



Economic Commission for Europe
Inland Transport Committee
World Forum for Harmonization of Vehicle Regulations
Working Party on Automated/Autonomous and Connected Vehicles
First session

Geneva, 25-28 September 2018

**Report of the Working Party on Automated/Autonomous and
 Connected Vehicles on its first session**
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A. Non-technical items

I. Attendance and opening

1. The Working Party on Automated/Autonomous and Connected Vehicles (GRVA) held its first session from 25 to 28 September 2018 in Geneva. Experts from the following countries participated in the work, following Rule 1 of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690/Rev.1): Australia, Belgium, Canada, China, Czechia, Denmark, Finland, France, Germany, Hungary, India, Italy, Japan, the Netherlands, Norway, Poland, Russian Federation, Republic of Korea, South Africa, Spain, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland (UK) and the United States of America. An expert from the European Commission (EC) also participated. Experts from the following non-governmental organizations (NGOs) and international organizations participated: the American Automotive Policy Council (AAPC), European Association for Electric Mobility (AVERE), Bureau International Permanent des Associations de Vendeurs et Rechappeurs de Pneu (BIPAVER), International Motor Vehicle Inspection Committee (CITA), European Association of Automotive Suppliers (CLEPA/MEMA/JAPIA), European Garage Equipment Association (EGEA), European Tyre and Rim Technical Organisation (ETRTO), Federation of European Manufacturers of Friction Materials (FEMFM), Fédération International de l'Automobile (FIA), International Automotive Lighting and Light-Signalling Expert Group (GTB), International Motorcycle Manufacturers Association (IMMA), International Road Union (IRU), International Organization for Standardization (ISO), International Telecommunication Union (ITU), International Organization of Motor Vehicle Manufacturers (OICA), Recreational Vehicle Industry Association (RVIA), International Association of Public Transport (UITP) and World Bicycle Industry Association (WBIA).

2. The first session of GRVA was opened by the GRVA Secretary. The Secretary of WP.29 informed GRVA about the Inland Transport Committee request (ECE/TRANS/274, para. 52) and about the decisions of WP.29 (ECE/TRANS/WP.29/1139, para. 33) on the Working Party on Brakes and Running Gear and GRVA. The secretariat invited the experts of GRVA to elect a Chair for the first session of GRVA. The expert from the United States of America requested the strict application of Rule 37 of the Rules of Procedures and to proceed with the vote at the end of the week. The Secretary asked whether he should chair until the end of the session, until the election takes place, or whether GRVA should choose a Chair. GRVA decided that the first GRVA session shall be chaired by Mr. B. Frost (United Kingdom of Great Britain and Northern Ireland).

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRVA/2018/1
Informal documents GRVA-01-01 and GRVA-01-14

3. GRVA considered the provisional agenda prepared for this first session and adopted it (ECE/TRANS/WP.29/GRVA/2018/1). The adopted agenda is reproduced in GRVA-01-14, including all informal documents received until the session's starting date. GRVA also agreed on the running order for the session as proposed in GRVA-01-01 with the modification suggested by the expert from the United States of America to move the election of officers for the year 2019 to the end of the session as per Rule 37. The informal documents distributed during the session are listed in Annex I of this report.

III. Election of Officers (agenda item 2)

4. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 and Amends. 1 and 2), GRVA called for the election of officers on Friday morning. Before the election took place, the expert from Germany provided background information to GRVA, why his delegation would oppose the election of Mr. Frost at the time of the vote for the Chair for the year 2019. He explained that Germany would like to fully contribute to the strategic work of GRVA and would therefore nominate a German expert as candidate Chair for the year 2020. GRVA elected Mr. B. Frost (United Kingdom of Great Britain and Northern Ireland) as Chair of GRVA for the sessions 2019, with the absolute majority of the present delegations voting in his favour. GRVA did not elect a Vice Chair and agreed, subject to WP.29 endorsement, to proceed with this at its next session.

IV. Highlights of the March and June 2018 sessions of WP.29 (agenda item 3)

Documentation: Informal document GRVA-01-13

5. The secretariat introduced GRVA-01-13, informing on the highlights of the March and June 2018 session of WP.29. The secretariat announced that the next GRVA session would take place from 28 January to 1 February 2019 and advised that the deadline for the submission of official documents would be 2 November 2018.

B. Exchange of views on work priorities on vehicle automation

V. Exchange of views on vehicle automation related work priorities (agenda item 4)

Documentation: ECE/TRANS/WP.29/GRVA/2018/1
Informal documents WP.29-175-08, WP.29-175-29, GRVA-01-03, GRVA-01-05, GRVA-01-06, GRVA-01-16, GRVA-01-28, GRVA-01-32, GRVA-01-33 and GRVA-01-39

6. The Chair recalled that he had initiated an informal consultation over the summer 2018 to collect the list of items that Contracting Parties would wish to be addressed by GRVA. The Chair presented GRVA-01-33 containing the responses received together with those provided in WP.29-175-08 and WP.29-175-29, some 40 items in total. He proposed classifying the items into work streams to facilitate the participation of subject experts, e.g. Data management, Sensors (spatial awareness), Functional requirements, New assessment procedures and "other items". The GRVA experts confirmed that the document contained all input received.

7. The expert from China offered suggestions on the structure, work programme and meeting arrangements of GRVA (reproduced in GRVA-01-32).

8. The expert from AAPC stated that they would like to support the work done under this agenda item, he suggested assessment criteria to be considered when working on priorities for GRVA.

9. The expert from the United States of America introduced GRVA-01-03 proposing some considerations relevant for the work of GRVA under the 1998 Agreement. The expert from ITU reported on their experience in the Task Force on Cyber Security and Over-the-Air issues (TF CS/OTA) and highlighted the need for assistance from contracting parties when drafting documents to ensure the appropriateness of texts drafted to address specificities of the 1998 Agreement (and the context of self-certification). The expert from Germany, Co-

Chair of the Informal Working Group (IWG) on Automated Commanded Steering Function (ACSF), recalled the ambition of his group to draft technical requirements suitable for use under both the 1958 and the 1998 Agreements.

10. The expert from the Russian Federation presented GRVA-01-05 with their proposal for priorities. He recalled that decisions on priorities can only be made by the Executive Committee (AC. 3) for items to be handled under the 1998 Agreement. He also recalled the need for a technical sponsor for activities under the 1998 Agreement.

11. The expert from OICA presented GRVA-01-28 with information on the priorities of the industry that would require regulatory activities from GRVA. He regretted that the IWG on ACSF were not drafting provisions for so called Hands-off Lane Keeping Systems as SAE Level 2 even though this technology was already sold in some markets, e.g. in the United States of America. The Co-Chair of the IWG on ACSF and the expert from the Netherlands clarified that the IWG on ACSF considered hand off systems as Level 3 systems and not as Level 2. The Chair noted the differences between the priorities reported in GRVA-01-28 by OICA and those communicated by most of the manufacturers in their media statements. In response the expert from OICA prepared a revised document (GRVA-01-28-Rev.1) but was unable to demonstrate the technological and market priorities questions raised by GRVA. The expert from OICA also presented considerations on possible coordination of work between the subsidiary bodies (GRs) of WP.29. He suggested the nomination of GR Ambassadors on the model of IWVTA Ambassadors.

12. The expert from UITP stated the need to first address the safety of automated shared fleets for use by public transport systems.

13. The expert from ITU stated the need for GRVA to define a cluster around communication, including Platooning.

14. The expert from CLEPA insisted on the need to finalize the work on Automated Commanded Steering Function (ACSF).

15. The expert from GTB presented GRVA-01-06 with considerations on lighting and light-signalling for automated driving systems, highlighting the wish to work on this at the Working Party on Lighting and Light-Signalling (GRE). The expert from the Russian Federation suggested to explore ways to address this issue in the context of the Horizontal Regulation discussions. He mentioned that the presentation had already been made at WP.29. The expert from GTB also raised the question of coordination between GRs on automation as the expert from OICA had done. The expert from Japan recalled that WP.29 agreed to discuss coordination issues on automation. GRVA agreed that coordination issues would naturally be discussed at WP.29.

16. The expert from China introduced GRVA-01-16, (a) stating that it is the best time window for the international community to harmonize regulations for automated/autonomous and connected vehicles, (b) proposing to mobilize forces of all interested parties to promote the harmonization of regulations within the framework of both the 1958 and the 1998 Agreement, (c) recommending that GRVA innovates to adapt itself to the rapid development of automated/autonomous and connected vehicles and (d) informing GRVA that China intended to take more responsibilities, possibly as Vice Chair of GRVA. GRVA welcomed GRVA-01-16 and agreed that the key success factor for the GRVA depended on its ability to strike a balance between the 1958 and 1998 Agreements in practical operations and therefore agreed with the principle to work on technical requirements that would be suitable for any use, e.g. in the framework of both agreements or recommendations and resolutions of WP.29.

17. GRVA agreed that the items listed in GRVA-01-33 and the classification proposed should be reviewed at the next session under agenda item 4.

18. GRVA reviewed WP.29 informal documents WP.29-175-08 and WP.29-175-29 referred by WP.29 to GRVA as well as the list of items noted in the provisional agenda. GRVA had an extensive discussion on each item. The expert from OICA stated that the

ongoing work was adequate to address industry priorities. The experts received clarifications on the meaning of each item by the proposal authors. They exchanged views on the priority that could be assigned to each item as well as the potential necessity to start regulatory activities (or not). GRVA concluded that GRVA is able (from the point of view of knowledge and expertise) to address each item in the list (GRVA-01-39) reproduced in Annex II to this report and was ready to fulfil its mandate as defined by WP.29 and/or AC.3. GRVA agreed to consider other items and possibly extend this list in the coming sessions.

VI. Exchange of views on technology performance, innovations and relevant national activities (agenda item 5)

Documentation: Informal documents GRVA-01-34 and GRVA-01-40

19. The expert from Japan introduced GRVA-01-34 presenting the Japanese guideline on safety technologies for automated vehicles in Japan. She mentioned that this guideline was newly issued in September 2018 with two safety concepts and ten safety requirements for automated vehicles.

20. The expert from the Netherlands presented activities and thoughts developed in his country aimed at addressing the challenges related to the safety and security assessment of the so called modern vehicles (GRVA-01-40).

C. Technical items

VII. Autonomous/automated and connected vehicles (agenda item 6)

A. Task Force on Automated Vehicle Testing and its subgroups

Documentation: Informal documents WP.29-175-21, GRVA-01-07, GRVA-01-11 and GRVA-01-35

21. The expert from UK presented the developments in 2018 on the creation of the Task Force on Automated Vehicle Testing ("AutoVeh") and its two subgroups called "SG-1" and "SG-2", established under WP.29. He presented that the aim of these groups was to develop a novel innovative concept for the assessment of Automated Driving technologies. He recalled that Terms of Reference (ToR) for this group were not adopted and that "AutoVeh" was transferred to GRVA in June 2018 (including the corresponding draft ToR). The expert from Japan reported on the status of the discussions in the groups and presented slide 3 in GRVA-01-35. GRVA agreed that the parent group ("AutoVeh") would no longer be needed as the management of SG-1 and SG-2 would take place at GRVA.

22. The expert from Japan Co-Chair of "AutoVeh" presented ToR of both Subgroups (GRVA-01-07 and GRVA-01-11). The expert from EC sought clarity on the scope of SG-1 and on possible overlap with IWG on ACSF. The expert from China mentioned the lack of clarity of the proposed structure and proposed to classify existing and new work items to create groups with sufficient compatibility for existing and new ones in the future. He also mentioned the challenges related to the work on simulation and on-road testing due to the differences in traffic conditions and traffic rules within the contracting parties. He recommended to not endorse the ToRs proposed at this session. The expert from Germany asked about potential work duplications and asked whether GRVA or WP.29 already agreed on the three pillars concept mentioned in the ToR. The expert from Japan answered the questions.

23. After discussion, GRVA did not endorse GRVA-01-07 and GRVA-01-11 but, noting arrangements were already in place for further meetings, agreed that the groups continue to work until the next GRVA session. GRVA suggested that the group should refine the ToR to develop the novel innovative concept to verify the compliance with technical requirements (such as those developed within the IWG on ACSF) and demonstrate the validity of the new approach. The group should also prepare a full discussion on the three pillars approach and start working.

24. The secretariat recalled the decision of WP.29 to defer the document on artificial intelligence and vehicle regulations (WP.29-175-21) to SG-1.

B. Cyber security and data protection

Documentation: Informal documents GRVA-01-17, GRVA-01-18 and GRVA-01-19

25. The expert from Japan, Co-Chair of the Task Force on Cyber Security and Over-the-Air issues (TF CS/OTA) presented GRVA-01-19 introducing GRVA-01-17 and GRVA-01-18 with recommendations on software updates and on cyber security. He invited the experts to send comments on the recommendations until 28 October 2018. The expert from France congratulated the Task Force for the work done. The expert from the United States of America confirmed that they had participated in the last meeting of the group and explained that both recommendations would require amendments to make them compatible with the 1998 Agreement (especially in the self-certification context) and offered to provide comments.

26. The expert from Japan also mentioned that the recommendations contained proposals for a draft UN Regulation for cyber security and a draft generic Annex that could be added to relevant UN Regulations with regards to software number management. He added that the innovative approaches proposed would probably require some verification before adoption and that these activities would require an extension of the group's mandate or the creation of a new group.

27. GRVA invited the Task Force to use the remaining time on their current mandate to develop a verification programme that could be considered at the second session of GRVA. GRVA also requested the Chair to report on these activities at WP.29.

C. Software updates (incl. Over-The-Air updates)

28. This agenda item was addressed together with agenda item 6 (b) above.

D. Automatically Commanded Steering Function

Documentation: ECE/TRANS/WP.29/GRVA/2018/2
Informal documents GRVA-01-04, GRVA-01-08, GRVA-01-22, GRVA-01-24, GRVA-01-25, GRVA-01-36 and GRVA-01-37

29. The expert from OICA presented ECE/TRANS/WP.29/GRVA/2018/2, as amended by GRVA-01-22 introducing provisions for ACSF systems of Category C with a so called 2-steps human machine interface for the lane change activation. The expert from France supported the proposal. The expert from the European Commission welcomed this proposal. The proposal received some comments from the experts from Germany, Korea, Netherlands, and Sweden namely on the deletion of some provisions, the proposed amendment to extend the time by which a lane change manoeuvre shall begin and the proposed Annex 9. GRVA invited interested experts to prepare a revised proposal addressing the comments received.

30. The expert from Germany presented the status report of the IWG on ACSF (GRVA-01-37). She requested guidance on whether the group should develop provisions for a new regulation, as the activities would go beyond the scope of UN Regulation No. 79 as originally envisaged. GRVA agreed with the suggestion of the IWG that technical provisions for new regulation should be developed. She introduced GRVA-01-08 with amended ToR for the group in line with the decision of GRVA in favour of a new regulation. GRVA endorsed the proposal for revised ToR as reproduced in Annex III to the report and noted that the timeline was ambitious. The Chair agreed to bring this point to the attention of WP.29.

31. The secretariat presented GRVA-01-36 with a correction proposal to align the three linguistic versions of UN Regulation No. 79. GRVA agreed with the proposal and requested the secretariat to make the necessary corrections in the English version as follow:

Paragraph 2.4.15., correct to read:

"2.4.15. An ACSF is in "active mode" (or "active") when the function is switched on and the conditions for being active are met. In this mode, the system continuously or discontinuously controls the steering system ~~is generating~~, or is ready to generate, a steering control action to assist the driver."

32. The expert from CITA introduced GRVA-01-25 with a proposal to include in UN Regulation No. 79 Periodic Technical Inspection (PTI) related provisions with regards to ACSF of Category B2. GRVA wondered why the proposal was based on an outdated working paper (ACSF-06-28) of the IWG on ACSF. GRVA agreed that the document should be addressed to the Task Force on PTI/ roadworthiness of the ACSF systems led by the expert from Sweden.

33. The expert from Sweden presented GRVA-01-24 with a status report of the Task Force on PTI/roadworthiness of ACSF systems. The expert from the Russian Federation, Chair of the IWG on PTI, invited the Task Force to liaise with the IWG on these issues. GRVA agreed that the group should liaise with the IWG on PTI on Periodic Technical Inspection process related issues and that the Task Force should focus on roadworthiness related provisions linked to the construction of automated vehicles such as continuous self-diagnostic functions, system failure recognition, fault code recording and fault code access.

34. The expert from AVERE introduced GRVA-01-04 proposing to clarify the existing introduction of UN Regulation No. 79 with regard to the prohibition of approval according to UN Regulation No. 79 of steering systems that incorporate functions by which the steering can be controlled by external signals. The expert from the Republic of Korea stated the importance of addressing this issue. The experts from Germany, the Netherlands, Russian Federation and Sweden stated that the purpose of the proposal was unclear and asked for more information on the context of the proposal. GRVA invited the expert from AVERE to consider whether changes to the text would be preferable to the use of footnotes and suggested he consult the experts and to produce a revised proposal for consideration at the next session.

E. Complex Electronic (CEL) control system requirements

Documentation: Informal document GRVA-01-20

35. The expert from UK informed GRVA that the work on this item was ongoing, that the current draft was reproduced in GRVA-01-20 and that the outcome of this work could be incorporated in the future proposal emanating from the IWG on ACSF.

VIII. Advanced Emergency Braking Systems (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRVA/2018/4
Informal documents GRVA-01-02, GRVA-01-09, GRVA-01-10, GRVA-01-21, GRVA-01-30, GRVA-01-31, GRVA-01-43, GRVA-01-44 and GRVA-01-45.

36. The expert from EC, Co-Chair of the IWG on Advanced Emergency Braking Systems (AEBS) presented GRVA-01-10 with a status report on the activities of the group on the drafting of a new UN Regulation with provisions applicable to M₁ and N₁ vehicles as reproduced in GRVA-01-02. He presented the key performance requirements defined for so called vehicle-to-vehicle and vehicle-to-pedestrians Advanced Emergency Braking (AEB) systems and highlighted the open issues discussed by the group on provision for manual AEB deactivation and the definition of performance requirements for vehicle-to-bicycle systems.

37. The expert from UK, supported by the expert from the Netherlands, questioned the proposed value of the maximum differential test speed (42 km/h) that targets collision avoidance. He suggested 50 km/h instead of 42 km/h. He expressed doubts that a staged approach for vehicle-to-pedestrian and vehicle-to-bicycle AEB systems would be appropriate. The expert from OICA justified the value of the maximum differential speed for collision avoidance noting that Euro NCAP was requesting less than this value and justified the staged requirements especially for vehicle-to-bicycle AEBS systems because of the ongoing development process of such systems.

38. The expert from Canada suggested to specify performance-based requirements for all aspects to be tested, including the adhesion criteria of the track surface used for testing. GRVA noted the existing relevant precedent in UN GTR No. 3 and UN Regulation No. 78 and the corresponding value proposed in the draft.

39. The expert from Italy mentioned the risk related to false positive AEB system activation and the need of a manual AEBS deactivation function. The experts from Germany and UK expressed support for provisions on automatic deactivation function in limited cases. They disagreed with the proposal for provisions allowing the manual deactivation of AEB systems.

40. The Chair highlighted the provisions related to the AEBS performance outside of the testing conditions.

41. The Co-Chair of the IWG presented GRVA-01-09 proposing changes to the ToR of the group as well as a mandate extension by one year. GRVA agreed to extend the mandate of the IWG on AEBS for one year until September 2019. GRVA agreed with the goal of the AEBS Chair to present an official document covering vehicle-to-vehicle and vehicle-to-pedestrian collision for adoption at the next GRVA session in January 2019. GRVA also asked the informal working group to present, at the same session, the requirements on vehicle-to-bicycle on the basis of available data.

42. The expert from Germany referred to UN Regulation No. 131 and presented GRVA-01-30 (and GRVA-01-31 with a calculation tool), introducing ECE/TRANS/WP.29/GRVA/2018/4 which addressed the issues presented during the last two sessions of GRRF concerning the performance of AEBS for heavy vehicles. He explained that this revised proposal was more far reaching than the previous one, not only addressing the manual deactivation switch provisions but also other provisions that would contribute to make AEBS requirements for heavy vehicles corresponding to state of the art vehicle technologies, by changing "the structure" of the Regulation, "the vehicle target" requirements, the "overriding requirements" and the "warning strategy". He concluded his presentation stating that these changes would help to minimize the false positive activation risks mentioned by the experts from Nordic countries as initial reaction on the German proposals at the last sessions of GRRF.

43. The experts from OICA presented (GRVA-01-21) comments on ECE/TRANS/WP.29/GRVA/2018/4. The experts from Sweden and Japan expressed reservations on the proposal as they were not in the position at this stage to assess the implications of such far reaching changes on the performance of AEBS systems for heavy vehicles. The experts from Australia, Japan, Netherlands, Norway and Sweden agreed to work with the expert from Germany to review the proposal until the next session of GRVA. The experts agreed to work on this item via virtual meetings and physical meetings around the meetings of the IWG on AEBS.

44. The expert from the ministry of Infrastructure and the Environment in the Netherlands submitted a presentation and two videos (GRVA-01-43, GRVA-01-44 and GRVA-01-45) reporting on field tests performed with trucks equipped with AEBS systems. The Chair agreed to dedicate time to this presentation at the next session of GRVA.

IX. UN Regulations Nos. 13, 13-H, 139 and 140 (agenda item 8)

A. Electronic Stability Control

Documentation: Informal document WP.20-175-05

45. The secretariat recalled the context of WP.29-175-05 (and WP.29-175-04). The expert from OICA introduced the documents. The expert from the Russian Federation recommended referring to "Vehicle Type" instead of Vehicle in both documents. The expert from Australia agreed to prepare two revised documents for consideration at the next session of GRVA.

B. Modular Vehicle Combination

Documentation: Informal document GRVA-01-23

46. The expert from Sweden presented GRVA-01-23. He recalled that the work of the group was on hold and that the mandate of the group was about to expire. GRVA agreed to recommend a mandate extension to WP.29 and requested the group to prepare revised ToR until the next GRVA session.

C. Clarifications

Documentation: Informal documents WP.29-175-04, WP.29-175-05 and GRVA-01-27

47. GRVA considered WP.29-175-04 (together with WP.29-175-05 under agenda item 8 (a) above.)

48. Due to the lack of time and the late submission of informal document GRVA-01-27, GRVA agreed to postpone the consideration of this document until the January 2019 session of GRVA.

D. Other business

49. In the absence of documents, GRVA did not discuss this agenda item.

X. Motorcycle braking (agenda item 9)

A. UN Global Technical Regulation No. 3

Documentation: ECE/TRANS/WP.29/GRVA/2018/9

50. GRVA agreed with the suggestion of expert from Italy to postpone the consideration of this item until the January 2019 session.

B. UN Regulation No. 78

Documentation: Informal document GRVA-01-42

51. The expert from IMMA introduced GRVA-01-42 as a follow-up proposal of GRRF-86-35 aiming to specify the stop lamp activation criteria for conditions other than only on application of the service brake (e.g. regenerative braking). She explained that the proposal is based on the provisions laid down in UN Regulation No.13-H. The expert of OICA mentioned that they were working on amendments to these criteria. GRVA encouraged the experts from IMMA and OICA to come up with harmonized provisions for UN Regulations Nos. 78 and 13-H and requested the secretariat to distribute the proposal with an official symbol at the next session of GRVA unless an alternative proposal would be submitted by the experts from CLEPA and OICA.

XI. UN Regulation No. 79 (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRVA/2018/3
Informal documents GRVA-01-26 and GRVA-01-38

52. The expert from UK mentioned the work done on provisions for Remote Controlled Manoeuvring (RCM) as in ECE/TRANS/WP.29/GRVA/2018/3 amended by GRVA-01-26. He informed GRVA that he informally consulted GRVA experts and that further work could be needed. GRVA agreed with his proposal to resume consideration of this proposal or consider a revised consolidated proposal at the January 2019 session of GRVA.

53. The expert from France introduced GRVA-01-38 (based on GRRF-86-13) addressing the accuracy of interpretation of data produced during system assessment. The expert from Germany welcomed the document and proposed to consider the filtering provisions together with the tolerances. Other experts welcomed the document and agreed to study it until the next session. GRVA agreed to resume consideration of this item at its January 2019 session.

XII. UN Regulation No. 89 (agenda item 11)

54. In the absence of documents, no discussion took place under this agenda item.

XIII. UN Regulation No. 90 (agenda item 12)

Documentation: ECE/TRANS/WP.29/GRVA/2018/12
Informal document GRVA-01-12,
(Informal documents GRRF-86-41 and GRRF-86-40-Rev.1)

55. The expert from Spain presented ECE/TRANS/WP.29/GRVA/2018/12 proposing to extend the scope of UN Regulation No. 90 with replacement brake lining assemblies for vehicles of Category L₆ and L₇, which were recently included in the latest version of UN

Regulation No. 78 and to align the provisions in Annex 7 to UN Regulation No. 90 with those in the current text of UN Regulation No. 78. GRVA agreed to resume consideration of this document at its next session.

56. Due to the lack of time, GRVA agreed to postpone the consideration of GRVA-01-12 and the oral report of the expert from Spain on the activities of the Special Interest Group of experts on UN Regulation No. 90 until the January 2019 session.

XIV. Revision 3 of the 1958 Agreement (agenda item 13)

A. Implementation of new provisions in Revision 3 to the 1958 Agreement

57. The secretariat briefly introduced this agenda item suggesting actions potentially needed for aligning UN Regulations with the provisions of the Revision 3 to the 1958 Agreement. GRVA agreed to reflect on the points proposed in the agenda and to resume discussion at the next session of GRVA.

B. International Whole Vehicle Type Approval

Documentation: Informal documents GRVA-01-15 and GRVA-01-41

58. The secretariat briefly informed GRVA on the activities of the IWG on International Whole Vehicle Type Approval and especially the discussion on the new format of approval numbers specified in Schedule 4 of the 1958 Agreement. The expert from the Russian Federation tabled a proposal aimed at addressing this issue for UN Regulation No. 90 (GRVA-01-15). The expert from CLEPA tabled an alternative proposal (GRVA-01-41). GRVA agreed to resume consideration of this item at its next session.

XV. Remaining activities from the former Working Party on Brakes and Running Gear (handover period) (agenda item 14)

A. Tyres

Documentation: ECE/TRANS/WP.29/GRRF/2016/42
ECE/TRANS/WP.29/GRRF/2016/43
ECE/TRANS/WP.29/GRRF/2017/7
ECE/TRANS/WP.29/GRVA/2018/5
ECE/TRANS/WP.29/GRVA/2018/6
ECE/TRANS/WP.29/GRVA/2018/7
ECE/TRANS/WP.29/GRVA/2018/8
(Informal document GRRF-86-09)

59. The Chair of GRVA recalled the information provided by the Secretary of WP.29 that the Working Party on Noise (GRB) had successfully reviewed all formal documents tabled under this agenda item as agreed due to the reorganization of the subsidiary bodies of WP.29. He recalled his commitment to minimize the impact of the structural changes related to GRB and GRVA in terms of technical discussions and proper participation of delegates and experts. Therefore, he offered the experts the opportunity to consider in detail any document under this agenda item, in case a delegation had not attended GRB or would like GRVA to express a view. The experts confirmed that this was not necessary. The Chair of GRVA also offered the opportunity for the expert from the Russian Federation to provide (see GRB-68-

16 for more details) an update on the development of the draft Amendment 2 to UN GTR No. 16 (Tyres) should GRVA wish. He recalled that AC.3 had still not formally decided that UN GTR No. 16 would be handled by GRB. GRVA noted the ongoing work done by the Informal Working Group chaired by the expert from the Russian Federation.

B. Mechanical coupling

Documentation: ECE/TRANS/WP.29/GRVA/2018/10
ECE/TRANS/WP.29/GRVA/2018/11
Informal document GRVA-01-29

60. The secretariat presented ECE/TRANS/WP.29/GRVA/2018/10, in the absence of the expert from CLEPA, proposing to clarify some unintentional deletions introduced in UN Regulation No. 55. GRVA agreed with the proposal and requested the secretariat to clarify the follow-up action on this document with the Working Party on General Safety provisions (GRSG).

61. The expert from Poland introduced ECE/TRANS/WP.29/GRVA/2018/11. GRVA agreed that this proposal should be reviewed by the Working Party on General Safety Provisions.

62. GRVA noted that GRVA-01-29 tabled by the expert from OICA was a new proposal. The expert from OICA agreed to present this document at the next GRSG session.

XVI. Other business (agenda item 15)

63. No discussion took place under this agenda item.

Annex I

[English only]

List of informal documents (GRVA-01-...) considered during the session

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(Secretariat) Running order	A
2	(Japan/EC) Draft Proposal for a new UN Regulation on AEBS (M1/N1)	E
3	(USA) Discussion Document for the Program of Work of GRVA	F
4	(AVERE) Proposal for Supplements to the 02 and 03 series of amendments to UN Regulation No. 79 (Steering equipment)	E
5	(Russian Federation) The Rulemaking Topics of the Russian Federation for Automated (Level 3 & 4) and Autonomous (Level 5) Vehicles	F
6	(GTB) Considerations Concerning Lighting and Light-Signalling	F
7	(SG1) Proposed Terms of Reference for the Sub-group 1 of the AutoVeh Task Force	E
8	(ACSF) Proposal for revised ToR and RoP of the IWG on ACSF	B
9	(AEBS) Proposal for revised ToR and RoP of the IWG on AEBS	F
10	(AEBS) Proposals from the IWG on AEBS	F
11	(SG2) Proposed Terms of Reference for the Sub-group 2 of the AutoVeh Task Force	E
12	(CLEPA) Proposal for a Supplement to the 02 series of amendments to UN Regulation No. 90	X
13	(Secretariat) General information and highlights of the March and June 2018 sessions of WP.29	F
14	(Secretariat) Consolidated and updated provisional agenda for the first session of GRVA (with informal documents submitted until 24/09/2018)	A
15	(Russian Federation) Proposal for a Supplement to the 02 Series of amendments to UN Regulation No. 90	F
16	(China) China's General Comments and Suggestions on Working Party on Automated/Autonomous and Connected Vehicles (GRVA)	F
17	(TF CS/OTA) Draft Recommendation on Cyber Security of the Task Force on Cyber Security and Over-the-air issues of UNECE/WP.29/GRVA	E
18	(TF CS/OTA) Draft Recommendation on Software Updates of the Task Force on Cyber Security and Over-the-air issues of UNECE/WP.29/GRVA	E
19	(TF CS/OTA) Final report of the Task Force on CS/OTA	F
20	(UK) Proposal for a revision of Annex 6 to UN Regulation No. 79	D
21	(OICA/CLEPA) Industry comments on ECE/TRANS/WP.29/GRVA/2018/4	F
22	(OICA/CLEPA) Proposal for a Supplement to the 03 series of amendments to UN Regulation No. 79	F
23	(MVC) Progress report of the IWG on MVC	F
24	(Sweden) Progress report of the group on PTI/roadworthiness provisions for ACSF	F
25	(CITA) Proposal for PTI on ACSF B2 / Automated Lane Keeping System	F
26	(UK) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2018/3	D
27	(OICA/CLEPA) Alternative approach - Type IIA for Battery Electric Vehicles	D

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
28	(OICA/CLEPA) Industry views on GRVA priorities and organization (revised)	
29	(OICA) Proposal to adapt the transitional provisions according to the decision of WP29 at its 175th session	H
30	(Germany) Modifications to UN R131 - AEBS for heavy vehicles	F
31	(Germany) AEBS calculation tool - trucks and coaches	F
32	(China) China's comments on the structure, work program and meeting arrangement of GRVA	F
33	(Chair) GRVA priorities re: Automated Vehicles	D
34	(Japan) Guidelines regarding Safety Technology for Automated Vehicles in Japan (Outline)	F
35	(SG2) Status report - Real world road test	E
36	(Sec) Proposal for a Corrigendum to UN Regulation No. 79	A
37	(ACSF) Status report of the IWG on ACSF	F
38	(France) Proposal for amendments to UN Regulation No. 79 based on GRRF-86-13	D
39	(Secretariat) Confirmation from GRVA on work items for their consideration	A
40	(Netherlands) Challenges and proposals for modern vehicles	F
41	(CLEPA) Proposal for a Supplement to the 02 series of amendments to UN Regulation No. 90	D
42	(IMMA) Proposal for amendments to UN Regulation No. 78	C
43	(Netherlands) AEBS systems on trucks	G
44	(Netherlands) Field test AEBS - visibility	G
45	(Netherlands) Field test AEBS - traffic measures	G

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 Posted after the session as information for the delegates.
- H Referred to the Working Party on General Safety Provisions.

Annex II

Report to WP.29 and/or AC.3 on the possible initial list of work items for GRVA and other considerations and assumptions

Based on GRVA-01-39 (see para. 18 of this report).

I. Initial list of items

- Framework Regulation on automated/autonomous vehicles;
- Track / real world driving evaluation;
- Simulation / virtual / automated assessment;
- Longitudinal control (Adaptive Cruise Control (ACC), preventing braking);
- Transition demand (Human Machine Interface (HMI));
- Driver availability recognition;
- Information to the driver (HMI);
- Electronic system compliance (complex electronics development);
- Periodic Technical Inspection (PTI) provisions;
- Cyber security;
- Software (incl. Over-the-Air) updates;
- Data Storage System for Automated Driving (DSSAD);
- Night vision;
- Rear crossing alert;
- Door-open blind spot detection;
- Around view monitor.

II. Other considerations

1. Pre-existing GRRF work that remains the responsibility of GRVA was not considered among the above work items. GRVA confirms that it would be ready to continue with these activities.
2. GRVA noted that there were further items of interest identified by contracting parties. These will be further considered at the next session of GRVA and may be advised to WP.29 and AC.3 at their March 2019 session with the view to complementing the list above.
3. The list above should not be understood to imply that any particular item should be subject to a specific regulatory measure but may be considered with other items as part of a system.

III. Work assumption

4. The ambition of GRVA will be to develop, as proposed by China, technical provisions that may be adapted for use under the 1998 and/or 1958 Agreements, subject to decision of WP.29 and AC.3.

Annex III

Endorsed revised terms of reference and rules of procedure for the Informal Working Group on Automatically Commanded Steering Function

Based on GRVA-01-08-Rev. 1 (see para 30. of this report).

I. Terms of Reference

1. The Informal Working Group (IWG) on Automatically Commanded Steering Function technology (ACSF) shall review the requirements and limitations associated with ACSF as defined in UN Regulation No. 79. It shall prepare a draft regulatory proposal on advances in control system technology and the transport opportunities provided by the Vienna and Geneva Conventions.
2. The IWG shall address the following issues:
 - (a) Review the current speed limitation (10 km/h) with the purpose of permitting ACSF functionality during interurban journeys.
 - (b) Define Human Machine Interface (HMI) requirements for communicating between ACSF-system and the driver (e.g. system status, malfunction, transition).
 - (c) Define requirements to enable the evaluation of ACSF during periodic technical inspection.
 - (d) Outstanding issues identified during the eighty-second session of GRRF shall be addressed (e.g. Emergency Steering Function (ESF)).

Constraints:

- (a) The driver shall be able to activate and deactivate the system.
 - (b) The driver shall, at all times, be able to override the system.
3. The group will focus on systems for vehicles of categories N and M.
4. The group should take full account of existing data and research in developing its regulatory proposals. It should consider pre-existing standards (e.g. ISO, SAE and JSAE standards) and regulations from other territories for ACSF developing its proposals.
5. As a first step, the target completion date for the informal group's work for less complex ACSF categories shall be the eighty-second session of GRRF in September 2016 (See ECE/TRANS/WP.29/GRRF/2016/45 as amended). Note: Corrective Steering Function (CSF), ACSF of Categories A and B1 were adopted by WP.29 in March 2017.
6. As second step the target completion date for the IWG work on the ACSF category which includes a function of a single manoeuvre (C and ESF) when commanded by the driver shall be the eighty-fifth GRRF (special session) in December 2017.
7. And then the target completion date for the IWG work on automated lane keeping function on highway shall be the second session of GRVA in January 2019.
8. The IWG shall deliver a draft new UN Regulation for the January 2019 session of GRVA for automated lane keeping function on highway.

9. The IWG shall deliver the core technical requirements for automated lane keeping function on highway so that they can be used to develop a new UN Regulation and/or a UN GTR.
10. The decision on regulatory proposals remains with WP.29 as well as AC.3 and the Contracting Parties.

II. Rules of Procedure

11. The IWG is a subgroup of GRVA. It is open to all participants of GRVA.
 12. Two Co-Chairs and a Secretary shall manage the IWG.
 13. The official language of the IWG is English.
 14. All documents and/or proposals shall be submitted to the Secretary of the IWG 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 ten working days in advance.
 15. An agenda and related documents is circulated to all members of the informal group in advance of all scheduled meetings.
 16. Decisions are reached by consensus. When consensus cannot be reached, one of the Co-Chairs of the group shall present the different points of view to GRVA. The Co-Chairs may seek guidance from GRVA as appropriate.
 17. The progress of the IWG will be routinely reported to GRVA – wherever possible as an informal document and presented by the Co-Chairs or one of their representatives.
 18. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.
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