48 with its own transitional provisions. To avoid amending this UN Regulation too many times and practical complications, GRE was of the view that all proposals should be consolidated into a single new 07 series of amendments. The expert from OICA offered to host in December 2018, at their premises in Paris, a special meeting of interested parties with a view to drafting a consolidated proposal for the next session of GRE.

26. The expert of GTB reported on the outcome of the Forum on Glare and Visibility that had been organized by GTB on 22 October 2018. GRE noted that all presentations from the Forum would be published on the GRE website and requested IWG SLR to take them into account when considering stage 2 of the SLR process.

VIII. Other UN Regulations (agenda item 7)

A. UN Regulation No. 10 (Electromagnetic compatibility)

Documentation: ECE/TRANS/WP.29/GRE/2018/43, Informal documents GRE-80-12-Rev.1, GRE-80-13, GRE-80-24 and GRE-80-31

27. The expert from OICA, on behalf of the Task Force on Electromagnetic Compatibility (TF EMC), presented their progress report (GRE-80-12-Rev.1) and revised proposals for the 06 series of amendments to UN Regulation No. 10 (ECE/TRANS/WP.29/GRE/2018/43 and GRE-80-13). For L-category vehicles, the expert of IMMA proposed to limit the scope of this UN Regulation to categories L₆ and L₇ only (GRE-80-31). GRE supported the IMMA proposal. The expert of Japan proposed to exclude agricultural vehicles (categories T, R and S) from the scope (GRE-80-24). Following a discussion, the expert from Japan was in a position to accept categories T, R and S in the scope. Finally, GRE adopted the amendment proposals, as amended by Annex IV, and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their March 2019 sessions as a new 06 series of amendments to UN Regulation No. 10.

B. UN Regulation No. 53 (Installation of lighting and light-signalling devices for L₃ vehicles)

Documentation: ECE/TRANS/WP.29/GRE/2018/45,
ECE/TRANS/WP.29/GRE/2018/46,
ECE/TRANS/WP.29/GRE/2018/47,
ECE/TRANS/WP.29/GRE/2018/50, Informal documents GRE-80-25
and GRE-80-26

28. On behalf of the Special Interest Group for DRL of L-category vehicles, the expert from Japan presented a revised proposal that introduced a new requirement for automatic switching from DRL to the headlamp for L₃ category in UN Regulation No. 53 as well as a corresponding amendment to the new LSD UN Regulation (ECE/TRANS/WP.29/GRE/2018/50). The expert from India proposed to delete references to "passing beam" (GRE-80-25). The experts of Germany, Netherlands, UK and EC were not in favour of deleting "passing beam" and supported the original proposal. GRE adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2019 sessions as draft 03 series of amendments to UN Regulation No. 53 and draft Supplement 1 to the original LSD UN Regulation, subject to the following amendments:

Paragraphs 5.11.1.1., 5.11.1.2. and Annex 7 (twice), replace "headlamp [(passing beam)]" with "passing beam".

Paragraphs 11.8. and 11.10., remove square brackets around 2023.

29. The expert from India proposed making optional the fitment of front position lamps, due to the introduction of auto headlamp switching, and alternatively DRL provisions in UN Regulation No. 53 (ECE/TRANS/WP.29/GRE/2018/47 and GRE-80-26). The experts of Finland, Germany and UK expressed doubts. The Chair concluded that there was not enough support for the proposal and proposed to revert to this issue at the next session. He also invited the expert from India to try to convince the experts in doubt before the next session.

30. The expert from IMMA proposed to clarify the use of direction indicators to show the status of the device for protection of a vehicle against unauthorised use (ECE/TRANS/WP.29/GRE/2018/45). GRE adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2019 sessions as draft Supplement 3 to the 02 series and draft Supplement 21 to the 01 series of amendments to UN Regulation No. 53.

31. The expert from IMMA presented a revised proposal on exterior courtesy lamps (ECE/TRANS/WP.29/GRE/2018/46). GRE adopted the proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2019 sessions as draft Supplement 3 to the 02 series and draft Supplement 21 to the 01 series of amendments to UN Regulation No. 53, subject to the following modification:

New paragraph 6.15.19.3., second indent, delete "...one or more of...".

C. UN Regulation No. 74 (Installation of lighting and light-signalling devices for mopeds)

Documentation: ECE/TRANS/WP.29/GRE/2018/52

32. The expert from the Netherlands presented an updated proposal that required the mandatory installation of direction indicators on mopeds. (ECE/TRANS/WP.29/GRE/2018/52). Following a brief discussion, GRE invited the proponent to redraft the transitional provisions and to submit a revised document for consideration to the next session.

IX. Other business (agenda item 8)

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

33. GRE noted that the Global Forum for Road Traffic Safety (WP.1), at its recent session in September 2018, continued considering the amendment proposals to Article 32 and Chapter II of Annex 5 on lighting and light-signalling (ECE/TRANS/WP.1/2017/1/Rev.1) and is expected to finalize this activity in March 2019. At its next session, GRE may expect an oral report from the WP.1 Secretary.

B. Decade of action for road safety 2011–2020

34. GRE was briefed on the recent developments in field of road safety at the ECE level.

C. Development of the International Whole Vehicle Type Approval

35. GRE noted a request by IWG on the International Whole Vehicle Type Approval (IWVTA) to amend approval numbering in UN Regulations Nos. 37, 99 and 128 to align it with Schedule 4 of the revised 1958 Agreement (ECE/TRANS/WP.29/1139, para. 67). GRE recalled that, at its previous session, it had already adopted the necessary amendments which were subsequently submitted to the November 2018 session of WP.29 as documents ECE/TRANS/WP.29/2018/83, ECE/TRANS/WP.29/2018/89 and ECE/TRANS/WP.29/2018/90.

D. Phantom light and colour washout

Documentation: Informal document GRE-80-27

36. The expert from Germany briefly mentioned draft amendments to the LSD Regulation on the sun load impact (phantom effect) (GRE-80-27) and stated that a formal proposal would be submitted to the next session of GRE.

X. New business and late submissions (agenda item 9)

Documentation: Informal documents GRE-80-06 and GRE-80-28

37. The experts of France and Germany presented the preliminary results of their questionnaire on national treatment of evocative, suggestive or figurative apparent surfaces (GRE-80-28). GRE noted that the reported results seemed to indicate the need to harmonize national regulations on the issue. GRE decided to continue this discussion at the next session, based on a more detailed document to be prepared by the experts from France and Germany.

38. Due to lack of time, GRE decided to consider GRE-80-06 at the next session.

39. GRE noted that Mr. V. Genone (Italy), who had participated in GRE activities since 1984, would no longer attend its sessions, due to his imminent retirement. GRE gave him a standing ovation for his dedication and extensive contributions to the work of GRE and wished him success in the future.

XI. Direction of future work of GRE (agenda item 10)

Documentation: Informal document GRE-80-16-Rev.1

40. The expert from GTB introduced a brainstorming paper on signalling requirements for automated/autonomous vehicles (AVs) (GRE-80-16-Rev.1). The secretariat also informed GRE about the establishment, at the June 2018 session of WP.29, of a new Working Party "Groupe de Rapporteurs pour les Véhicules Autonomes" (GRVA) and that coordination between GRVA and other WP.29 Working Parties (GRs) would be done at the WP.29 level. GRE discussed at length how to pursue considering the signalling requirements for AVs, and came to a conclusion that a task force (TF) would be most appropriate for this purpose. The expert from Germany, who was leading TF SR, also agreed to take the lead in the new TF. The experts from UK, GTB and OICA expressed their support to TF. GRE agreed that TF should evaluate and report on the safety needs for AVs to signal their status and communicate their next intended actions using visual or audible signals or a combination of both.

XII. Provisional agenda for the next session (agenda item 11)

41. GRE agreed to delete the agenda item on IWVTA and to include a new agenda item on international events in the field of automotive lighting of interest to GRE.

XIII. Election of officers (agenda item 12)

42. 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. M. Loccufier (Belgium) as Chair and Mr. D. Rovers (Netherlands) as Vice-Chair for the sessions of GRE scheduled in the year 2019.

Annex I

List of informal documents considered during the session

Informal documents GRE-79-...

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(secretariat) - Updated provisional agenda for the eightieth session of GRE	b
2	(TF SR) - Equivalence criteria	d
3	(TF SR) - LED substitutes: Interlock solution for the BA15-cap system	f
4	(IMMA) - Amendments to the presentation on the Change Index (GRE-79-12-Rev.1)	d
5	(IWG SLR) - Corrigendum to ECE/TRANS/WP.29/GRE/2018/35	a
6	(Italy and Netherlands) - Obsolete transitional provisions	
7	(SAE) - Amendment to ECE/TRANS/WP.29/GRE/2018/44	d
8	(European Commission) - Proposal complementing ECE/TRANS/WP.29/GRE/2018/44	d
9	(TF HS) - Editorial corrections to ECE/TRANS/WP.29/GRE/2018/44	d
10	(TF HS) - Explanations to ECE/TRANS/WP.29/GRE/2018/44	d
11	(Chair) - Running order	f
12-Rev.1	(TF EMC) - Status report	f
13	(TF EMC) - Corrections to ECE/TRANS/WP.29/GRE/2018/43	b
14	(IWG SLR) - Updated Terms of Reference and Rules of Procedure of IWG SLR	b
15	(secretariat) - General information and WP.29 highlights	f
16	(GTB) - Signalling requirements for automated/autonomous vehicles	d
17	(SAE) - Amendment to ECE/TRANS/WP.29/GRE/2018/44	d
18	(OICA) - Comments on transitional provisions in ECE/TRANS/WP.29/GRE/2018/44	d
19	(OICA) - Corrections to ECE/TRANS/WP.29/GRE/2018/41	f
20	(OICA) - Proposal for improvement of ECE/TRANS/WP.29/GRE/2018/51	c
21	(OICA) - Comments on ECE/TRANS/WP.29/GRE/2018/34	f
22	(EC and Japan) - Proposals for amendments to ECE/TRANS/WP.29/GRE/2018/44	d
23	(TF SR) - Status report	f
24	(Japan) - Proposal to amend ECE/TRANS/WP.29/GRE/2018/43	b
25	(India) - Comments on ECE/TRANS/WP.29/GRE/2018/50	f
26	(India) - Response to a study reservation made in connection with GRE-78-24	d
27	(Germany) - Sun load impact (phantom effect) of signalling lamps	c
28	(France and Germany) - Evaluation of the questionnaire on evocative, suggestive or figurative apparent surfaces	d
29	(Russian Federation) - Amendments to ECE/TRANS/WP.29/GRE/2018/44	d

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
30	(IWG SLR) - Progress report	f
31	(IMMA) - Proposal for amendment to ECE/TRANS/WP.29/GRE/2018/43	b
32	(IMMA) - Proposal for amendments to ECE/TRANS/WP.29/GRE/2018/33	a
33	(FIA) - LED replacement light sources	f
34	(SAE) - Standardization of technical requirements for forward lighting LED replacement light sources	f

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

Updated Terms of Reference and Rules of Procedure for the Informal Working Group "Simplification of the Lighting and Light-Signalling UN Regulations" (IWG SLR)

I. Introduction

1. At the 156th session of WP.29, the European Union, supported by Japan, urged WP.29 to consider the simplification of the lighting UN Regulations and to focus on developing less technology-specific, more performance-related requirements (ECE/TRANS/WP.29/1095, paras. 76 and 77).

2. At the 157th session of WP.29, GTB presented its approach to help GRE work on consolidating the UN Regulations on lighting and light-signalling to reduce the administrative workload. The suggested approach seeks to reduce the number of UN Regulations concerning lighting and light signalling and to focus on performance requirements rather than design and technical descriptions.

3. Subsequently this approach, distributed as an official document, ECE/TRANS/WP.29/2012/119, was formally considered by WP.29 at its 158th session. WP.29 endorsed the principles proposed by GTB and asked GRE to develop a road map, taking into consideration the resources of GRE (ECE/TRANS/WP.29/1099, para. 37).

4. At its sixty-ninth session, GRE agreed to create a special interest group of experts, which met in February and June 2014, to define the Terms of Reference of this new Informal Working Group.

5. At its seventy-second session, GRE adopted GRE-72-20 (as reproduced in Annex VIII to the report) proposing the Terms of Reference and Rules of Procedure of the Informal Working Group "Simplification of the Lighting and Light-Signalling UN Regulations" (IWG SLR). The informal group had already held its first session in September 2014 to establish its draft Terms of Reference.

6. IWG SLR met on seven occasions, exploring many approaches to deliver the required simplification and finally adopted the plan in January 2016. This plan consisted of two stages:

Stage 1: Update and freeze the existing device UN Regulations and then produce three new UN Regulations (for road illumination, light-signalling and retro-reflective devices) based on the text of existing UN Regulations. The purpose was not to adapt or amend the prescriptions of the various UN Regulations under consideration other than where the objectives of simplification and consolidation so required;

Stage 2: Update the three new UN Regulations to be technology neutral and performance based and to update the installation UN Regulations accordingly.

7. At its 169th session, WP.29 agreed that, following the finalisation of stage 1, the IWG SLR shall focus on stage 2 of the simplification process (ECE/TRANS/WP.29/1123, para. 44).

8. Due to the workload involved to deliver stage 2, GRE, at its seventy-ninth session in April 2018, endorsed a proposal to stage 2 into two steps (ECE/TRANS/WP.29/GRE/79, para. 8).

9. IWG SLR also discussed the importance of harmonization of technical requirements with other international/regional/national regulatory systems and acknowledged this as an optional objective for the finalisation of stage 2.

10. In addition, GRE at its seventy-ninth session, decided that elements of the objectives of the Informal Working Group on Visibility, Glare and Levelling (IWG VGL) (ECE/TRANS/WP.29/GRE/76, Annex III) would be transferred to IWG SLR, since both groups had converging goals and in order to avoid duplication of work (ECE/TRANS/WP.29/GRE/79, para. 31).

II. Objective

11. The overall objective of the informal group is to review the current set of lighting, light-signalling and retro-reflecting UN Regulations and to develop a proposal that:

- (a) Provides a structure that limits to a minimum the number of parallel amendments necessary to achieve a regulatory change.
- (b) Reduces the number of active/non-frozen UN Regulations.
- (c) Defines the essential requirements in performance (technology-neutral) terms to provide opportunities for innovation.
- (d) Aims to achieve consistent interpretation by reducing ambiguity in the provisions to support objective certification and verification of conformity of production.
- (e) Reduces the administrative burden (caused by maintenance of UN Regulations) on the contracting parties, the ECE secretariat (and associated UN services) and the affected industrial sector.
- (f) Reduces regulatory burden for industry and encourages innovation to improve safety.
- (g) Updates and harmonizes the technical requirements for lighting and light-signalling to be suitable for global implementation under the 1958 and 1998 Agreements.

III. Major project steps

12. To achieve the objectives identified above, the informal group shall:

- (a) Propose a new approach (i.e. performance-based and technology-neutral requirements) to reform the practice of multiple/collective amendments and may consider (but is not limited by) the consolidation of common requirements to improve the efficiency of the regulatory text. As a first step, the light-signalling UN Regulations shall be addressed.
- (b) Identify possibilities to merge UN Regulations containing similar or identical provisions, such as UN Regulations Nos. 98 and 112 and UN Regulations 3, 27, 69, 70 and 104.
- (c) Determine whether the current regulatory text presents barriers to innovation and adequately addresses safety considerations.

- (d) Develop, unless technically not feasible, performance-based and technology-neutral requirements to ensure freedom for technical innovation within a framework of safety principles.
- (e) Simplify, adhering to a technology-neutral approach, the installation UN Regulations (Nos. 48, 53, 74 and 86). All working documents on lighting installation UN Regulations whose purpose is to improve the performance-based and technology-neutral approach shall be taken into account.
- (f) Take over and consider the outcome of IWG VGL, based on the discussion document GRE-79-29 as recommended by the seventy-ninth session of GRE (ECE/TRANS/WP.29/GRE/79, para. 31).
- (g) Draft the technical requirements for lighting and light-signalling to make them suitable for implementation under the 1958 and 1998 Agreements.

IV. Operating principles

13. The Informal Working Group on Simplification of the UN Lighting and Light-Signalling UN Regulations 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 organizations.
14. A Chair (Belgium), a Vice-Chair (European Commission) and a Secretary (GTB) will manage the informal group.
15. The official language of the informal group will be English.
16. The Secretary of the Group shall submit the agenda and related documents in a suitable electronic format in advance of all scheduled meetings. All documents shall be posted on the website (<https://wiki.unece.org/pages/viewpage.action?pageId=23759699>). The Group may postpone discussion on any item or proposal, which has not been circulated five working days in advance of the scheduled meeting.
17. The Secretary of the Group will distribute the meeting minutes to the IWG members within 15 working days after the meeting of the Group.
18. Decisions and proposals of the group shall be reached by consensus. When consensus cannot be reached, the Chair of the Group shall present the different points of view to GRE. The Chair may seek guidance from GRE as appropriate.
19. Sessions shall be convened, in agreement with the majority of the participants, after the Group has been established in a constitutional meeting. Sessions may be in person and / or virtual using web-based technology and shall be scheduled to meet the timeline for deliverables.
20. A provisional agenda shall be drafted by the secretariat in accordance with the participants of the Group. The first item of the provisional agenda for each session shall be the adoption of the agenda.
21. The second item on the provisional agenda shall be the discussion on matters arising and adoption of the minutes of the previous session.

V. Work plan and time schedule

STAGE 1	The objective was to update and freeze the existing device UN Regulations and produce three new UN Regulations (road illumination (RID), light-signalling (LSD) and retro-reflecting devices (RRD)) based on the text of existing UN Regulations.	
	This was primarily an editorial task to leave the prescriptions of the various UN Regulations unchanged, other than where the objectives of simplification and consolidation so required.	
	Completion at the eightieth session of GRE	October 2018
	Final adoption by WP.29 of the new LSD, RID and RRD UN Regulations and the associated package of amendments to existing UN Regulations	November 2018

STAGE 2	The overarching objective is to update and harmonize the technical requirements for lighting and light-signalling to be <u>suitable for global implementation under the 1958 and 1998 Agreements</u> .	
STAGE 2 STEP 1	Revise the technical requirements of the new LSD, RID and RRD UN Regulations , to become technology neutral with performance-based and objective test requirements taking into account glare and visibility.	
	Amendments will also be required to the installation UN Regulations taking into account the work of IWG-VGL.	
	Informal submission to the eighty-second session of GRE	October 2019
	Final consideration at the eighty-third session of GRE	April 2020
	Adoption by WP.29	November 2020
STAGE 2 STEP 2	Simplify and update the technical requirements of the UN installation Regulations (Nos. 48, 53, 74, 86) , to become technology neutral with performance-based and objective test requirements	
	Informal submission to the eighty-sixth session of GRE	October 2021
	Final consideration at the eighty-seventh session of GRE	April 2022
	Adoption by WP.29	November 2022

Annex III

Adopted amendments to ECE/TRANS/WP.29/GRE/2018/42

Annex 1, item 9.2., amend to read:

"9.2. By light signalling function and category:
For mounting either outside or inside or both²
Colour of light emitted: red/white/amber/colourless²
Number, category and kind of light source(s):
Lamp approved for LED substitute light source(s): yes/no
If yes, category of LED substitute light source(s)
Voltage and wattage:
...."

Annex IV

Adopted amendments to ECE/TRANS/WP.29/GRE/2018/43

Paragraph 1.1., amend to read:

"1.1. Vehicles of categories L, M, N ~~and~~ O, T, R and S with regard to electromagnetic compatibility."

Paragraph 2., add a new subparagraph 2.25. to read:

"2.25. "Outdoor Test Site (OTS)" measurement site, similar to an open area test site as specified in CISPR 16, however, a ground plane is not required and there are dimensional changes."

Paragraph 3.1.8., amend to read:

"3.1.8. For vehicles of categories **L6, L7, M, N, and O, T, R and S**, the vehicle manufacturer shall provide a statement of frequency bands, power levels, antenna positions and installation provisions for the installation of radio frequency transmitters (RF-transmitters), even if the vehicle is not equipped with an RF transmitter at time of type approval. This should cover all mobile radio services normally used in vehicles. This information shall be made publicly available following the type approval."

Annex 6, paragraph 2.2.1.2., table amend to read:

"

¹ "REESS charging mode" vehicle test conditions	Failure criteria
<p>The REESS shall be in charging mode. The REESS State of charge (SOC) shall be kept between 20 per cent and 80 per cent of the maximum SOC during the whole frequency range measurement (this may lead to split the measurement in different sub-bands with the need to discharge the vehicle's traction battery before starting the next sub-bands). If the current consumption can be adjusted, then the current shall be set to at least 20 per cent of its nominal value.</p> <p>In case of multiple batteries, the average state of charge must be considered.</p>	<p>Vehicle sets in motion.</p> <p>Electric parking brake warning indicator OFF</p> <p>Unexpected release of the parking brake.</p> <p>Loss of parking position for automatic transmission.</p>

"

Annex 6, paragraph 3.2., amend to read:

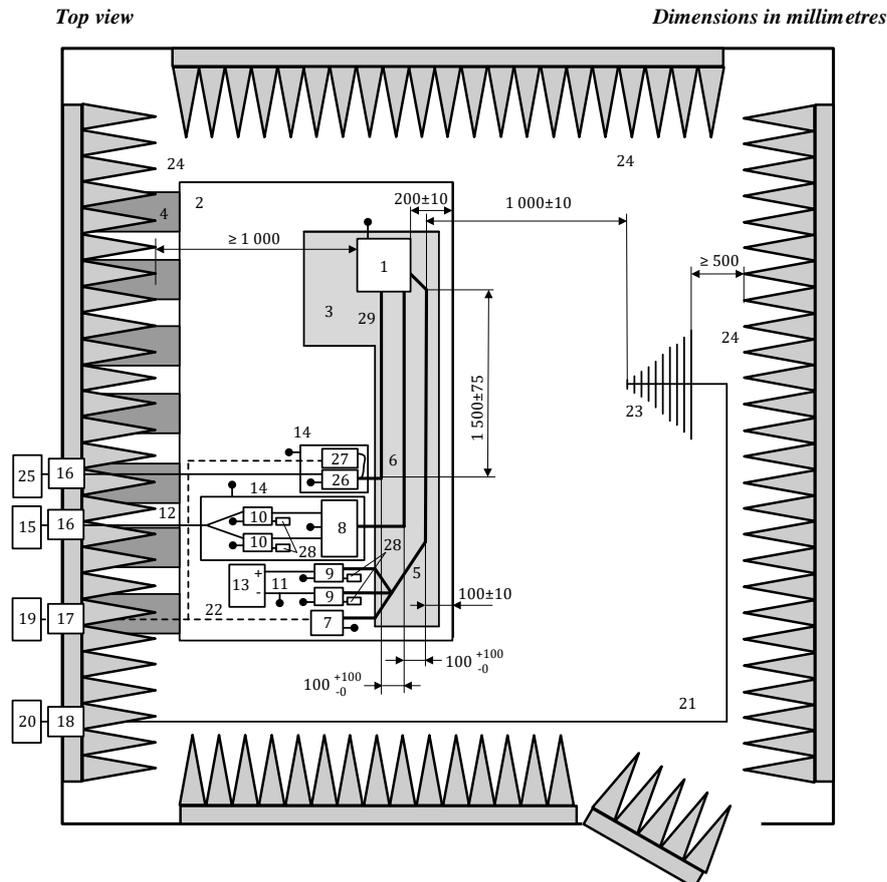
"3.2. For categories M, N, O, **T, R and S** vehicles according to ISO 11451-2."

Annex 9, Appendix 3, amend to read:

“Absorber chamber test

Test configuration for ESA's involved in "REESS charging mode coupled to the power grid". The test shall be performed according to ISO 11452-2.

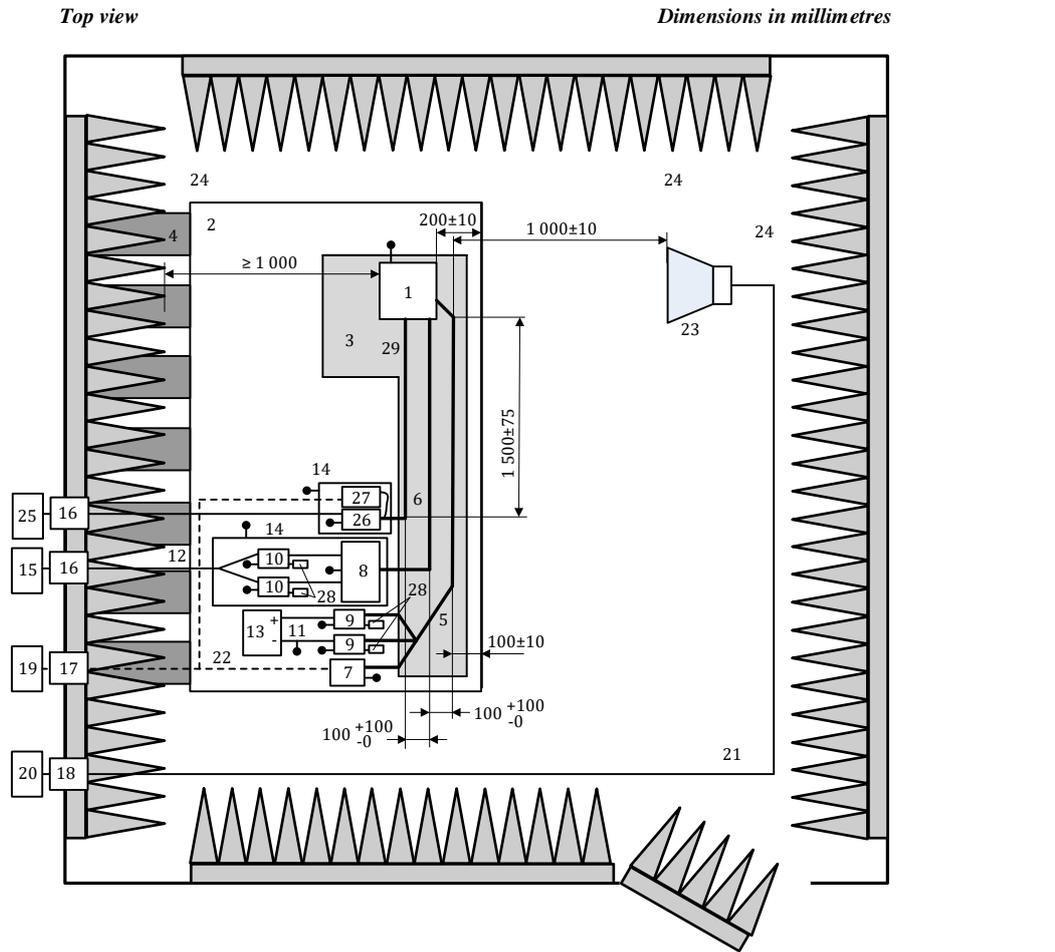
Figure 1
Example of test set-up for log-periodic antenna



Legend:

- | | | | |
|----|--|----|---|
| 1 | ESA (grounded locally if required in test plan) | 16 | power line filter |
| 2 | ground plane | 17 | fibre optic feed through |
| 3 | low relative permittivity support ($\epsilon_r \leq 1.4$); thickness 50 mm | 18 | bulk head connector |
| 4 | ground straps | 19 | stimulating and monitoring system |
| 5 | LV harness | 20 | RF signal generator and amplifier |
| 6 | HV lines (HV+, HV-) | 21 | high-quality coaxial cable, e.g. double shielded (50 Ω) |
| 7 | LV load simulator | 22 | optical fibre |
| 8 | impedance matching network (optional) | 23 | log-periodic antenna |
| 9 | LV AN | 24 | RF absorber material |
| 10 | HV AN | 25 | a.c. power mains |
| 11 | LV supply lines | 26 | AMN for a.c. power mains |
| 12 | HV supply lines | 27 | a.c. charging load simulator |
| 13 | LV power supply 12 V / 24 V / 48 V (placed on the bench) | 28 | 50 Ω load |
| 14 | additional shielded box (optional) | 29 | a.c. lines |
| 15 | HV power supply (should be shielded if placed inside ALSE) | | |

Figure 2
Example of test set-up for horn antenna



Legend:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 ESA (grounded locally if required in test plan) 2 ground plane 3 low relative permittivity support ($\epsilon_r \leq 1.4$); thickness 50 mm 4 ground straps 5 LV harness 6 HV lines (HV+, HV-) 7 LV load simulator 8 impedance matching network (optional) 9 LV AN 10 HV AN 11 LV supply lines 12 HV supply lines 13 LV power supply 12 V / 24 V / 48 V (placed on the bench) 14 additional shielded box (optional) 15 HV power supply (should be shielded if placed inside ALSE) | <ul style="list-style-type: none"> 16 power line filter 17 fibre optic feed through 18 bulk head connector 19 stimulating and monitoring system 20 RF signal generator and amplifier 21 high-quality coaxial cable, e.g. double shielded (50 Ω) 22 optical fibre 23 horn antenna 24 RF absorber material 25 a.c. power mains 26 AMN for a.c. power mains 27 a.c. charging load simulator 28 50 Ω load 29 a.c. lines |
|--|---|

Annex 15, paragraph 2.1.2., table, amend to read:

“

1 "REESS charging mode" vehicle test conditions	Failure criteria
<p>The REESS shall be in charging mode. The state of charge (SOC) of the traction battery shall be kept between 20 per cent and 80 per cent of the maximum SOC during the whole time duration of the measurement (this may lead to the measurement being split into different time slots with the need to discharge the vehicle's traction battery before starting the next time slot). If the current consumption can be adjusted, then the current shall be set to at least 20 per cent of its nominal value.</p> <p>In case of multiple batteries the average state of charge must be considered.</p>	<p>Vehicle sets in motion.</p> <p>Electric parking brake warning indicator OFF</p> <p>Unexpected release of the parking brake.</p> <p>Loss of parking position for automatic transmission.</p>

”

Annex 16, paragraph 2.1.2., table, amend to read:

“

1 "REESS charging mode" vehicle test conditions	Failure criteria
<p>The REESS shall be in charging mode. The state of charge (SOC) of the traction battery shall be kept between 20 per cent and 80 per cent of the maximum SOC during the whole time duration of the measurement (this may lead to the measurement being split into different time slots with the need to discharge the vehicle's traction battery before starting the next time slot). If the current consumption can be adjusted, then the current shall be set to at least 20 per cent of its nominal value.</p> <p>In case of multiple batteries the average state of charge must be considered.</p>	<p>Vehicle sets in motion.</p> <p>Electric parking brake warning indicator OFF</p> <p>Unexpected release of the parking brake.</p> <p>Loss of parking position for automatic transmission.</p>

”

Annex V**GRE informal groups**

<i>Informal group</i>	<i>Chair(s)</i>	<i>Secretary</i>
Simplification of the Lighting and Light-Signalling UN Regulations (SLR)	Mr. Michel Loccufier (Belgium) Phone: +32 474 989 023 Email: michel.loccufier@mobilite.fgov.be	Mr. Davide Puglisi (GTB) Phone: +39 011 562 11 49 Fax: +39 011 53 21 43 Email: secretary@gtb-lighting.org
