



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

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Report of the Working Party on Lighting and Light-Signalling on its seventieth session
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I. Attendance

1. The Working Party on Lighting and Light-Signalling (GRE) held its seventieth session from 21 to 23 October 2013 in Geneva, under the chairmanship of Mr. M. Gorzkowski (Canada). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690 and Amend. 1): Austria; Belgium; Canada; China; Czech Republic; Finland; France; Germany; Hungary; India; Italy; Japan; the Netherlands; Poland; the Republic of Korea; the Russian Federation; Serbia; Spain; South Africa 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 Electrotechnical Commission (IEC); International Motorcycle Manufacturers Association (IMMA); International Organization of Motor Vehicle Manufacturers (OICA) and Society of Automotive Engineers (SAE). Upon the invitation of the Chair, the experts from the International Automotive Lighting and Light Signalling Expert Group (GTB) and the expert from the International Association of the Body and Trailer Building Industry (CLCCR) participated.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRE/2013/40, Add.1 and 2,
Informal document GRE-70-37

2. GRE considered and adopted the agenda proposed for the seventieth session (ECE/TRANS/WP.29/GRE/2013/40, its Add.1 and 2)
3. GRE also adopted GRE-70-37, the updated agenda including the informal documents distributed during the session.
4. The list of informal documents is reproduced in Annex I to the report. The list of GRE informal groups is reproduced in Annex XI to the report.

III. Development of new global technical regulations (agenda item 2)

Documentation: ECE/TRANS/WP.29/GRE/69, para. 4

5. In absence of new proposal, GRE agreed to defer consideration of this agenda item to its next session.

IV. Regulation No. 37 (Filament lamps) (agenda item 3)

6. In absence of new proposal, GRE agreed to defer consideration of this agenda item to its next session.

V. Regulation No. 48 (Installation of lighting and light-signalling devices) (agenda item 4)

A. Proposal for amendments to the 04, 05 and 06 series of amendments

7. In absence of new proposal, GRE agreed to defer consideration of this agenda item to its next session.

B. Proposal for amendments to the 06 series of amendments

Documentation: ECE/TRANS/WP.29/GRE/2013/50,
ECE/TRANS/WP.29/GRE/2013/51,
ECE/TRANS/WP.29/GRE/2013/57,
ECE/TRANS/WP.29/2011/99 and Corr.1,
(ECE/TRANS/WP.29/GRE/2013/2),
Informal documents GRE-70-09, GRE-70-10 GRE-70-11,
GRE-70-20, GRE-70-27, GRE-70-28, GRE-70-35, GRE-70-36, GRE-
70-41 and GRE-70-42

8. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/50 as amended by GRE-70-27 and GRE-70-35, clarifying definitions and requirements associated with the installation of "single lamps", "lamps marked D" and "interdependent lamps". GRE-70-20 was not discussed as the subject was covered by the two informal documents. GRE agreed to revisit this subject at its next session on the basis of a revised document, which the expert from GTB volunteered to prepare.

9. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/51 amending activation criteria for Class "E" passing beam of an Adaptive Front-lighting System (AFS). GRE adopted this proposal, not amended, and requested the secretariat to submit the proposal to WP.29 and the Administrative Committee of the 1958 Agreement (AC.1) for consideration at their March 2014 sessions as draft Supplement 4 to the 06 series of amendments to UN Regulation No. 48. GRE agreed to reconsider GRE-70-28, provided that a Contracting Party supporting it would justify the need for introducing the amendment to 04 and 05 series of amendments.

10. GRE agreed to defer discussion on ECE/TRANS/WP.29/2011/99 and Corr.1 to its next session, awaiting the results of a study conducted by GTB.

11. The expert from the Netherlands introduced GRE-70-09, GRE-70-10 and GRE-70-11 superseding ECE/TRANS/WP.29/GRE/2013/2 on tell-tales associated with operation of lighting and light signalling devices. The proposal received some comments (GRE-70-36). GRE supported the proposal and agreed to revisit this subject at its next session on the basis of a revised document, which the expert from the Netherlands volunteered to prepare.

12. The expert from Poland presented GRE-70-41, introducing ECE/TRANS/WP.29/GRE/2013/57 and proposing performance based requirements on initial aiming of dipped-beam headlamps as an alternative to the existing requirements. The proposal received some comments (GRE-70-42). The expert from France requested adding proper tolerances from the Conformity of Production provisions. GRE agreed to revisit this subject (on initial aiming and considering the original 50 m visibility distance requirement) at its next session on the basis of a revised document, which the expert from Poland volunteered to prepare.

C. Other amendments to Regulation No. 48

Documentation: Informal document GRE-70-19

13. The expert from CLCCR introduced GRE-70-19 amending provisions relevant for vehicles of Category O. GRE supported most of the proposed changes and agreed to revisit

this subject at its next session on the basis of a revised document (addressing the comments received), which the expert from CLCCR volunteered to prepare in cooperation with the experts from CLEPA and the UK.

D. Vehicle signature

Documentation: ECE/TRANS/WP.29/GRE/2013/39

14. The expert from Germany introduced ECE/TRANS/WP.29/GRE/2013/39 on the separation of position lamps. GRE agreed to revisit this subject at its next session on the basis of a revised document concentrating on the separation of front position lamps, which the expert from Germany volunteered to prepare in collaboration with OICA, CLEPA and the expert from Japan.

VI. Collective amendments (agenda item 5)

A. Simplification of the approval markings

Documentation: ECE/TRANS/WP.29/GRE/69, para. 17,
ECE/TRANS/WP.29/2013/65 and Corr.1,
ECE/TRANS/WP.29/1104, para. 63

15. GRE agreed on the necessity to implement the "unique identifier" function into the Database for the Exchange of Type Approval documentation (DETA) in order to proceed with the simplification of the approval markings.

B. Phantom light and colour washout phenomena in signalling and marking devices

Documentation: ECE/TRANS/WP.29/GRE/69, para. 18

16. The expert from GTB briefly reported that the activities on this matter that were still ongoing.

C. Regulations Nos. 53 and 74

Documentation: ECE/TRANS/WP.29/GRE/2013/43,
ECE/TRANS/WP.29/GRE/2013/56,
Informal document GRE-70-32

17. The expert from Italy introduced ECE/TRANS/WP.29/GRE/2013/43, on obsolete references in UN Regulations Nos. 53 and 74. GRE agreed to revisit this subject at its next session on the basis of a revised document, which the expert from Italy volunteered to prepare.

18. The expert from IMMA introduced ECE/TRANS/WP.29/GRE/2013/56 as amended by GRE-70-32. GRE adopted this proposal as reproduced in Annex II to the report and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as draft Supplement 8 to the 01 series of amendments to UN Regulation No. 74.

19. The expert from France proposed the following correction to the French version of paragraph 5.15.5. in ECE/TRANS/WP.29/GRE/2013/56. GRE requested the secretariat to take this correction into account when preparing the corresponding document for WP.29.

For "Alerte en cas de danger", read "Signal de détresse"

D. Regulations Nos. 48 and 112

Documentation: (ECE/TRANS/WP.29/GRE/2013/18),
ECE/TRANS/WP.29/GRE/2013/44,
ECE/TRANS/WP.29/GRE/2013/62,
Informal documents GRE-70-17 and GRE-70-34

20. The expert from Germany, referring to ECE/TRANS/WP.29/GRE/2013/18, introduced a revised proposal (ECE/TRANS/WP.29/GRE/2013/62) on avoiding intentional voltage variation of a passing beam using halogen light sources. The expert from the Netherlands proposed clarifications to this proposal (GRE-70-17). The expert from IEC proposed an alternative to this proposal (GRE-70-34). The expert from France requested to simplify this proposal. The expert from Austria expressed reservations about the test procedure proposed in this proposal. The expert from Germany clarified that his proposal addressed and superseded the proposal ECE/TRANS/WP.29/GRE/2013/44 under agenda item 8 below. GRE agreed to revisit this subject at its next session on the basis of a revised document, which the expert from Germany volunteered to prepare, in coordination with the experts from France and IEC.

E. Regulations Nos. 3, 4, 6, 7, 19, 23, 38, 50, [69], [70], 77, 82, 87, 89, 91, [104], 112, 113, 119 and 123

Documentation: ECE/TRANS/WP.29/GRE/2013/45,
ECE/TRANS/WP.29/GRE/2013/55,
Informal documents GRE-70-02, GRE-70-12 and GRE-70-21

21. The expert from Italy introduced ECE/TRANS/WP.29/GRE/2013/55 as amended by GRE-70-12 on the compliance obligation of lighting components with installation requirements. The proposal received some comments (GRE-70-21). GRE agreed to finalise this subject at its next session on the basis of a revised document, which the expert from Italy volunteered to prepare.

22. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/45 as amended by GRE-70-02 clarifying the "type" definition with regard to manufacturer, trade name and marks. GRE adopted this proposal as reproduced in Annex III to the report and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their November 2014 sessions, as part of upcoming amendments to the corresponding UN Regulations, awaiting the adoption of the revised version of ECE/TRANS/WP.29/GRE/2013/55.

F. Regulations Nos. 6 and 48

Documentation: ECE/TRANS/WP.29/GRE/2013/47,
ECE/TRANS/WP.29/GRE/2013/60,
ECE/TRANS/WP.29/GRE/2013/61,
Informal documents GRE-70-05, GRE-70-16, GRE-70-24 and
GRE-70-43

23. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/47 as amended by GRE-70-05, introducing "interdependent lamps" into Regulation No. 6. GRE adopted this proposal as amended in Annex IV to the report, but refused the amendment proposed in GRE-70-24. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as draft Supplement 26 to the 01 series of amendments to UN Regulation No. 6 and as draft Supplement 4 to the 06 series of amendments to UN Regulation No. 48.

24. The expert from France proposed the correction noted below to the French version of para. 5.6. of ECE/TRANS/WP.29/GRE/2013/47. GRE requested the secretariat to take this correction into account when preparing the corresponding WP.29 document.

For "feux arrière de position", read "feux arrière de direction"

25. The expert from Germany presented ECE/TRANS/WP.29/GRE/2013/60 and ECE/TRANS/WP.29/GRE/2013/61, two revised proposals by France and Germany introducing provisions of direction indicators with variable apparent surface. He gave a practical demonstration supporting the proposal. The expert from OICA presented a study supporting the benefits of such systems (GRE-70-16). The expert from France proposed amendments (GRE-70-43) to ECE/TRANS/WP.29/GRE/2013/61, addressing comments received during the session. GRE noted the intention to only allow the principle of variable apparent surface for direction indicators. GRE agreed on and adopted these proposals as amended by Annex V and requested the secretariat to submit them to WP.29 and AC.1 for consideration at their March 2014 sessions as draft Supplement 26 to the 01 series of amendments to UN Regulation No. 6, as draft Supplement 13 to the 04 series of amendments and as draft Supplement 6 to the 05 series of amendments to UN Regulation No. 48.

26. GRE agreed to revisit this item at its next session and consider the prohibition of variable apparent surface direction indicators for a hazard warning signal and may consider its adoption at its next session for the 06 series of amendments to UN Regulation No. 48.

VII. Draft Horizontal Reference Document for light-signalling devices (agenda item 6)

Documentation: Informal document GRE-69-14

27. GRE noted the endorsement by WP.29 of the establishment of a Special Interest Group as proposed in GRE-69-14. The expert from the European Commission announced that he would send invitations for the first meeting scheduled in February 2014. During the meeting the Terms of Reference would be established and a Chair and a secretariat of the informal group would be selected. The GRE chair recalled the purpose of GRE-66-13 and GRE-66-14 and suggested that the group consider these documents.

VIII. Regulation No. 7 (Position, stop and end-outline lamps) (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRE/2013/42,
ECE/TRANS/WP.29/GRE/2013/48,
Informal document GRE-70-07

28. The expert from China introduced ECE/TRANS/WP.29/GRE/2013/42 to correct the maximum intensity limit of front position lamps in case the front position lamps are reciprocally incorporated with front fog lamps. GRE agreed and adopted this proposal.

GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of the draft Supplement 24 to the 02 series of amendments to UN Regulation No. 7.

29. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/48 as amended by GRE-70-07. GRE agreed and adopted this proposal as amended by Annex VI. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of the draft Supplement 24 to the 02 series of amendments to UN Regulation No. 7.

IX. Regulation No. 112 (Headlamps emitting an asymmetrical passing beam) (agenda item 8)

Documentation: ECE/TRANS/WP.29/GRE/2011/35,
ECE/TRANS/WP.29/GRE/2013/44,
Informal document GRE-70-18

30. The expert from Germany confirmed that ECE/TRANS/WP.29/GRE/2013/44 was addressed by ECE/TRANS/WP.29/GRE/2013/62 (see agenda item 5(d)) and withdrew this document.

31. The expert from SAE introduced GRE-70-18 providing comments on the proposal by the expert from China (ECE/TRANS/WP.29/GRE/2011/35). The expert from China withdrew this proposal.

X. Regulation No. 10 (Electromagnetic compatibility) (agenda item 9)

Documentation: ECE/TRANS/WP.29/GRE/2013/41,
ECE/TRANS/WP.29/2013/73,
Informal documents GRE-70-13, GRE-70-14, GRE-70-31,
GRE-70-33 and GRE-70-15-Rev.2

32. The expert from OICA introduced ECE/TRANS/WP.29/GRE/2013/41 as amended by GRE-70-14 and GRE-70-33 correcting ECE/TRANS/WP.29/2013/73. The expert from IEC recalled the purpose of GRE-70-13, containing amendments adopted at the sixty-ninth GRE session. The expert from OICA offered to consolidate all corrections agreed (GRE-70-15-Rev.2). GRE preferred to postpone the vote by WP.29 and AC.1 on ECE/TRANS/WP.29/2013/73 and requested the secretariat to submit GRE-70-15-Rev.2 to AC.1 and WP.29 as a revision to ECE/TRANS/WP.29/2013/73.

33. The expert from France introduced GRE-70-31 proposing a correction to the French version of ECE/TRANS/WP.29/GRE/2013/41. GRE requested the secretariat to take the correction, reproduced below, into account when preparing the corresponding WP.29 document as revision to ECE/TRANS/WP.29/2013/73.

Page 3,

For "Annexe 4, tableau 1, et annexe 5, tableau 1, ainsi qu'annexe 7, tableau 1, modifier la note comme suit: modification sans objet en français"

*Read: "~~Annexe 4, tableau 1, et~~ Annexe 5, tableau 1, ainsi qu'annexe 7, tableau 1, modifier la note comme suit: **si l'on utilise un spectre si un analyseur de spectre est utilisé**"*

and

For "Annexe 8, tableau 1, annexe 13, tableau 1, annexe 14, tableau 1, annexe 19, tableau 1, et annexe 20, tableau 1, modifier la note comme suit: modification sans objet en français"

Read: "Annexe 8, tableau 1, annexe 13, tableau 1, annexe 14, tableau 1, annexe 19, tableau 1, et annexe 20, tableau 1, modifier la note comme suit: ~~si l'on utilise un spectre si un analyseur de spectre est utilisé~~"

XI. Regulation No. 27 (Advance warning triangle) (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRE/2013/49,
ECE/TRANS/WP.29/GRE/2013/58,
Informal documents GRE-70-03 and GRE-70-25

34. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/49 as amended by GRE-70-03 and GRE-70-25, updating tests requirements of UN Regulation No. 27. GRE adopted this proposal as amended by Annex VII to the report. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of the draft 04 series of amendments to UN Regulation No. 27.

35. The expert from Germany introduced ECE/TRANS/WP.29/GRE/2013/58, amending the Conformity of Production requirements. GRE adopted this proposal. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of the draft 04 series of amendments to UN Regulation No. 27.

XII. Regulation No. 65 (Special warning lamps) (agenda item 11)

Documentation: ECE/TRANS/WP.29/GRE/2013/52,
ECE/TRANS/WP.29/GRE/2013/59,
Informal document GRE-70-04

36. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/52 as amended by GRE-70-04, harmonizing special warning lamps requirements with those prescribed by SAE. GRE agreed to keep the text and delete the square brackets in paragraph 5.1. and adopted this proposal as amended by Annex X to the report. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of Supplement 9 to UN Regulation No. 65.

37. The expert from Germany introduced ECE/TRANS/WP.29/GRE/2013/59, amending the Conformity of Production requirements. GRE adopted this proposal. GRE requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as part of Supplement 9 to UN Regulation No. 65.

XIII. Regulation No. 86 (Installation of lighting and light-signalling devices for agricultural tractors) (agenda item 12)

Documentation: Informal document GRE-70-01

38. The expert from the Netherlands, chairing the informal Group on Agricultural Vehicle Lighting Installation (AVLI) introduced GRE-70-01, proposing the terms of reference and the rules of procedures of the group. GRE agreed on this proposal, reproduced in Annex VIII to the report.

XIV. Conspicuity of motorcycles (agenda item 13)

39. In absence of any new proposal, GRE agreed to defer consideration of this agenda item to its next session.

XV. Other business (agenda item 14)

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

Documentation: Informal document GRE-70-23

40. The expert from Germany introduced GRE-70-23, providing a summary report on the progress of the Working Party on Road Traffic Safety (WP.1) on lighting and light-signalling related amendments to the Convention on Road Traffic.

B. Decade of action for road safety 2011-2020

41. GRE agreed to defer this item to its next session.

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

Documentation: Informal documents WP.29-156-21, GRE-69-15-Rev.1 and GRE-70-08, GRE-70-29, GRE-70-30, GRE-70-38 and GRE-70-45

42. The expert from EC, recalling the purpose of WP.29-156-21, introduced GRE-69-15-Rev.1 on the candidate items to be incorporated in IWVTA and UN Regulation No. 0. The proposal received some comments (GRE-70-08 and GRE-70-29). GRE endorsed GRE-70-45 and requested the secretariat to submit it to the IWVTA informal group.

43. The expert from Japan presented GRE-70-38, supporting GRE-70-30 amending Regulation No. 4 for the purpose of IWVTA. The proposal received some comments. GRE agreed to revisit this item at its next session on the basis of a revised proposal, which the expert from Japan volunteered to prepare.

D. Other business

Documentation: ECE/TRANS/WP.29/GRE/2013/46,
ECE/TRANS/WP.29/GRE/2013/53,
ECE/TRANS/WP.29/GRE/2013/54,
ECE/TRANS/WP.29/GRE/2013/63,
ECE/TRANS/WP.29/GRE/2013/64,
ECE/TRANS/WP.29/GRE/2013/65,
ECE/TRANS/WP.29/GRE/2013/66,
ECE/TRANS/WP.29/2013/75/Add.1,
Informal document GRE-70-06

44. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/46 proposing to delete the shape requirements of retro-reflecting devices. GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 16 to the 02 series of amendments to UN Regulation No. 3.

45. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/53 proposing accuracy improvements of the photometric performance stability test. GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 4 to the 01 series of amendments to UN Regulation No. 113.

46. The expert from GTB introduced ECE/TRANS/WP.29/GRE/2013/54, updating photometric test requirements relating to the type approval of Adaptive Front-lighting Systems (AFS). GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 6 to the 01 series of amendments to UN Regulation No. 123.

47. The expert from Germany introduced ECE/TRANS/WP.29/GRE/2013/63, clarifying the text of Regulation No. 123. GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 6 to the 01 series of amendments to UN Regulation No. 123.

48. The expert from CLEPA presented ECE/TRANS/WP.29/GRE/2013/64 and ECE/TRANS/WP.29/GRE/2013/65, introducing requirements for a new class 5 of devices into Regulation No. 70 and requirements and for a new class F of devices into Regulation No. 104. GRE agreed to revisit this subject at its next session on the basis of revised documents, which the expert from CLEPA volunteered to prepare.

49. The expert from France presented ECE/TRANS/WP.29/GRE/2013/66, introducing the 04 series of amendments for replacement parts in the transitional provisions of Regulation No. 19. GRE adopted this proposal and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 7 to the 04 series of amendments to UN Regulation No. 19.

50. The secretariat presented ECE/TRANS/WP.29/2013/75/Add.1, clarifying the context of the amendments to Regulation No.19 introduced by ECE/TRANS/WP.29/2013/75. GRE endorsed and adopted this addendum.

51. The expert from GTB proposed to clarify the requirements related to testing of the resistance to mechanical deterioration of the plastic lens surface (GRE-70-06). GRE adopted this proposal as reproduced in Annex IX to the report and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their March 2014 sessions as Supplement 4 to the 01 Series of Regulation No. 113.

E. Clarifications

Documentation: ECE/TRANS/WP.29/2013/69, ECE/TRANS/WP.29/2013/71, ECE/TRANS/WP.29/2013/72, ECE/TRANS/WP.29/2013/76, ECE/TRANS/WP.29/2013/79, ECE/TRANS/WP.29/2013/83, ECE/TRANS/WP.29/2013/87, ECE/TRANS/WP.29/2013/88, ECE/TRANS/WP.29/2013/89, ECE/TRANS/WP.29/2013/94, Informal documents GRE-70-22 and GRE-70-39

52. The expert from the UK, introduced GRE-70-39, proposing amendments to the ten documents listed above in reply to European Commission letter (GRE-70-22) stating concerns with GRE documents submitted for WP.29 adoption. GRE agreed on the proposed corrections and requested the secretariat to submit the document as an informal document for consideration at the November 2013 session of WP.29.

XVI. Direction of future GRE work (agenda item 15)

A. Work tasks of GRE

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

53. GRE agreed to defer consideration of this item to its next session.

B. Work progress of Working Party "Brussels 1952" task forces

Documentation: Informal document GRE-70-44

54. The expert from GTB presented a status report of the GTB Mirror Working Group SAE activities (GRE-70-44).

55. The expert from GTB reported on the progress made on the subject of LED retrofit.

XVII. Election of officers (agenda item 16)

56. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 as amended by Amend. 1 and 2) GRE called the election of officers. Mr. M. Gorzkowski (Canada) was unanimously elected Chair of GRE for the sessions scheduled for the year 2014. Mr. D. Rovers (Netherlands) was unanimously elected Vice-Chair of GRE for the year 2014.

XVIII. Provisional agenda for the next session

57. The following provisional agenda was adopted for the seventy-first session of GRE, scheduled to be held in Geneva from 31 March 2014 (starting at 2.30 p.m.) to 3 April 2014 (concluding at 12.30 p.m.)¹:

1. Adoption of the agenda.
2. Development of new global technical regulations.
3. Regulation No. 37 (Filament lamps).
4. Regulation No. 48 (Installation of lighting and light-signalling devices):
 - (a) Proposal for amendments to the 04, 05 and 06 series of amendments;
 - (b) Proposal for amendments to the 06 series of amendments;
 - (c) Other amendments to Regulation No. 48;
 - (d) Vehicle signature.
5. Collective amendments:
 - (a) Simplification of the approval markings;
 - (b) Phantom light and colour washout phenomena in signalling and marking devices;
 - (c) Regulations Nos. 53 and 74;

¹ GRE noted that the deadline for submission of official documents to the UNECE secretariat was 10 January 2014, twelve weeks prior to the session.

- (d) Regulations Nos. 48 and 112;
 - (e) Regulations Nos. 3, 4, 6, 7, 19, 23, 38, 50, 69, 70, 77, 82, 87, 89, 91, 104, 112, 113, 119 and 123;
 - (f) Regulations Nos. 6 and 48.
- 6. Draft Horizontal Reference Document for light-signalling devices.
 - 7. Regulation No. 7 (Position, stop and end-outline lamps).
 - 8. Regulation No. 27 (Advance warning triangle).
 - 9. Regulation No. 65 (Special warning lamps).
 - 10. Regulation No. 86 (Installation of lighting and light-signalling devices for agricultural tractors).
 - 11. Conspicuity of motorcycles.
 - 12. Other business:
 - (a) Amendments to the Convention on Road Traffic (Vienna 1968);
 - (b) Decade of action for road safety 2011-2020;
 - (c) Development of an International Whole Vehicle Type Approval (IWVTA);
 - (d) Other business.
 - 13. Direction for future GRE work:
 - (a) Work tasks of GRE;
 - (b) Work progress of the International Automotive Lighting and Light Signalling Expert Group (GTB) task forces.

Annex I

List of informal documents considered during the session

Informal documents GRE-70-...

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(AVLI Informal Group) Terms of Reference and Rules of Procedure of the GRE informal Group on Agricultural Vehicle Lighting Installation (AVLI)	a
2	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/45	a
3	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/49	a
4	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/52	a
5	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/47	a
6	(GTB) Proposal for Supplement 4 to the 01 Series of Regulation No. 113	a
7	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/48	a
8	(IEC) Comments from IEC to informal document GRE-69-15-Rev.1	f
9	(NL) Proposal for amendments to Regulation No. 48	e
10	(NL) Proposal for amendments to Regulation No. 87	e
11	(NL) Proposal for amendments to Regulation No. 7	e
12	(Italy) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/55	f
13	(IEC) IEC comments to ECE/TRANS/WP.29/GRE/2013/41	f
14	(OICA) Proposal for amendments to ECE/TRANS/WP.29/2013/73 superseding ECE/TRANS/WP.29/GRE/2013/41	f
15	(OICA) Amended proposal for the 05 series of amendments to Regulation No. 10 (superseding ECE/TRANS/WP.29/2013/73)	f
16	(OICA) Dynamic Turn Indicator: Research/Investigation Findings	f
17	(NL) Clarification of ECE/TRANS/WP.29/GRE/2013/62, concerning electronic light source control gear	f
18	(SAE) Comments to ECE/TRANS/WP.29/GRE/2011/35	f
19	(CLCCR) Proposal for amendments to Regulation No. 48	e
20	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRE/2013/50	f
21	(IMMA) Proposal for amendment to ECE/TRANS/WP.29/GRE/2013/55	f
22	(EC) Request for correction of amendments to Regulations Nos. 4, 6, 7, 23, 38, 50, 77, 87, 91 and 119	f
23	(Germany) Consistency between the Convention on Road Traffic (1968) and Vehicle Technical Regulations	f
24	(GTB) Proposal for correction to ECE/TRANS/WP.29/GRE/2013/47	f
25	(GTB) Proposal for correction to ECE/TRANS/WP.29/GRE/2013/49	a
26	(GTB) Presentation supporting GRE-70-25	g
27	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/50	f
28	(GTB) Proposal for Correction to ECE/TRANS/WP.29/GRE/2013/51	f
29	(OICA) Comments on GRE-69-15-Rev.1 (IWVTA)	f
30	(Japan) Proposal for Supplement 18 to the 00 series of amendments to Regulation No. 4	e
31	(France) Proposal for amendments to ECE/TRANS/WP.29/GRE/2013/41	a

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
32	(IMMA) Proposal for amendment to ECE/TRANS/WP.29/GRE/2013/56	a
33	(OICA) Proposal for amendments to GRE-70-15	f
34	(IEC) Proposed alternatives to document GRE-70-17, concerning electronic light source control gear	f
35	(GTB) Proposal for additions to ECE/TRANS/WP.29/GRE/2013/50	f
36	(OICA) Comments to GRE-70-09	f
37	(Sec) Updated and consolidated provisional agenda (incl. informal documents)	b
38	(Japan) Proposal for Amendment of Regulation No. 4	f
39	(UK) Proposal for amendments addressing item 14(e)	a
40	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRE/2013/57	g
41	(Poland) Presentation supporting ECE/TRANS/WP.29/GRE/2013/57	f
42	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRE/2013/57	f
43	(France) Amendments to ECE/TRANS/WP.29/GRE/2013/61	a
44	(GTB) Status report of the GTB Mirror Working Group SAE	f
15r2	(OICA) Amended proposal for the 05 series of amendments to Regulation No. 10 (superseding ECE/TRANS/WP.29/2013/73)	a
45	(GRE) List of Candidate Regulations for the purpose of IWVTA	a
46	(Poland) Examples of strange direction indicators according ECE/TRANS/WP.29/GRE/2013/6	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 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 ECE/TRANS/WP.29/GRE/2013/56

Insert new paragraph 2.5.14., to read:

"2.5.14. "Hazard warning signal" means the simultaneous operation of all of a vehicle's direction-indicator lamps to show that the vehicle temporarily constitutes a special danger to other road users;"

Paragraph 5.13., amend to read:

"5.13. Colours of the lights 3/

The colours of the lights referred to in this Regulation shall be as follows:

...

front retro-reflector non triangular: white

side retro-reflector, non-triangular: amber at the front

amber or red at the rear

pedal retro-reflector: amber

rear retro-reflector, non-triangular: red

direction-indicator lamp: amber

stop lamp: red

rear position lamp: red

rear-registration plate lamp: white

Vehicle-hazard warning signal: amber"

Insert new paragraph 5.15.5., to read:

"5.15.5. vehicle-hazard warning signal (paragraph 6.12.)"

Insert new paragraph 6.12., to read:

"6.12. Vehicle-hazard warning signal

6.12.1. The signal shall be given by simultaneous operation of the direction-indicator lamps in accordance with the requirements of paragraph 6.8. above.

6.12.2. Electrical connections

The signal shall be given by means of a separate control enabling all the direction-indicators to be supplied with current simultaneously.

6.12.3. "Circuit-closed" tell-tale

Mandatory flashing red signal lamp or, in the case of separate tell-tales, the simultaneous operation of the tell-tale prescribed in paragraph 6.8.11.

6.12.4. Other requirements

Light flashing 90 ± 30 times per minute.

Operation of the lamp-signal control shall be followed within not more than one second by the appearance of the light and within not more than one-and-one-half seconds by the first extinction of the light."

Annex III

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/45

Proposal A,

Paragraph 1.3., amend to read:

"1.3. "Rear registration plate lamps of different types" means lamps which differ in such essential respects as:

- (a) the trade name or mark:
 - (i) **lamps bearing the same trade name or mark but produced by different manufacturers shall be considered as being of different types;**
 - (ii) **lamps produced by the same manufacturer differing only by the trade name or mark shall be considered as being of the same type.**
- (b) the characteristics....."

Insert a new paragraph (d), to read;

Paragraph 2(c), amend to read:

"(c) Two samples, equipped with the lamp or lamps ~~recommended.~~"

Insert a new paragraph 2(d), to read;

- "(d) **In the case of a type of lamp differing only by the trade name or mark from a type that has already been approved it shall be sufficient to submit:**
 - (i) **a declaration by the lamp manufacturer that the type submitted is identical (except in the trade name or mark) with and has been produced by the same manufacturer as the type already approved, the latter being identified by its approval code;**
 - (ii) **two samples bearing the new trade name or mark or equivalent documentation."**

Proposal G,

Throughout the proposal, *for "lamps" read "devices"*

Proposal M

Throughout the proposal, *for "lamps" read "marking material"*

Annex IV

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/47

Proposal A,

Add a new Paragraph 5.6., to read:

- "5.6. An interdependent ... together.
- ... ~~This does not apply to interdependent direction indicator lamp(s) intended for fitting on vehicle(s) on which additional lamps to fulfill or complete the inboard geometric visibility are installed and activated when the movable component is in any fixed open position; in this case the inboard geometric visibility requirement is deemed to be satisfied if this (these) interdependent lamp(s) still conform to the photometric values prescribed in the field of light distribution.~~ **This does not apply to interdependent direction indicator lamp(s) intended for fitting on vehicle(s) where, to fulfil or complete the geometric visibility angle, additional lamps are activated when the movable component is in any fixed open position, provided that these additional lamps satisfy all the position, photometric and colorimetric requirements applicable to the direction indicator lamps installed on the movable component."**

Proposal B,

Paragraph 5.18.4., amend to read:

- "5.18.4. In the case ... the movable component.
- or
- (b) Should the interdependent lamp system be partly mounted on the fixed component and partly mounted on a movable component, **with the exception of direction indicator lamps**, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, outwards geometric visibility, colorimetric and photometric requirements for those lamps, at all fixed positions of the movable component(s)
- ... the movable component(s).
- For direction indicator lamps, the interdependent lamp(s) specified by the Applicant during the device approval procedure shall meet all the position, geometric visibility, photometric and colorimetric requirements at all fixed positions of the movable component(s). This does not apply where, to fulfil or complete the geometric visibility angle, additional lamps are activated when the movable component is in any fixed open position, provided that these additional lamps satisfy also all the position, photometric and colorimetric requirements applicable to the direction indicator lamps installed on the movable component."**

Annex V

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/61

Paragraph 5.6., amend to read:

- "5.6. For direction indicator lamps of categories 1, 1a, 1b, 2a or 2b the flash may be produced by sequential activation of their light sources if the following conditions are met:
- (a) Each light source, after its activation, shall remain lit until the end of the ON cycle;
 - (b) The sequence of activation of the light sources shall proceed **in a uniform progressive manner** ~~in the direction~~ from the inboard edge towards the outboard edge of the apparent surface;
 - (c) **It shall be one continuous line with no repeating alternation in the vertical direction (e.g. no waves).**
 - (d) The variation shall finish no more than 200 ms after the beginning of the ON cycle;
 - (e) For the orthogonal projection in the direction of the axis of reference of a rectangle, circumscribing the apparent surface of the direction indicator **shall have** ~~and having~~ its longer sides parallel to the H-plane, the ratio of the horizontal to the vertical sides shall not be less than 1.7."

Annex VI

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/48

Paragraph 6.2.4.2., amend to read:

"6.2.4.2. If a rear position lamp **and/or a rear end-outline marker lamp** is reciprocally incorporated with a stop-lamp producing either steady or variable luminous intensity, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously at the intensity of the rear position lamp **or end-outline marker lamp** when turned on alone should be at least 5: 1 in the field delimited by the straight horizontal lines passing through $\pm 5^\circ$ V and the straight vertical lines passing through $\pm 10^\circ$ H of the light distribution table.

If the **one or both of the two reciprocally incorporated lamps** ~~rear position lamp, or the stop lamp or both~~ contain(s) more than one light source and **is** (are) considered as a single lamp, the values to be considered are those obtained with all **light** sources in operation;"

Annex VII

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/49

List of contents

Insert a new reference to new paragraph 14., to read:

"14. Transitional provisions"

Insert a new reference to new Annex 9, to read:

"9. Colour fastness to artificial light: Xenon-arc lamp test"

Insert a new reference to new Annex 10, to read:

"10. Description of the measurement geometry for measurement of the colour and the luminance factor of fluorescent retro-reflective materials"

Insert a new paragraph 2.10., to read:

"2.10. Fluorescent retro-reflecting material

Means a material with retro-reflecting properties which, when excited by daylight, exhibits the phenomenon of photo-luminescence ceasing rather shortly after excitation."

Insert new paragraph 3.6., to read;

"3.6. In the case of a type of lamp advance warning triangle differing only by the trade name or mark from a type that has already been approved it shall be sufficient to submit:

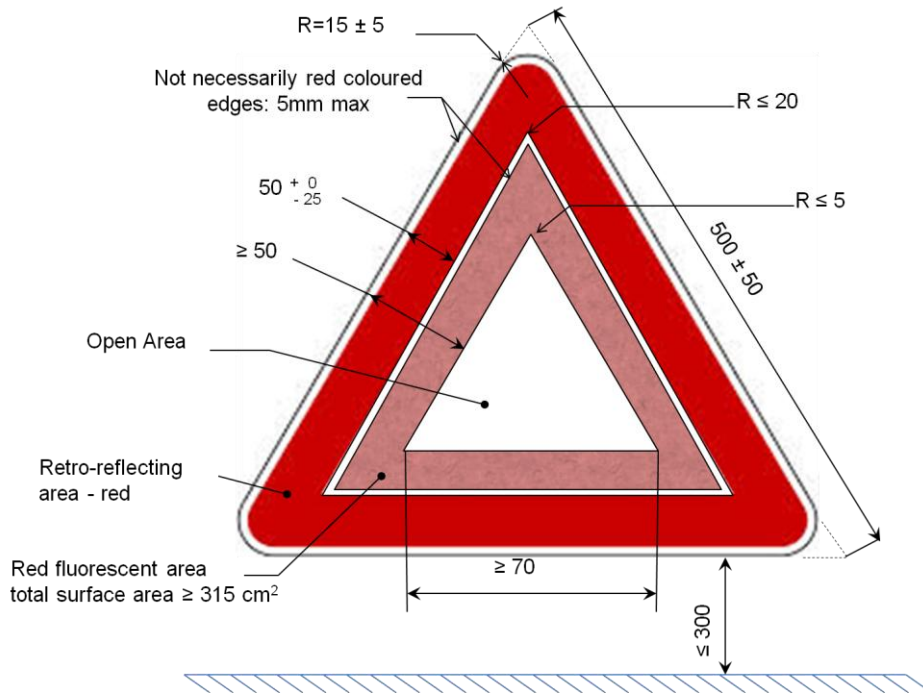
3.6.1. a declaration by the lamp advance warning triangle manufacturer that the type submitted is identical (except in the trade name or mark) with and has been produced by the same manufacturer as, the type already approved, the latter being identified by its approval code;

3.6.2. two samples bearing the new trade name or mark or equivalent documentation."

Annex 3, figure 1., amend to read:

"Figure 1.

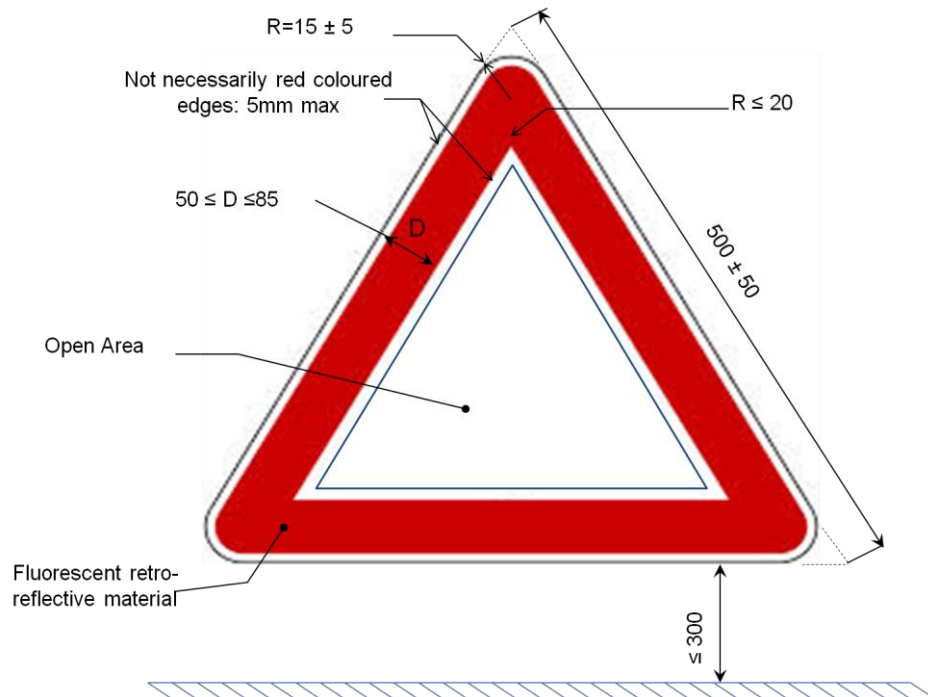
Shape and dimensions of the advance-warning triangle of type 1 and of the support



Annex 3, insert a new Figure 2., to read:

"Figure 2.

Shape and dimensions of the advance-warning triangle of type 2 and of the support



Annex VIII

Adopted Terms of Reference of the informal Group on Agricultural Vehicle Lighting Installation (AVLI)

I. Terms of Reference

1. The informal group shall update the present UN Regulation No. 86 in order to align it with the state of the art of existing agricultural tractors with the aim to improve their visibility.
2. The informal group will use as a basis for the discussions the present UN Regulation No. 86 and the proposals from CEMA and Italy submitted and presented during sixty-ninth session of GRE, in Geneva (8 – 11 April 2013).
3. The informal group will initially not extend the scope of the present UN Regulation No. 86. Possible future extension of the scope to other vehicle categories, as defined in the Consolidated Resolution (R.E.3), will be left for decision by GRE.
4. The informal group shall not include novel lighting or light-signalling devices which are not specified yet within the UNECE 1958 Agreement.
5. The informal group shall not include installation requirements for the special warning lamp according to UN Regulation No. 65, due to conflicts with national legislation of the Contracting Parties.
6. The target completion date for the work of the informal group shall be the seventy-second session of GRE in October 2014.
7. The informal group intends to propose amendments to UN Regulation No. 86 to GRE. The adoption process remains the responsibility of GRE, WP.29 and AC.1 in line with the rules defined by the 1958 Agreement.

II. Rules of Procedure

1. The informal group is a subgroup of GRE, and is open to Contracting Parties, Vehicle Manufacturers and Suppliers, Technical Services, Automotive Lighting Experts, etc.
2. A Chair, a Co-Chair and a Secretary will manage the informal group.
3. The official working language of the informal group will be English.
4. All documents and/or proposals must be submitted to the Secretary of the group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated 10 working days in advance.
5. An agenda and related documents will be made available on the website by the Secretary of the group, in advance of all scheduled meetings.
6. Decisions will be reached by consensus. When consensus cannot be reached, the Chairs of the group shall present the different points of view to GRE. The Chairs may seek guidance from GRE as appropriate.
7. The progress of the informal group will be routinely reported to GRE – wherever possible as an informal document and presented by the Chairs, the Secretary or their representative(s).
8. All working documents shall be made available by the Secretary on the website of the group: <https://www2.unece.org/wiki/pages/viewpage.action?pageId=5802511>.

Annex IX

Adopted amendments to Regulation No. 113

Annex 6, paragraph 2.6.1.2., amend to read:

"2.6.1.2. Results

~~After the test, the results of photometric measurements carried out on the headlamp in accordance with this Regulation shall not exceed by more than 30 per cent the maximum values prescribed at point HV and not be more than 10 per cent below the minimum values prescribed at point 50 L and 50 R for Class B headlamp, 0.86D/3.5R, 0.86D/3.5L for Classes C, D and E headlamp.~~

After the test, the results of photometric measurements carried out on the headlamp in accordance with this Regulation shall not exceed:

- (a) by more than 30 per cent the maximum values prescribed at point HV and not be more than 10 percent below the minimum values prescribed at point 50 L and 50 R for Class B headlamp, 0.86D/3.5R, 0.86D/3.5L for Class C, D and E headlamp.
- (b) **by more than 10 percent below the minimum values prescribed for HV in the case of a headlamp producing driving beam only."**

Annex X

Adopted amendments to ECE/TRANS/WP.29/GRE/2013/52

Insert a new paragraph 1.9.1.2, to read:

- "1.9.1.2. In cones, the generating lines of which produce with the above-mentioned horizontal plane angles, starting at a point where the effective intensity is minimum, the values of which are indicated in the table in annex 5 to this Regulation."**

Insert a new paragraph 2.4. to read:

- "2.4. In the case of a type of a special warning lamp differing only by the trade name or mark from a type that has already been approved it shall be sufficient to submit:**
- 2.4.1. A declaration by the lamp manufacturer that the type submitted is identical (except in the trade name or mark) with and has been produced by the same manufacturer as the type already approved, the latter being identified by its approval code;**
- 2.4.2. Two samples bearing the new trade name or mark or equivalent documentation."**

Paragraph 5.1., amend to read:

- "5.1. The special warning lamps must be so designed and constructed that in normal conditions of use, and notwithstanding the vibrations to which they may be subjected in such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Regulation.**

The special warning lamps must be so designed and constructed that the relevant requirements with regard to **internal voltage higher than **60 V DC** are fulfilled; e.g. by marking the device, as defined in paragraph 5.1.1.5. in Regulation No. 100."**

Annex XI

GRE informal groups

<i>Informal group</i>	<i>Chair</i>	<i>Secretary</i>
Agricultural Vehicle Lighting Installation (AVLI)	Mr. Gerd Kellermann (Germany) Phone: +49 228 300 43 04 Fax: +49 228 300 807 43 04 E-mail: gerd.kellermann@bmvbs.bund.de <i>and</i> 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

Annex XII

Adopted amendments to ECE/TRANS/WP.29/2013/73

Insert a new paragraph 3.2.10., to read:

"3.2.10. The applicant shall specify the approval number(s) according to the Regulation(s), other than this Regulation No. 10, for which approval has also been granted, if applicable.

In case an ESA is (part of) a light source, the applicant shall:

(a) Specify the approval number according to Regulation No. 37, Regulation No. 99 or Regulation No. 128, granted to this ESA;

or

(b) Provide a test report by a Technical Service designated by the Approval Authority, stating that this ESA is not mechanically interchangeable with any light source according to Regulation No. 37, Regulation No. 99 or Regulation No. 128."

Insert a new paragraph 4.2.4., to read:

"4.2.4. ~~In case an ESA is (part of) a light source and if:~~
 (a) ~~This ESA is subject to approval according to Regulation No. 37, Regulation No. 99 or Regulation No. 128; and/or,~~
 (b) ~~This ESA is mechanically interchangeable with any (replaceable) approved light source according to Regulation No. 37, Regulation No. 99 or Regulation No. 128;~~

~~Then approval according to Regulation No. 10 shall be refused if no approval according to Regulation No. 37, Regulation No. 99 or Regulation No. 128 was granted.~~

In case an ESA is (part of) a light source and if the documentation as specified in paragraph 3.2.10. is missing, approval of this ESA according to Regulation No. 10 shall not be granted."

Paragraph 6.7.1., Table 1, amend to read (inserting the unit "V"):

"Table 1

Maximum allowed pulse amplitude

Polarity of pulse amplitude	Maximum allowed pulse amplitude for	
	Vehicles with 12 V systems	Vehicles with 24 V systems
Positive	+75 V	+150 V
Negative	-100 V	-450 V

Paragraph 7.5.2.2., amend to read:

"7.5.2.2. If measurements are made using the method described in Annex 13, the limits on DC power lines are those defined in IEC 61000-6-3 (edition 2.0-2006) and given in Table 408 8. "

Paragraph 7.15.2.2., amend to read:

"7.15.2.2. The ESA representative of its type shall be considered as complying with immunity requirements if, during the tests performed in accordance with Annex ~~15~~**21**, there shall be no degradation of performance of "immunity related functions", according to paragraph 2.2. of Annex 9."

Paragraph 7.17.1., Table 17, amend to read (inserting the unit "V"):

Polarity of pulse amplitude	Maximum allowed pulse amplitude for	
	Vehicles with 12 V systems	Vehicles with 24 V systems
Positive	+75 V	+150 V
Negative	-100 V	-450 V

Paragraph 13.1., amend to read:

"13.1. ~~General~~"

Former paragraphs 13.1. and 13.3. combined to new paragraph 13.1.1., to read:

"13.1.1. ~~As from the official date of entry into force of the most recent series of amendments:~~

- (a) ~~No Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by these most recent series of amendments; and~~
- (b) ~~Contracting Parties applying this Regulation shall not refuse to grant extensions of approvals to the preceding series of amendments to this Regulation.~~

Paragraph 13.8. (former), renumber as paragraph 13.1.2. and amended to read:

"13.1.2. ~~Notwithstanding paragraphs 13.3.1. to 13.4.2., approvals granted to the preceding series of amendments to the Regulation for vehicle type which are not equipped with a coupling system to charge the REESS, or for component or separate technical unit which doesn't include a coupling part to charge the REESS, shall remain valid and Contracting Parties applying this Regulation shall continue to accept them.~~"

Insert a new paragraph 13.2., to read:

"13.2. ~~Transitional provisions applicable to 03 series of amendments.~~"

Paragraph 13.2. (former), amend to read:

"13.2.1. ~~As from 11 July 2009 (12 months after the date of entry into force of this Regulation, as amended by the 03 series of amendments), Contracting Parties applying this Regulation shall grant approvals only if the vehicle type, component or separate technical unit to be approved meets the requirements of this Regulation as amended by the 03 series of amendments.~~"

Paragraphs 13.3. and 13.4. (former), shall be deleted

Insert a new paragraph 13.3., to read:

"13.3. ~~Transitional provisions applicable to the 04 series of amendments.~~"

Paragraph 13.5., renumber as paragraph 13.3.1. and amend to read:

"13.3.1. ~~As from 28 October 2014 (36 months after the official date of entry into force of this Regulation, as amended by the 04 series of amendments), Contracting Parties applying this Regulation shall grant approvals only if the vehicle type, component or separate technical unit, to be approved meets the requirements of this Regulation as amended by the 04 series of amendments.~~"

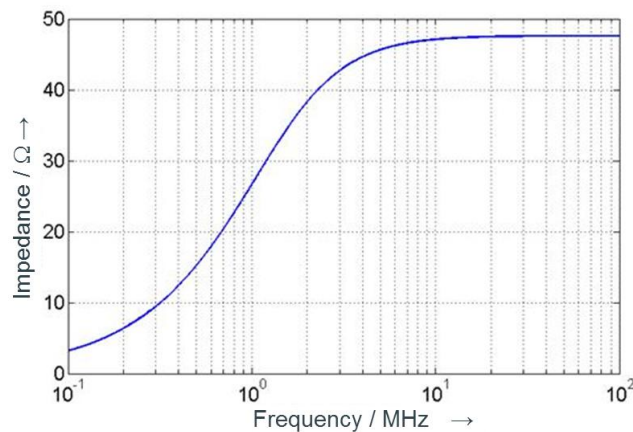
Paragraphs 13.6. to 13.8. (former), shall be deleted.

Insert new paragraphs 13.4. and 13.4.1 13.11., to read:

- "13.4. ~~Transitional provisions applicable to the 05 series of amendments.~~
 13.4.1 13.11. As from [~~?? October 2017~~] (~~36~~) months after the date of entry into force of the 05 series of amendments), Contracting Parties applying this Regulation shall grant type approvals only if the vehicle type, component or separate technical unit, to be approved meets the requirements of this Regulation as amended by the 05 series of amendments."

Appendix 8, figure 2, delete and replace by:

**"Figure 2
 Impedance of HV artificial network**



Annex 4, Table 1 and Annex 5, Table 1 and Annex 7, Table 1, the note amend to read:

"Note: If a spectrum **analyser**"

Annex 5, paragraph 1.2., amend to read:

1.2. Test method

This test is intended to measure the narrowband electromagnetic emissions ~~such as might~~ **that may** emanate from microprocessor-based systems or other narrowband source.

If not otherwise stated in this annex the test shall be performed according to CISPR 12 **or to CISPR 25**.

Annex 7, paragraph 4.4., amend to read:

"4.4. Measurements

Unless otherwise specified the configuration with the LV harness closer to the antenna shall be tested.

The phase centre of the antenna shall be in line with the centre of the longitudinal part of the wiring harnesses for frequencies up to 1,000 MHz.

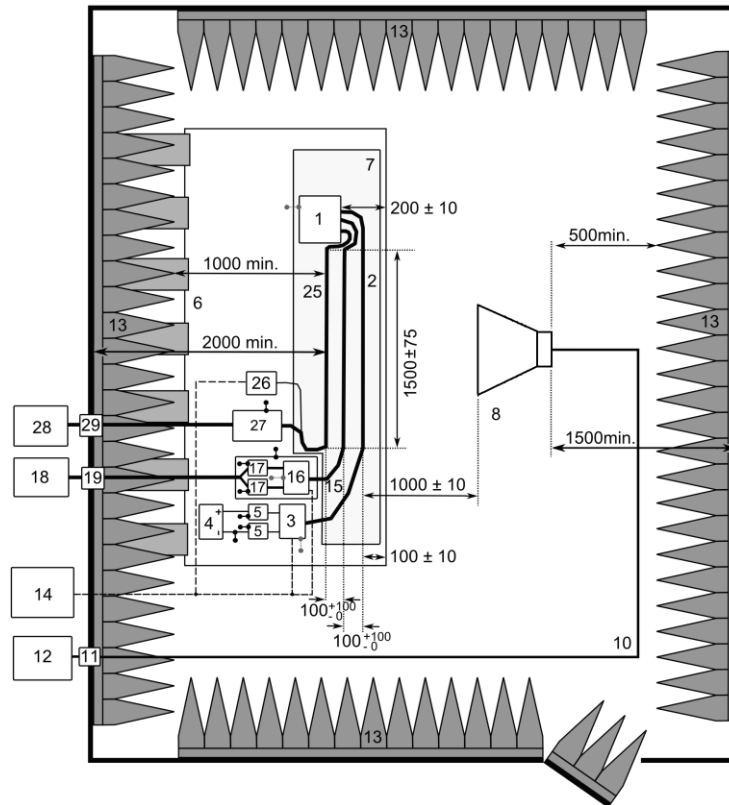
~~The phase centre of the antenna for frequencies above 1'000 MHz shall be in line with the ESA."~~

Annex 8, Table 1 and Annex 13, Table 1 and Annex 14, Table 1 and Annex 19, Table 1, and Annex 20, Table 1, the note amend to read:

"Note: ~~If a spectrum~~ **If a spectrum analyser**"

Annex 9, Appendix 3, figure, delete and replace by:

Top view (Vertical polarization)



Annex 9, Appendix 3, Legend, amend to read:

"Legend

- | | |
|---|--------------------------------------|
| 1 ESA (grounded locally if required in test plan) | 13 RF absorber material |
| 2 LV Test harness | 14 Stimulation and monitoring system |
| 3 LV Load simulator (placement and ground connection according to CISPR 25 paragraph 6.4.2.5) | 15 HV harness |
| 4 Power supply (location optional) | 16 HV load simulator |
| 5 LV Artificial network (AN) | 17 HV AN |
| 6 Ground plane (bonded to shielded enclosure) | 18 HV power supply |
| 7 Low relative permittivity support ($\epsilon_r \leq 1,4$) | 19 HV feed-through |
| 8 Biconical-Horn antenna | 25 AC/DC charger harness |
| 10 High-quality coaxial cable e.g. double-shielded (50 Ω) | 26 AC/DC load simulator (e.g. PLC) |
| 11 Bulkhead connector | 27 50 μ H LISN (AC) or HVAN (DC) |
| 12 RF signal generator and amplifier | 28 AC/DC power supply |
| | 29 AC/DC feed-through |

"

Annex 9, Appendix 4, amend to read:

"Top view (~~horizontal polarization~~) (example of substitution method)"

Annex 11 paragraph 2.1, amend to read:

- "2.1. The vehicle shall be in configuration "REESS charging mode coupled to the power grid".

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 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)~~ **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 **80** per cent of its nominal value."

Annex 11, paragraph 3.1., amend to read:

- "3.1. The observation time to be used for the measurements shall be as for quasi-stationary equipment as defined in ~~Table 3 of IEC 61000-3-2,~~ **Table 4.**"

Annex 12, para. 2.1, amend to read:

- "2.1. The vehicle shall be in configuration "REESS charging mode coupled to the power grid".

The state of charge (SOC) of the traction battery shall be kept between 20 per cent and 80 per cent of the maximum SOC ~~s 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)~~ **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 80 per cent of its nominal value."

Annex 13, paragraph 3.3., amend to read:

- "3.3. The test set-up for the connection of the vehicle in configuration "REESS charging mode coupled to the power grid" is shown in figure ~~11a to 1d~~ of the appendix to this Annex."

Annex 13, paragraph 4.2., amend to read:

- "4.2. Measurements shall be performed with average and either quasi-peak or peak detectors. The limits are given in paragraph 7.5.

Table 7 for AC lines and Table 8 for DC lines. If peak detectors are used a correction factor of 20 dB as defined in CISPR ~~12~~ shall be applied. "

Annex 15 paragraph 2.1.2, Annex 16 paragraph 2.1.2, amend to read:

"2.1.2

<i>" REESS charging mode" vehicle test conditions</i>	<i>Failure criteria</i>
<p>The REESS shall be in charging mode. The SOC 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 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). 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>Vehicle sets in motion</p>

Annex 17 paragraph 2.1., Annex 18 paragraph 2.1., amend to read:

"2.1. The ESA shall be in configuration "REESS charging mode coupled to the power grid".

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 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)~~ **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 test is not performed with a REESS the ESA should be tested at rated current. If the current consumption can be adjusted, then the current shall be set to at least 80 per cent of its nominal value."~~

Annex 19, paragraph 3.2., amend to read:

"3.2. The artificial mains network to be used for the measurement on vehicle components is defined in clause 4.3. of CISPR 16-1-2.

Artificial networks

The AN(s) shall be mounted directly on the ground plane. The cases of the AN(s) shall be bonded to the ground plane.

~~The measuring port of each AN shall be terminated with a 50 Ω load.~~

The conducted emissions on AC and DC power lines are measured successively on each power line by connecting the measuring receiver on the measuring port of the related AN, the measuring port of the AN inserted in the other power lines being terminated with a 50 Ω load.

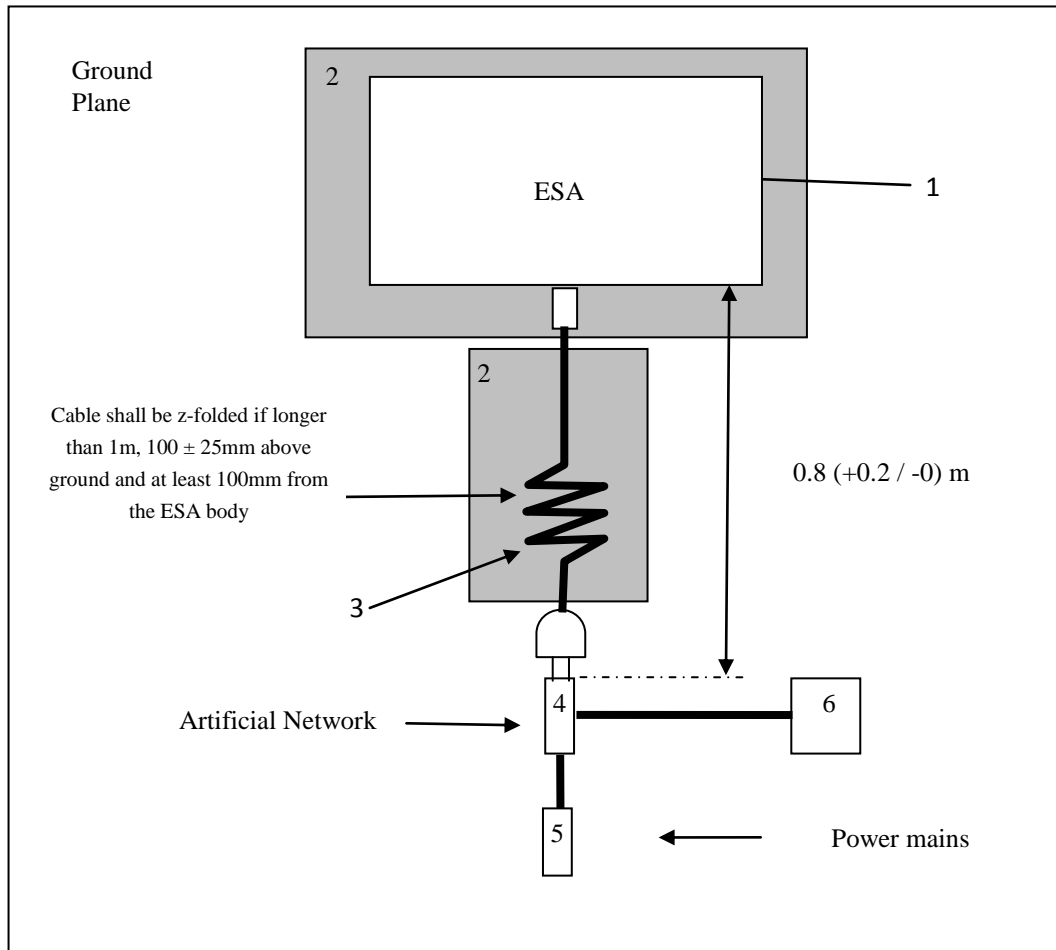
The AN shall be placed in front, aligned and on the same side of the vehicle power charging plug.

Annex 19, paragraph 3.3., amend to read:

"3.3. The test set-up for the connection of the ESAs in configuration "REESS charging mode coupled to the power grid" is shown in ~~Figure 2~~ **Figure 1** of Appendix 1 to this annex."

Annex 19, Appendix, Figure 1, delete figure and replace by:

"Figure 1
ESA in configuration "REESS charging mode coupled to the power grid"



Legend

- 1 ESA under test
- 2 Insulating support
- 3 Charging cable
- 4 AC or DC Artificial Network(s) grounded
- 5 Power mains socket
- 6 Measuring receiver"

Annex 20, paragraph 3.1., amend to read:

"3.1. The test set-up shall be performed according to paragraph ~~5~~ **8 and 9** of CISPR 22 for conducted emissions."

Annex 20, paragraph 3.2., amend to read:

"3.2. ~~The impedance stabilization to be used for the measurement on ESA is defined in CISPR 22, paragraph 9.6.2.~~

Impedance Stabilization

Communication lines shall be applied to the ~~vehicle~~ **ESA** through IS(s).

The impedance stabilization (IS) to be connected in the network and communication cables is defined in CISPR 22 paragraph 9.6.2.

The IS(s) shall be mounted directly on the ground plane. The case of the IS(s) shall be bonded to the ground plane.

~~The measuring port of each IS shall be terminated with a 50 Ω load.~~

The conducted emissions on network and telecommunication lines are measured successively on each line by connecting the measuring receiver on the measuring port of the related IS, the measuring port of the IS inserted in the other lines being terminated with a 50 Ω load.

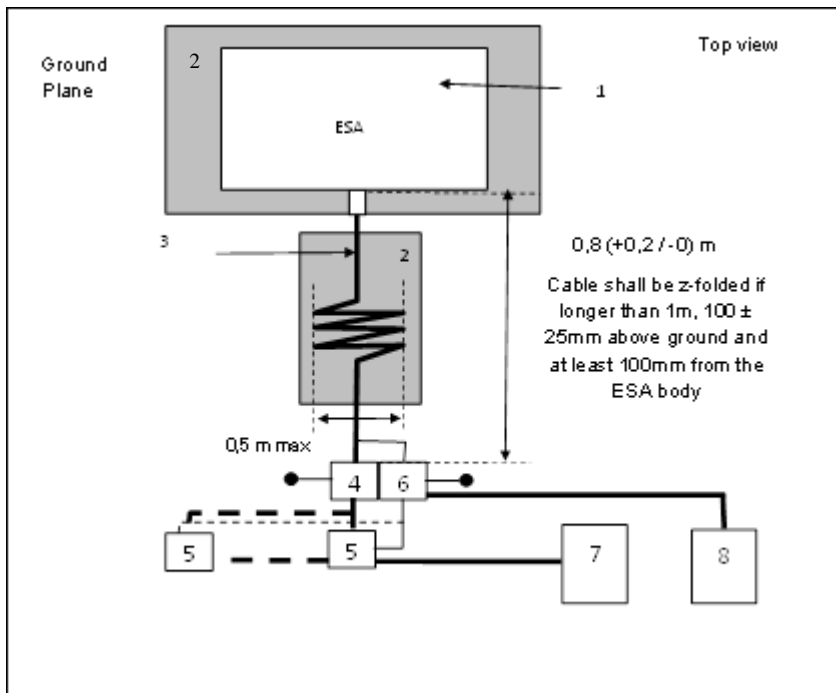
The IS shall be placed in front, aligned and on the same side of the vehicle power charging plug."

Annex 20, paragraph 3.5., renumber to paragraph 3.4.

Annex 20, Table 2, amend to read:

"~~Note: For emissions generated by brush commutator motors without an electronic control unit, the maximum step size may be increased up to 5 times the bandwidth.~~"

Annex 20, Appendix, Figure 1, delete and replace by:



Annex 20, Appendix, Figure 1, Legend, amend to read:

- 1 ESA under test
- 2 Insulating support
- 3 Charging / communication cable
- 4 AC or DC Artificial Network(s) grounded
- 5 Power mains socket
- 6 Impedance Stabilization(s) grounded
- 7 Charging Station
- 8 Measuring receiver**

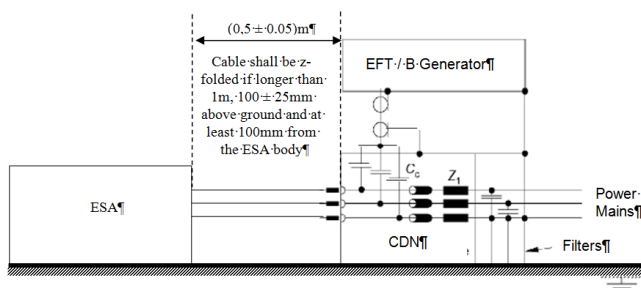
Annex 21 paragraph 2.1., Annex 22 paragraph 2.1.2, amend to read:

"2.1. Basic ESA conditions

The paragraph defines minimum test conditions (as far as applicable) and failures criteria for ESA immunity tests.

"REESS charging mode" ESA test conditions	Failure criteria
<p>ESA shall be in configuration "REESS charging mode coupled to the power grid".</p> <p>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 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) 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).</p> <p>If the test is not performed with a REESS the ESA should be tested at rated current. 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>Incorrect charging condition (e.g. over-current, overvoltage)</p>

Annex 21, Appendix, Figure 1, delete and replace by:



Annex 21, Appendix, Figure 1, amend to read:

- "Legend — 1 — ESA under test
 — 2 — Insulating support

- 3 — Charging / communication cable
- 4 — AC or DC Artificial Network(s) grounded
- 5 — Power mains socket
- 6 — Impedance Stabilization(s) grounded
- 7 — Charging Station"

Annex 22, paragraph 4.3., amend to read:

"4.3 The Technical Service shall perform the test as specified in paragraph 7.8.2.1 7.16.2.1."

Annex 22, Appendix, Figures 1-4, amend to read:

Figure 1
ESA in configuration "REESS charging mode coupled to the power grid" - Coupling between lines for DC or AC (single phase) power lines.

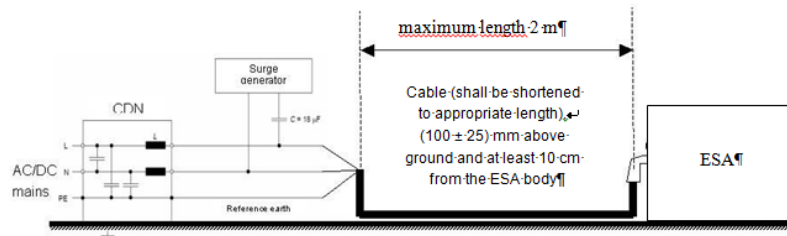


Figure 2
ESA in configuration "REESS charging mode coupled to the power grid" - Coupling between each line and earth for DC or AC (single phase) power lines

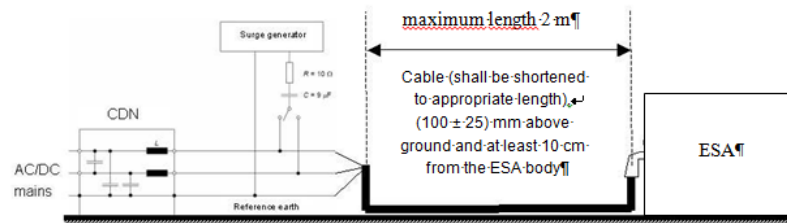


Figure 3
ESA in configuration "REESS charging mode coupled to the power grid" - Coupling between lines for AC (three phases) power lines

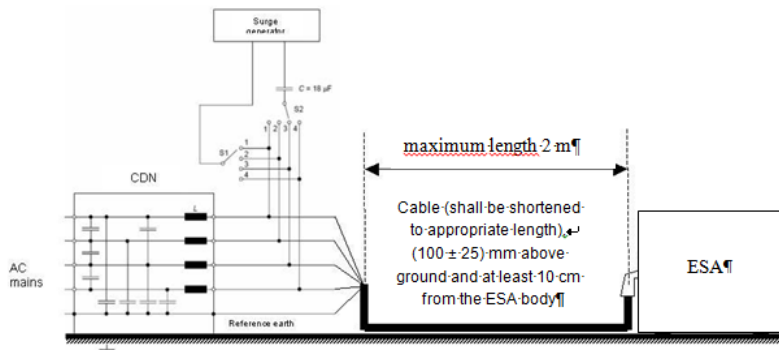


Figure 4
ESA in configuration "REESS charging mode coupled to the power grid" - Coupling between each line and earth for AC (three phases) power lines

