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#### Working Party on Pollution and Energy

#### Sixty-fifth session

Geneva, 15-18 January 2013

## Report of the Working Party on Pollution and Energy (GRPE) on its sixty-fifth session (15-18 January 2013)

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## **I. Attendance**

1. The Working Party on Pollution and Energy (GRPE) held its sixty-fifth session from 15 to 18 January 2013, with Mr. Christoph Albus (Germany) as Chair and Mr. Shrikant Marathe (India) as vice-Chair. 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, as amended): Austria; Belgium; Canada; China, Czech Republic; France; Germany; Hungary; India; Italy; Japan; the Netherlands; Poland; the Republic of Korea (Korea); the Russian Federation; South Africa; Spain; Sweden; Switzerland; Turkey, the United Kingdom of Great Britain and Northern Ireland (UK); the United States of America (USA). Experts from the European Commission (EC) also participated. Experts from the following non-governmental organizations took part in the session: the Association for Emissions Control by Catalyst (AECC); the Association of European Manufacturers of Internal Combustion Engines (EUROMOT); the European Association of Automobile Suppliers (CLEPA); the European Liquefied Petroleum Gas Association (AEGPL); the International Association for Natural Gas Vehicles (IANGV/NGV Global); the International Automobile Federation (FIA); the International Council on Clean Transportation (ICCT); the International Motorcycle Manufacturers Association (IMMA); the International Organization of Motor Vehicle Manufacturers (OICA); the Natural Gas Vehicles Association Europe (NGVA Europe) and the Truck and Engine Manufacturers Association (EMA). Upon the special invitation of the Chair, the experts from the Environmental Industries Commission (EIC) and the Technical Committee of Petroleum Additive Manufacturers in Europe (CEFIC-ATC) also attended.

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

*Documentation:* ECE/TRANS/WP.29/GRPE/2013/1/Rev.1,  
informal documents GRPE-65-01-Rev.1, GRPE-65-27 and  
GRPE-65-28-Rev.1

2. GRPE noted GRPE-65-01-Rev.1 on the organization of GRPE informal group meetings and GRPE-65-27, containing general information about the session. GRPE adopted the agenda ECE/TRANS/WP.29/GRPE/2013/1/Rev.1. modifying some of the headings and adding two new items, on the carcinogenicity of diesel engine exhaust gases and Advanced Driver Assistance Systems (ADAS), to the item 17 (as specified in GRPE-65-28-Rev.1).

3. The informal documents distributed during the session are listed in Annex I.

4. GRPE delegates were informed that the next session of GRPE will take place from 3 to 7 June 2013 and that the deadline for the submission of official working documents is 8 March 2013. The secretariat informed all GRPE stakeholders that while one room is booked throughout the week of 3-7 June 2013, in view of high demand of rooms in the Palais des Nations in June it may not be possible to conduct parallel sessions of informal groups. Hence only some of the informal group meetings could be arranged in June session. The secretariat requested all Chairs and secretaries to consider alternative venues and dates for such meetings.

## **III. Report on the last sessions of the World Forum for Harmonization of Vehicle Regulations (WP.29) (agenda item 2)**

*Documentation:* ECE/TRANS/WP.29/1097, ECE/TRANS/WP.29/1099 and informal document GRPE-65-24

5. Having reported that all GRPE proposals submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) in 2012 were adopted, the secretariat informed GRPE about items discussed in the last two sessions of the World Forum (held in June and in November 2012) (GRPE-65-24).

6. The secretariat recalled that, following a request from the Transport Division, the World Forum recommended that comments on the issue of the carcinogenicity of diesel exhaust emissions should be provided by GRPE and requested to include the topic on the GRPE agenda for the current session.

7. Underlining the progress made by the International Whole Vehicle Type Approval (IWVTA) group (and its subgroups) on the revision to the 1958 Agreement and the development of UN Regulation No. 0, WP.29 agreed that the first UN Regulations to be included in IWVTA should be those not needing any amendments (or requiring only minor modifications), while those needing major amendments should be dealt with in a second step.

8. The secretariat stated that WP.29 requested GRPE to consider the latest version (and eventual amendments) of the draft UN Regulation on recyclability in January 2013.

9. The secretariat reported that WP.29 agreed to consider, at its March 2013 session, the request of the Chair of GRPE to conclude the activities of the Environmentally Friendly Vehicles (EFV) informal working group and the EFV task force group.

10. The secretariat recalled the WP.29 endorsement of the proposal for setting up, under GRPE and with a mandate up to November 2016, an informal working group on Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles. WP.29 also expressed the intention to confirm the approval of the mandate at its March 2013 session, following the consideration of its terms of reference and rules of procedures by GRPE during the current session.

11. The secretariat reported that WP.29 requested GRPE to consider the updated terms of reference of the informal working group on Electric Vehicles and the Environment (EVE).

12. Finally, the secretariat illustrated the WP.29 decision, in June 2012, to refer comments on design/control principles of Advanced Driver Assistance Systems (ADAS) to harmonize minimum guidelines to its subsidiary bodies, including GRPE, for detailed consideration at their next sessions. A final review of the revised document is expected at its June 2013 session.

## **IV. Light vehicles (agenda item 3)**

### **A. Worldwide harmonized Light vehicles Test Procedure (WLTP)**

*Documentation:* Informal documents GRPE-65-29, GRPE-65-30, GRPE-65-34 and GRPE-65-35

13. The secretary of the WLTP informal subgroup on the Development of the Harmonized driving Cycle (DHC) introduced GRPE-65-29, containing the report on the progress made since June 2012. He highlighted the successful finalization of the test cycle profile. Speaking about the cycle allocation, he reported that metrics were agreed, that a final decision on the actual allocation was not yet made, and that the latest developments

included the submission of a proposal by Germany to avoid breaking points in the cycle phases applied to different classes of vehicles. Reporting on the threshold speed, he mentioned that India proposed to set a margin for capped cycle speed, but also that the EC and Korea expressed concerns about this. Written comments on the topic are now awaited by the DHC subgroup to find a suitable compromise. Having indicated that there were no major concerns on the gear shift prescription, he reported that other remaining open issues included the mode construction, and that this is being addressed with the establishment of a specific task force. Finally, he announced that a technical report for the UN GTR is being developed. A first draft is expected for the next GRPE session, in June 2013.

14. The expert from France stressed the need to make sure that the cycles are credible and capable to assure effective regulatory action on pollutant and CO<sub>2</sub> emissions. This is especially relevant to assure the provision of reliable information to the customers in terms of labelling. The expert from Italy supported this observation. Given the importance of pollutant emissions in urban areas, he underlined that the high speed phase of the cycles should not be over-weighted. Concerns on the high-speed section of the cycles were also voiced by the expert from France, who announced that proposals addressing this and other outstanding issues are going to be filed at the European level. Replying to comments on the possibility of contemplating a delayed delivery of results to guarantee a better quality, the expert from the EC stressed the firm need to respect both high quality standards and the 2014 deadline and confirmed that the cycle adoption shall be expected by March 2014. He added that the transposition of cycle to European legislation, currently under discussion, shall be expected by 2016-2017.

15. Underlining the need to avoid hampering the development of international regulatory action because of regional issues, the GRPE Chair recalled that the issues pointed out are mainly related with the transposition of the content of the forthcoming WLTP UN GTR into European legislation and suggested that they would be best addressed in the context of the European WLTP mirror group.

16. The Chair of the informal subgroup on the Development of the Test Procedure (DTP) reported on the work status of the subgroup (GRPE-65-35). He reported on a number of remaining open issues related to the second validation phase. While some can be solved on a technical basis by the subgroups, he informed that a few of them need to be addressed at the DTP level. This is the case for the open questions like the payload factor and the combined approach test mass/vehicle selection/inertia classes, the soak procedure and soak temperature, how to handle of multimode gearboxes for CO<sub>2</sub> and fuel consumption measurement, the classification of electric vehicles, and the definition of the power/mass ratio. He informed GRPE that a proposal on the solution of these issues is awaited before the next (and crucial) DTP meeting, to be held in Tokyo. Speaking about the Validation Task Force (VTF), he reported on the existing proposals how to proceed until the next DTP meeting and recalled the need for weekly contacts amongst stakeholders involved. Notwithstanding the acknowledgement that resolving all open issues in due time is a big challenge, the DTP Chair confirmed that the road map will be followed as planned.

17. Reporting on the development of the WLTP UN GTR, the drafting manager recalled that a first draft was uploaded on the CIRCA web site and gave an update on the drafting work and links with technical inputs. As requested by the GRPE Chair, he agreed to upload on the UNECE website (WLTP area) the most recent consolidated draft. He also agreed to upload the final draft text (as an informal document) of the UN GTR two weeks before the next GRPE session.

18. The technical secretary of WLTP introduced GRPE-65-30, containing a revised WLTP roadmap. He confirmed the aim for the approval by GRPE of the draft WLTP UN GTR in the special GRPE session to be held in November 2013, recalling that this implies

that the document submission take place before 21 August 2013, with a last review meeting scheduled for July 2013.

19. GRPE agreed with the updated roadmap and underlined the importance of meeting the deadline for the submission of the UN GTR. The Working Party endorsed the progress report of DHC and recommended to solve regional issues in the framework of regional groups dealing with WLTP. On DTP, GRPE underlined the need to move from technical work into drafting efforts and called for strengthened cooperation between all stakeholders. The WLTP subgroups (DHC and DTP) should meet jointly at the next GRPE session. Most of the meeting should focus on DTP activities.

## **B. Mobile Air-Conditioning Test Procedure (MACTP)**

*Documentation:* Informal document GRPE-65-32

20. The Chair of the informal group on MACTP reported on the work progress made in the EU framework (GRPE-65-32). He reported that the MAC efficiency test phases are completed. The procedure was found to be robust, but some items are still open and need discussion or further investigation. The reproducibility (intra-lab variation), in particular, is not satisfactory and is likely to require an increase in the number of tests and the statistical evaluation of their results. Looking at regional developments, he explained that Japan is focusing on the development of a MAC test procedure based on whole vehicle driving over a dynamic cycle. The test phase, currently ongoing, should be concluded at the end of March 2014. This is going to be followed by the definition of the dynamic test procedure. In Europe, the MAC procedure is seen as a part of the integrated approach and it could lead to separate label for MAC systems mounted on vehicles or consumer information instrument integrated in the existing vehicle CO<sub>2</sub> emission label. The MACTP Chair mentioned that one of the possible developments foresees the transposition of the MAC test procedure as a voluntary (i.e. optionally applicable) test procedure in either UN Regulation Nos. 101 or 83.

21. GRPE acknowledged the work progress and agreed that the group should meet again once the European test procedure is completed and can be reviewed, or when new information needs to be shared.

## **C. UN Regulations Nos. 68 (measurement of the maximum speed, including electric vehicles), 83 (emissions of M<sub>1</sub> and N<sub>1</sub> vehicles), 101 (CO<sub>2</sub> emissions/fuel consumption) and 103 (replacement pollution control devices)**

*Documentation:* informal document GRPE-65-07, GRPE-65-08, GRPE-65-09 and GRPE-65-22-Rev.1

22. Following an explanation of the amendment needed for the transposition of Euro 6 requirements into UN Regulations (GRPE-65-22-Rev.1), the expert from the EC introduced GRPE-65-07, GRPE-65-08 and GRPE-65-09, containing three informal amendment proposals for UN Regulations Nos. 83, 101 and 103, respectively.

23. The expert from Germany underlined the need to take into account all recent changes in the regulatory texts and offered to contribute with written amendments to the existing drafts. The expert from OICA suggested having the possibility to revise the current draft in a meeting with all interested stakeholders.

24. GRPE encouraged interested stakeholders to contact the expert from the EC before 8 February 2013 to agree on a process allowing the submission of updated versions of GRPE-

65-07, GRPE-65-08 and GRPE-65-09 as official documents for the June 2013 session, also taking into account the amendments from Germany.

## **V. Heavy duty vehicles (agenda item 4)**

### **A. Heavy Duty Hybrids (HDH)**

*Documentation:* Informal documents GRPE-65-25 and GRPE-65-26

25. The secretary of the informal group on HDH introduced GRPE-65-25 and GRPE-65-26, containing summaries of the eleventh and twelfth HDH meetings, information on the status of HDH work programme, as well as an updated roadmap and planning of the activities. He mentioned that driver models are completed, that thermal models for battery and electric motor are being completed, and that the power-take-off (PTO) work is excluded from the current programme. He explained that it was not possible to meet the original deadline to submit a final report, including the assessment of chassis dynamometer and power-pack testing (originally planned for the current GRPE session). Seeking GRPE approval, he proposed a submission of the final report, as well as an informal document with the draft UN GTR (including the assessment of chassis dynamometer and power-pack testing), to the GRPE session of January 2014. He stated that the draft UN GTR (which should be based on Hardware-in-the-Loop Simulation (HILS) and not on Software-in-the-Loop Simulation (SILS)) could then be submitted as an official document at the GRPE session of June 2014.

26. Following a request for additional information from the expert from the Netherlands on the evaluation of the HILS, the Chair and the secretary of the HDH group clarified that the issue will be addressed in the minutes of the thirteenth HDH meeting.

27. GRPE agreed with the revision of the time schedule and the submission of the UN GTR in June 2014. The next group meeting will take place in Sweden on 21 and 22 March 2013. The HDH group should also meet in conjunction with the next GRPE session, in June 2013.

### **B. Retrofit Emissions Control devices (REC)**

*Documentation:* Informal documents GRPE-65-18 and GRPE-65-38

28. The Chair of the informal group on REC reported on the progress made (GRPE-65-38), focusing in particular on the draft regulation on REC aimed to illustrate the state of play of the informal Group on REC (GRPE-65-18). Having reported that the draft is almost finalized, he expressed his confidence about the possibility to find a solution to the few outstanding issues in the next REC meeting. On NO<sub>x</sub> emission limits, he reported that, notwithstanding an agreement on a 60 per cent reduction when the REC system is evaluated over the World-wide harmonized Heavy duty Test Cycle, there is still discussion between 60 per cent and 70 per cent for the limit concerning non-road mobile machinery. On direct NO<sub>2</sub> emissions, he explained that the definition of the maximum increase compared to the level recorded when no REC is fitted is still open (20 per cent versus 30 per cent).

29. The expert from Germany clarified the readiness to compromise on a 60 per cent reduction on NO<sub>x</sub> emissions, but he also underlined the need to stick to the 20 per cent maximum increase for NO<sub>2</sub>. In order to assure the possibility of an informed decision, the expert from the EC encouraged all Contracting Parties to contribute to the discussion with the provision of technical information justifying their positions.

30. Willing to propose text offering solutions based on the national experience, the expert from France pointed out the need to address properly issues related with the conformity of production (stressing the importance to make sure that the retrofitter is responsible for the installation of the equipment) and in-service check. Sweden supported this comment and also offered assistance based on lessons being learned in the national context. The Chair of the REC group welcomed these proposals.

31. GRPE requested the REC informal group to submit an updated version of the draft UN Regulation, so that the secretariat can prepare an official document for the next GRPE session, in June 2013. GRPE also noted the intention of the informal group to submit an informal proposal for an amendment 01 at the same time. The next REC meeting will take place in Bern (Switzerland) on 19 and 20 February 2013. The group should also meet in conjunction with the next GRPE session, in June 2013.

**C. UN Regulation No. 49 (emissions of compression ignition and positive ignition (LPG and CNG) engines)**

*Documentation:* Informal document GRPE-65-37

32. Having acknowledged that an updated version of GRPE-65-37 (discussed under agenda item 8, see paragraph 42.) will be submitted as an official document, GRPE asked the secretariat to prepare this document for the next GRPE session, in June 2013.

33. The expert from the EC announced his intention to submit, in the June 2013 session, an official document containing some modifications to the 06 series of amendments of UN Regulation No. 49.

**D. UN Global Technical Regulations Nos. 4 (World-wide harmonized Heavy duty Certification procedure (WHDC)), 5 (World-Wide harmonized Heavy duty On-Board Diagnostic systems (WWH-OBD)) and 10 (Off-Cycle Emissions (OCE))**

34. GRPE did not receive any new proposal to amend UN Global Technical Regulations Nos. 4, 5 and 10.

**VI. UN Regulations Nos. 85 (measurement of the net power and the 30 min. power) and 115 (LPG and CNG retrofit systems) (agenda item 5)**

35. GRPE did not receive any new proposals to amend UN Regulations Nos. 85 and 115.

**VII. Agricultural and forestry tractors, non-road mobile machinery (agenda item 6)**

**A. UN Regulations Nos. 96 (diesel emission (agricultural tractors)) and 120 (net power of tractors and non-road mobile machinery)**

*Documentation:* ECE/TRANS/WP.29/GRPE/2013/3



36. The expert from the EC introduced ECE/TRANS/WP.29/GRPE/2013/3, containing a proposal to amend UN Regulation No. 96 to align its provisions with the 8-mode cycle of European Directive 2010/26/EU and the 2012 amendment of European Directive 97/68/EC. The expert from EUROMOT pointed out that paragraph 4.2. of the UN Regulation No. 96 contains a wrong reference to the 01 series of amendments.

37. GRPE adopted ECE/TRANS/WP.29/GRPE/2013/3, incorporating an amendment to paragraph 4.2. as indicated below:

*Paragraph 4.2., delete "(at present 01)".*

GRPE requested the secretariat to submit the resulting proposal to WP.29 and AC.1, for consideration at their June 2013 sessions, as 04 series of amendments to UN Regulation No. 96.

38. GRPE did not consider other proposals to amend UN Regulation No. 96 and any new proposal to amend UN Regulation No. 120.

## **B. UN Global Technical Regulation No. 11 (engines)**

39. There were no proposals to amend UN Global Technical Regulations No. 11.

## **VIII. Particle Measurement Programme (PMP) (agenda item 7)**

*Documentation:* Informal document GRPE-65-16-Rev.1

40. GRPE acknowledged the progress made by the group and agreed to appoint Giorgio Martini (EC) as Chair of the PMP group, while secretariat services will be assured by Caroline Hosier (OICA). The PMP Chair reported on the progress of the informal group on the PMP (GRPE-65-16-Rev.1). He explained that the Joint Research Centre of the EC has finalized, in 2012, the PMP Heavy Duty Round Robin and the PMP volatile Particle Removal (VPR) Round Robin. The preliminary results were presented to the PMP informal group in July 2012 during an audio conference. Following an observation by the expert from OICA on the activity concerning submicron 23 nm particles, he agreed on the need to revise the PMP terms of reference and mandate, taking into account the most recent developments of the PMP group activities.

41. Given the limited room availability at the Palais des Nations, the group will meet before the next GRPE session at the EC Joint Research Centre facilities. GRPE requested the PMP group to elaborate a revision and an update of its terms of reference, also indicating the date of the end (or renewal) of the mandate, aiming to consider it at its next session.

## **IX. Gaseous Fuelled Vehicles (GFV) (agenda item 8)**

*Documentation:* Informal documents GRPE-65-33, GRPE-65-36 and GRPE-65-37

42. The Chair of the informal group on GFV reported on the work progress made by the group (GRPE-65-33). Having mentioned the GFV interest in the activities of the Vehicle Propulsion System Definitions informal working group and having updated GRPE on the work of the Liquefied Natural Gas Task Force (LNG TF), he focused on the activities of the Heavy Duty Dual Fuel Task Force (HDDF TF). Concentrating on HDDF engines, he informed GRPE that the HDDF TF experts developed a draft proposal to amend UN Regulation No. 49 to enable the type approval of new Euro V heavy duty dual-fuel engines and vehicles (GRPE-65-37), and he mentioned that an updated version of it will be

submitted as an official document for the next GRPE session, in June 2013 (see paragraph 32.).

43. Expecting increase in the interest for retrofitting systems, the expert from OICA introduced GRPE-65-36, containing comments on dual-fuel engines and recommending that only dual-fuel fuel specific issues should be addressed by the HDDF TF. He stressed the need to introduce general rules and clear principles for the retrofitting of diesel engines before starting to work on retrofit issues. The expert from France welcomed the recommendations by OICA and expressed the interest to contribute to the process. The expert from Italy welcomed the introduction on general rules, also underlining that this should not result in delays in the development of regulatory texts on the retrofit of diesel engines.

44. GPPE welcomed the rules and principles for retrofitting diesel engines suggested by OICA, requesting GFV to take them into account without the generation of delays in the regulatory process. The GFV Chair assured GRPE that this will be the case. Given the limited room availability, the GFV informal group and the HDDF TF will meet jointly at the next GRPE session, in June 2013.

## **X. Motorcycles and mopeds (agenda item 9)**

### **A. Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles**

*Documentation:* ECE/TRANS/505/Rev.2, ECE/TRANS/132 and Corr.1 and informal document GRPE-65-15

45. GRPE agreed to appoint Petter Asman (Sweden) as Chair of the EPPR group, while secretariat services will be assured by Thomas Vercammen (IMMA). The Chair of the EPPR informal working group introduced GRPE-65-15 (containing background information, terms of reference and rules of procedure of the informal group), clarifying that it should be considered as a discussion draft. He stated that this document is going to be discussed in EPPR meetings before being resubmitted to GRPE, in June 2013, in a revised form, for final approval. He invited all interested stakeholders to participate in the first group meeting, scheduled after the GRPE session, to discuss it. He agreed with the suggestion by the GRPE Chair that the EPPR group should take a two-step approach, focused first on the review of a suitable roadmap, and later on its execution.

46. The expert from India conveyed his support for this activity, but expressed concerns about the timeline currently outlined, questioning whether it is realistic to assure the delivery of results. He suggested prioritizing the tasks, giving preference to L3 category vehicles because of their global relevance. The expert from IMMA supported an approach focused first on the development of a roadmap, and then focusing on the development of UN GTR. He also confirmed the concerns raised by India on the current timeline. The expert from Japan stressed the need to avoid any overlap with the activity of the informal working group on Electric Vehicles and the Environment (EVE). The Chair of the EVE group offered his contribution and help to assure that this will not be the case.

47. GRPE agreed with the approach suggested and endorsed the decision to further discuss updated terms of reference and rules of procedure in its next session. GRPE also invited the EPPR informal group to submit a proposal for a roadmap, indicating which portions of the work fall under the scope of the 1958 Agreement (ECE/TRANS/505/Rev.2) and which fall under the 1998 Agreement (ECE/TRANS/132 and Corr.1) and outlining the

expected timeframe for amendment of existing UN Regulations and UN GTRs and/or new regulatory texts.

## **B. UN Regulations Nos. 40 (emission of gaseous pollutants by motor cycles) and 47 (emission of gaseous pollutants of mopeds)**

48. GRPE did not receive any new proposal to amend UN Regulations Nos. 40 and 47.

## **C. UN Global Technical Regulation No. 2 (World-wide Motorcycle emissions Test Cycle (WMTC))**

*Documentation:* ECE/TRANS/WP.29/GRPE/2013/4, ECE/TRANS/WP.29/AC.3/34 and informal document GRPE-65-17

49. The expert from Japan introduced a proposal to amend UN Global Technical Regulation (UN GTR) No. 2 to revise the units in some equations, as well as a figure on the gear use during acceleration phases (ECE/TRANS/WP.29/GRPE/2013/4). The proposal follows the authorization to GRPE (ECE/TRANS/WP.29/AC.3/34) to develop the amendment and is accompanied by a report on its development (GRPE-65-17).

50. GRPE adopted ECE/TRANS/WP.29/GRPE/2013/4 and GRPE-65-15, as reproduced in Annex IV, and requested the secretariat to submit them WP.29 and AC.3 for consideration at their June 2013 sessions, as Amendment 3 to UN GTR No. 2.

## **XI. Environmentally Friendly Vehicles (EFV) (agenda item 10)**

*Documentation:* ECE/TRANS/WP.29/2013/33, informal documents WP.29-158-16 and WP.29-158-17

51. The Chair of the EFV informal group recalled that a summary report of the WP.29 work on Environmentally Friendly Vehicles between 2003 and 2012 (ECE/TRANS/WP.29/2013/33) was introduced as an informal document (WP.29-158-17) at the last WP.29 session, in November 2013, and that it will be distributed at the March 2013 WP.29 session for consideration and possible adoption. Having clarified that this report was also accompanied by a document describing the process followed by the EFV task force group for its preparation (WP.29-158-16), he briefly reported on the success of the fifth EFV Conference, held in Baltimore (Maryland, USA) on 10-12 September 2012.

52. GRPE congratulated the EFV informal working group and task force group for their work and agreed that the adoption of the summary report by WP.29 shall conclude the EFV activities. EFV will not appear as an agenda item in the future.

## **XII. Electric Vehicles and the Environment (EVE) (agenda item 11)**

*Documentation:* Informal documents GRPE-65-03, GRPE-65-04-Rev.1 and GRPE-65-31

53. Introducing GRPE-65-03 and GRPE-65-31, the secretary of the informal group on EVE summarized the progress made. He explained that the approach adopted to provide recommendations to GRPE is centred on a Regulatory Reference Guide organized around attributes that characterize electric vehicles, batteries, charging infrastructure and market deployment support mechanisms, with specific attention to their relation with the

environment. Potential gaps in the current regulations will be also taken care of in the reference guide. Contracting Parties and other stakeholders are expected to contribute to the guide with information through a specific questionnaire. Seeking GRPE approval, he also introduced GRPE-65-04-Rev.1, containing revised terms of reference (objectives, organization and structure, operating principles and timeline) of the group.

54. GRPE acknowledged the progress made and approved the updated EVE terms of reference, as reproduced in Annex V. The group should meet in conjunction with the next GRPE session, in June 2013, following the EVE meeting scheduled on 11-12 April 2013 in Tokyo.

### **XIII. Vehicle Propulsion System Definitions (VPSD) (agenda item 12)**

*Documentation:* Informal documents GRPE-65-12 and GRPE-65-13

55. The Chair of the VPSD informal group introduced a report (GRPE-65-12) containing a proposal for a framework system of classification of the main terms and definitions to be annexed to Special Resolution No. 1, concerning the common definitions of vehicle categories, masses and dimensions (S.R.1) and the Consolidated Resolution on the Construction of Vehicles (R.E.3). Having clarified that he sees GRPE-65-12 as a living document requiring updates, and supported by the overview presented in GRPE-65-13, he explained that GRPE-65-12 contains definitions regarding powertrains and powertrain components (e.g. energy storage system, energy delivery system, energy converter and drivetrain), vehicles (such as mono fuel, bi fuel, flex fuel, dual fuel, hybrid, electric, fuel cell, etc.), as well as attributes of vehicles and powertrains (external chargeability, energy recuperation, energy consumption, emissions, state of charge, electric range, etc.).

56. The expert from Hungary pointed out that the definitions should target fuels. The Chair of VPSD clarified that fuels are not included at the moment because the current focus of the work is on the WLTP activities, clarifying that the extension of the scope to fuels can certainly be foreseen in a later stage. The expert from India expressed his support for this work, underlined the need for precise definitions and the importance to link them with regulatory texts. The expert from Sweden offered inputs on heavy duty vehicles.

57. Responding to a request by the Chair of the VPSD informal group, the expert from OICA expressed the interest in having informal groups meetings. He also offered to share a database on definitions available with the VPSD group. The expert from NGV Global expressed interest in the VPSD work and underlined the need to maintain e-mail contact besides informal meetings. He expressed the view that existing ISO definitions be considered as guidelines for the VPSD definitions, particularly for gaseous fuel systems. The expert from CLEPA also supported the VPSD work.

58. GRPE agreed to the structure and approach suggested and endorsed the decision to hold VPSD meetings, asking the secretariat to create a VPSD area on the UNECE web site for the upload of relevant documentation. GRPE also agreed to the upload of the database that OICA offered to deliver, on the UNECE website (VPSD area).

### **XIV. Fuel Quality (FQ) (agenda item 13)**

*Documentation:* ECE/TRANS/WP.29/GRPE/2013/2 and informal document GRPE-65-02

59. The secretariat introduced ECE/TRANS/WP.29/GRPE/2013/2, containing a proposal to include a reference to the Annex 4 in the text of R.E.3 and to add the Annex 4, on market fuel quality, to the consolidated resolution. He clarified that this is just an editorial amendment.

60. Without objections by the secretariat, the expert from OICA commented on the proposal, suggesting to amend ECE/TRANS/WP.29/GRPE/2013/2 as in GRPE-65-02.

61. GRPE adopted ECE/TRANS/WP.29/GRPE/2013/2, as amended by GRPE-65-02, and requested the secretariat to submit it to WP.29 and AC.1 for consideration at their June 2013 sessions, as an amendment to R.E.3.

## **XV. International Whole Vehicle Type Approval (IWVTA) (agenda item 14)**

*Documentation:* informal document GRPE-65-19

62. The IWVTA ambassador reported on the priority of discussion on technical requirements for the IWVTA that concerns UN Regulations under GRPE. He explained that, following the decision of WP.29, the UN Regulations expected to require only minor amendments should be considered in a first review step, while the UN Regulations expected to require major amendments should be reviewed in a second step. He illustrated the time schedule outlined for the review process, inviting Contracting Parties to submit to him, by April 2013, eventual changes to the expected amendments of UN Regulations (as foreseen in GRPE-65-19). He explained that the presentation of all the resulting changes to GRPE from the ambassador is scheduled for May 2013, while the agreement by GRPE on the priorities, as well as the appointment of the sponsors for the first review step, are scheduled for June 2013. He stated that a progress report for WP.29 is also expected for June 2013. Sponsors for the second review step shall be appointed in January 2014.

63. Considering the GRPE-related aspects in greater detail, he mentioned that the review of UN Regulation No. 85 (measurement of the net power and the 30 min. power) needs minor changes and it is therefore expected for the June 2013 session of GRPE. UN Regulation No. 101 (CO<sub>2</sub> emissions/fuel consumption) and the UN GTR resulting from the WLTP activity, requiring the sponsors appointed in June 2013, should also be considered in a first review step. The review of UN Regulations Nos. 24 (visible pollutants, measurement of power of compression ignition engines/diesel smoke), 49 (emissions of compression ignition and positive ignition (LPG and CNG) engines), 83 (emissions of M<sub>1</sub> and N<sub>1</sub> vehicles) and the UN Regulation resulting from the MACTP activity (air-conditioning system) shall take place in the second step.

64. Having highlighted the difficulties faced on bringing the integration of European whole vehicle type approval under the ECE structure, the expert from OICA warned GRPE about the need to coordinate on the matrix document – necessary for the whole vehicle type approval – and asked whether Working Parties are supposed to play a pro-active role in this context. The IWVTA ambassador clarified that this is likely to be one of the issues addressed by the IWVTA group working on UN Regulation No. 0. The Chair of GRPE expressed his intention to further investigate this issue, so that it can be fully clarified in the next GRPE session.

## **XVI. Recyclability (agenda item 15)**

*Documentation:* ECE/TRANS/WP.29/2012/116,

informal documents WP.29-158-24, WP29-158-25, GRPE-65-10, GRPE-65-11, GRPE-65-21 and GRPE 65-39

65. The Chair of GRPE recalled the proposal, discussed in the November session of WP.29, to amend the draft UN Regulation on recyclability (ECE/TRANS/WP.29/2012/116) as in WP.29-158-25 (amendments) and WP.29-158-24 (consolidation). He explained that WP.29 expressed its wish to adopt this proposal after detailed consideration by GRPE. Following the invitation by the Chair of GRPE, the expert from OICA introduced ECE/TRANS/WP.29/2012/116, as amended by WP.29-158-25 (amendments) and WP.29-158-24 (consolidation).

66. The expert from the EC introduced an additional amendment correcting an inconsistency in WP.29-158-24 (GRPE-65-10, amending WP29-158-24, and GRPE-65-11, containing the consolidation of WP29-158-24 and GRPE-65-10) and expressed his support for the approval of the revised text.

67. The expert from the Russian Federation introduced GRPE-65-21, pointing out a number of outstanding issues and stating that the proposed draft could be improved.

68. Having replied to the comments and observations of the Russian Federation with a presentation of the document GRPE-65-39, and supported by CLEPA, the expert from OICA offered to clarify his comments in bilateral discussions with the Russian Federation to avoid any further delay in the adoption of the latest draft.

69. The expert from France asked for clarifications about the exclusion of noxious heavy metals from the recyclability requirements of the current draft of the UN Regulation on recyclability, recommending their inclusion in updated texts. The expert from OICA clarified that the recyclability regulation does not aim to regulate the use of different materials, but rather to help comply with the application of the restrictions on the use of materials that are included in national requirements.

70. The expert from Japan recalled that Japan does not have the intention to apply the UN Regulation on recyclability because it opted for a different legislative approach than the one in place in the European Union.

71. Having invited interested stakeholder to address the issues that emerged in the discussion, and provided that the Russian Federation, the European Union and other stakeholders agree on a solution to the pending issues, GRPE adopted the proposal contained in GRPE-65-11 and asked the secretariat to submit it as an official document for the June 2013 session of WP.29. GRPE also agreed that this document will be transmitted to GRPE if no agreement amongst the interested parties is reached.

## **XVII. Exchange of information on national and international requirements on emissions (agenda item 16)**

*Documentation:* Informal documents GRPE-65-06, GRPE-65-14 and GRPE-65-20

72. The expert from Sweden introduced GRPE-65-06, containing information on the introduction of the possibility for national type approval of retrofit emission control system for heavy duty vehicles. The use of these type approved retrofit systems is limited to vehicles designed and approved up to the euro III emission standard (namely city buses) and enables the reduction of pollutant emissions (95 per cent for particles, and 70 per cent for NO<sub>x</sub>). The effective control the retrofit system shall include indication to the driver if the reduction ratio for NO<sub>x</sub> is below 50 per cent and if the reagent level in the tank falls below 10 per cent. Replying to a question from the expert from Switzerland, he clarified

that the possibility to use vehicles in environmental zones is the main incentive to retrofit them.

73. The expert from Japan introduced GRPE-65-14, containing a summary of the future Japanese policy on motor vehicle emission reduction. He provided details on future emission reduction measures for motorcycles, heavy duty diesel motor vehicles and special motor vehicles (such as non-road mobile machinery) powered by diesel fuel. Speaking about emission reduction from heavy duty diesel vehicles, he specified that the focus will be on the improvement of durability and reliability of NO<sub>x</sub> after treatment devices and on the use of off-cycle emission measurement. He also elaborated on tailpipe emission reduction measures, current technologies and challenges. Following requests from the expert from the United States and India, he clarified the approach adopted on the measurement of opacity and provided information on Portable Emissions Measurement Systems (PEMS) on heavy duty vehicles.

74. The expert from the Russian Federation introduced GRPE-65-20, containing an analysis, based on studies carried out in the USA and the Russian Federation, on the role of tyre dust with respect to air pollution and health impacts. He invited GRPE participants to share information on the subject and called for the consideration of regulatory action on it.

75. GRPE welcomed the presentation by the experts from Japan, the Russian Federation and Sweden and noted the efforts undertaken in the fields addressed. Agreeing with the suggestion of the expert from Switzerland, GRPE recommended forwarding the document GRPE-65-20 to the Working Party on Braking and Running Gear (GRRF).

## **XVIII. Other business (agenda item 17)**

### **A. Carcinogenicity of diesel engine exhaust gases**

*Documentation:* Informal document GRPE-65-05

76. The secretariat introduced GRPE-65-05, a draft paper looking at diesel vehicles and engines in the context of air quality, impacts of the emission of pollutants on the environment and health. The secretariat explained that paper originated in the UNECE Environment Division and followed the conclusions of the International Agency on Research on Cancer (IARC) of the World Health Organization (WHO) that diesel engine exhaust is carcinogenic to humans. The secretariat clarified that the document contains information on the importance of different economic sectors with respect to emissions, the interactions between sectoral emission sources and exposure to air pollution, policies and measures that have been implemented in different economic sectors to reduce the emissions of pollutants, including international agreements related to air quality, health and environmental issues. The secretariat reported that the current draft includes a compilation of facts from the work in the framework of the Convention on Long-Range Transboundary Air Pollution (CLRTAP), its Task Force on Health, the European Environment Agency (EEA), and the work undertaken in the framework of the Inland Transport Committee and its subsidiary bodies, paying particular attention to the results delivered by the World Forum and GRPE.

77. The Director of the UNECE Transport Division explained that the paper would be the result of joint activity between the UNECE Transport and Environment Divisions. She explained that GRPE-65-05 shall be considered as a working document and encouraged all GRPE stakeholders to provide their contributions, namely on expected conclusions and recommendations. She explained her intention to widen the scope of the document to address all economic sectors, also clarifying that the inclusion of other sectors (besides

transport) is still an open issue, at the moment. Having informed GRPE that the deadline for a final paper is the end of November 2013, she invited interested stakeholders to send their comments to the secretariat by the end of March 2013.

78. Positive comments on the document were expressed by the experts from Canada, France, India, Italy, Germany, the Russian Federation and Switzerland. The expert from Canada acknowledged the inclusion of the contributions already provided in the draft text that was distributed. The expert from France gave a favourable feedback on the cross-sectoral approach suggested by the Director of the UNECE Transport Division. The expert from Germany recommended the incorporation of the achievements of the REC group, currently not mentioned in GRPE-65-05. The expert from Switzerland informed GRPE that diesel exhaust is classified as carcinogenic in Switzerland and that an action plan was started in 2006 to mitigate emissions. He mentioned that the experience of the action plan could provide interesting information for the paper. The expert from India suggested including a vision for future regulatory action in the document, if possible. Drawing attention on emissions of solid particles in cities, the expert from the Russian Federation recalled the role played by tyre dust and referred to GRPE-65-20 for more details.

79. The expert from OICA pointed out that the IARC conclusions were diffused in a press release, underlining that the full study is not yet available for the public. The expert from EUROMOT suggested including in the document non-road activities being undertaken in the European context.

80. Having agreed to limit the scope of the document to technical aspects of engines and vehicles, including regulatory interventions addressing their emissions (i.e. to its field of expertise), GRPE considered that the availability of the full study is not instrumental for its contributions. GRPE also agreed that the document should not question the conclusions of the experts from WHO and IARC.

## **B. Advanced Driver Assistance Systems (ADAS)**

*Documentation:* Informal documents WP.29-157-06 and GRPE-65-23

81. Following the request of WP.29, the Chair of GRPE invited participants to contribute with technical comments on the design/control principles of ADAS (WP.29-157-06) to harmonize minimum guidelines. Responding to this invitation, the expert from OICA introduced GRPE-65-23 and suggested considering the guidelines as a list of recommended practices in the regulatory process rather than mandatory requirements. The expert from CLEPA supported this position.

82. GRPE noted the comments expressed.

## **XIX. Provisional agenda for the next session**

83. The sixty-sixth GRPE session is scheduled to be held in Geneva, Palais des Nations, starting on Monday, 3 June 2013, at 9.30 a.m. until Friday, 7 June 2013, 12.30 p.m., subject to confirmation by the secretariat (see GRPE-66-01).

### **A. Provisional agenda for the next GRPE session proper**

84. The GRPE proper session is scheduled to be held on Thursday, 6 June 2013, from 9.30 a.m. until Friday, 7 June 2013, 12.30 p.m.:

1. Adoption of the agenda.



2. Report on the last session of the World Forum for Harmonization of Vehicle Regulations (WP.29).
3. Light vehicles:
  - (a) Worldwide harmonized Light vehicles Test Procedures (WLTP);
  - (b) Mobile Air-Conditioning Test Procedure (MACTP);
  - (c) UN Regulations Nos. 68 (measurement of the maximum speed, including electric vehicles), 83 (emissions of  $M_1$  and  $N_1$  vehicles), 101 (CO<sub>2</sub> emissions/fuel consumption) and 103 (replacement pollution control devices).
4. Heavy duty vehicles:
  - (a) Heavy Duty Hybrids (HDH);
  - (b) Retrofit Emissions Control devices (REC);
  - (c) UN Regulation No. 49 (emissions of compression ignition and positive ignition (LPG and CNG) engines);
  - (d) UN Global Technical Regulations Nos. 4 (World-wide harmonized Heavy duty Certification procedure (WHDC)), 5 (World-Wide harmonized Heavy duty On-Board Diagnostic systems (WWH-OBD)) and 10 (Off-Cycle Emissions (OCE)).
5. UN Regulations Nos. 85 (measurement of the net power and the 30 min. power) and 115 (LPG and CNG retrofit systems).
6. Agricultural and forestry tractors, non-road mobile machinery:
  - (a) UN Regulations Nos. 96 (diesel emission (agricultural tractors)) and 120 (net power of tractors and non-road mobile machinery);
  - (b) UN Global Technical Regulation No. 11 (engines).
7. Particle Measurement Programme (PMP).
8. Gaseous Fuelled Vehicles (GFV).
9. Motorcycles and mopeds:
  - (a) Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles;
  - (b) UN Regulations Nos. 40 (emission of gaseous pollutants by motor cycles) and 47 (emission of gaseous pollutants of mopeds);
  - (c) UN Global Technical Regulation No. 2 (World-wide Motorcycle emissions Test Cycle (WMTC)).
10. Electric Vehicles and the Environment (EVE).
11. Vehicle Propulsion System Definitions (VPSD).
12. Fuel Quality (FQ).
13. International Whole Vehicle Type Approval (IWVTA).
14. Recyclability.
15. Exchange of information on national and international requirements on emissions.

16. Election of officers.
17. Other business.

## **B. Informal meetings in conjunction with the next GRPE session proper**

85. Informal meetings in conjunction with the next GRPE session proper will be held according to the following table:

<i>Date</i>	<i>Time</i>	<i>Group</i>
3 June 2013	09:30 a.m. - 12:30	Retrofit Emission Control devices (REC)
	2:30 p.m. - 5:30 p.m.	Electric Vehicles and the Environment (EVE)
4 June 2013	09:30 a.m. - 12:30 p.m.	Heavy Duty Hybrids (HDH)
	2:30 p.m. - 5:30 p.m.	Gaseous Fuelled Vehicles (GFV)
5 June 2013	09:30 a.m. - 5:30 p.m.	Worldwide harmonized Light vehicles Test Procedure (WLTP) - Development of the Test Procedure (DTP) and Development of the Harmonized driving Cycle (DHC)
7 June 2013	2:30 p.m. - 5:30 p.m.	Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR)

86. The agendas of these meetings will be prepared by the respective secretaries and distributed to the members of each group prior to each meeting. All these meetings will be held without interpretation.

## Annex I

## List of informal documents distributed without an official symbol

<i>GRPE-65-</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
01-Rev.1	Secretariat	1	E	Informal meetings in conjunction with the GRPE session proper: room reservations and schedule	(a)
02	OICA	13	E	Comments to the proposal ECE/TRANS/WP.29/GRPE/2013/2	(b)
03	EVE	11	E	Progress report	(a)
04-Rev.1	EVE	11	E	Terms of reference for the EVE informal working group	(b)
05	Secretariat	17	E	Discussion document on diesel exhaust emissions	(a)
06	Sweden	16	E	National legislation for retrofit of HDV for reduced emissions	(a)
07	EC	3(c)	E	Proposal for a new series of amendments to Regulation No. 83	(c)
08	EC	3(c)	E	Modifications to UN Regulation No. 101 resulting from the transposition of the Euro 6 legislation into UN Regulation No. 83	(c)
09	EC	3(c)	E	Modifications to UN Regulation No. 103 resulting from the transposition of the Euro 6 legislation into UN Regulation No. 83	(c)
10	EC	15	E	Proposal to amend document WP29-158-24 (Proposal for a new Regulation on recyclability of motor vehicles)	(a)
11	EC	15	E	Consolidated proposal for a new Regulation on recyclability of motor vehicles	(b)
12	VPSD	12	E	Vehicle definitions: explanatory report	(a)
13	VPSD	12	E	Vehicle definitions: overview	(a)
14	Japan	16	E	Summary of the future Japanese policy for motor vehicle emission reduction	(a)
15	EPPR	9(a)	E	Background information, terms of reference and rules of procedure	(a)
16-Rev.1	EC/PMP	7	E	Summary of the latest PMP related activities	(a)
17	Japan	9(c)	E	Report on the development of Amendment 3 to UN Global Technical Regulation No. 2	(b)
18	REC	4(b)	E	Draft new Regulation on uniform provisions concerning the approval of Retrofit Emission Control Devices (REC) for heavy duty vehicles, agricultural and forestry tractors and non-road mobile machinery equipped with compression ignition engines	(c)
19	IWVTA	14	E	Priority of discussion on technical requirements for IWVTA and draft report to IWVTA informal meeting	(a)
20	Russian Federation	16	E, R	Particulate matter emissions by tyres	(a)

21	Russian Federation	15	E, R	Comments on the proposed draft UN Regulation concerning recyclability of automotive vehicles	(a)
22-Rev.1	EC	3(c)	E	Transposition of Euro 6 requirements into UN Regulation No. 83 and proposed amendments to UN Regulations Nos. 101 and 103	(a)
23	OICA	17(b)	E	Comments to the draft design principles for control systems of Advanced Driver Assistance Systems	(a)
24	Secretariat	2	E	Report on the last sessions of the World Forum for Harmonization of Vehicle Regulations	(a)
25	HDH	4(a)	E	Status of the informal group on Heavy Duty Hybrids	(a)
26	HDH	4(a)	E	Informal group on Heavy Duty Hybrids: report to GRPE	(a)
27	Secretariat	1	E	General information for the GRPE session	(a)
28	Secretariat	1	E	Updated GRPE agenda	(a)
29	WLTP-DHC	3(a)	E	Progress report of World-wide Light duty Test Cycle (WLTC) and mode construction	(a)
30	WLTP	3(a)	E	Updated roadmap	(a)
31	EVE	11	E	Report to GRPE	(a)
32	MACTP	3(b)	E	Status report	(a)
33	GFV	8	E	Report to GRPE	(a)
34	WLTP-DTP	3(a)	E	Status of the draft UN GTR	(a)
35	WLTP-DTP	3(a)	E	Report to GRPE	(a)
36	OICA	8	E	Dual-fuel engines and vehicles: rules for retrofitting diesel engines	(a)
37	GFV-HDDF TF	8	E	Proposal for a draft supplement to the 5th series of amendments to REGULATION No. 49 (rev. 5)	(c)
38	REC	4(b)	E	Report to GRPE	(a)
39	OICA	15	E	UN Regulation on recyclability of motor vehicles: reply to the comments of the Russian Federation	(a)

## Notes:

- (a) Consideration completed or to be superseded
- (b) Adopted and submitted to WP.29
- (c) Resume consideration on the basis of an official document

## Annex II

[English only]

### Informal meetings held in conjunction with the GRPE session

<i>Date</i>	<i>Time</i>	<i>Group</i>
14 January 2013	2:30 p.m. - 5:30 p.m.	Electric Vehicles and the Environment (EVE)
	2:30 p.m. - 5:30 p.m.	Gaseous Fuelled Vehicles - Heavy Duty Dual-Fuel Task Force (GFV-HDDF TF)
15 January 2013	9:30 a.m. - 12:30 p.m.	Heavy Duty Hybrids (HDH)
	9:30 a.m. - 12:30 p.m.	Mobile Air Conditioning Test Procedure (MACTP)
	2:30 p.m. - 5:30 p.m.	Gaseous Fuelled Vehicles (GFV)
	2:30 p.m. - 5:30 p.m.	Worldwide harmonized Light vehicles Test Procedure - Development of the Harmonized driving Cycle (WLTP-DHC)
16 January 2013	9:30 a.m. - 12:30 p.m.	Retrofit Emission Control devices (REC)
	9:30 a.m. - 5:30 p.m.	Worldwide harmonized Light vehicles Test Procedure - Development of the Test Procedure (WLTP-DTP)
18 January 2013	2:30 p.m. - 5:30 p.m.	Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR)

## Annex III

[English only]

## List of GRPE informal working groups, task forces and subgroups

<i>Name (Acronym) (Status)</i>	<i>Chair or Co-chairs</i>	<i>Secretaries</i>	<i>End of mandate</i>
Environmentally Friendly Vehicles (EFV) (task force)	Shrikant R. Marathe, srmarathe@araiindia.com		March 2013
Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR) (group)	Petter Åsman, petter.asman@trafikverket.se	Thomas Vercammen, Thomas.Vercammen@honda-eu.com	June 2016
Electric Vehicles and the Environment (EVE) (group)	Michael Olechiw, Olechiw.Michael@epamail.epa.gov Chen Chunmei (vice-chair), chencm@miit.gov.cn Kazuyuki Narusawa (vice-chair), narusawa@ntsel.go.jp	Stéphane Couroux, stephane.couroux@ec.gc.ca	November 2014
Heavy Duty Hybrids (HDH) (group)	Petter Åsman, petter.asman@trafikverket.se	Jürgen Stein, hj.stein@daimler.com	June 2014
Gaseous Fuelled Vehicles (GFV) (group)	André Rijnders, arijnders@rdw.nl	Jeffrey Seisler, jseisler@cleanfuelsconsulting.org Salvatore Piccolo, s.piccolo@federchimica.it	June 2014
Heavy Duty Dual-Fuel Task Force (HDDV TF) (task force)	Jean-François Renaudin, jean-francois.renaudin@volvo.com Henk Dekker, henk.j.dekker@tno.nl	Jeffrey Seisler, jseisler@cleanfuelsconsulting.org	June 2014
Liquefied Natural Gas Task Force (LNG TF) (task force)	Paul Dijkhof, Paul.Dijkhof@kiwa.nl	Jeffrey Seisler, jseisler@cleanfuelsconsulting.org Jaime Del Alamo, jaime.alamo@ngvaeurope.eu	June 2014
Mobile Air Conditioning Test Procedure (MACTP) (group)	André Rijnders, arijnders@rdw.nl	Hanns-Peter Bietenbeck, hbietenb@ford.com Caroline Hosier, chosier@ford.com	June 2014
Particle Measurement Programme (PMP) (group)	Giorgio Martini, giorgio.martini@jrc.ec.europa.eu	Caroline Hosier, chosier@ford.com	
Retrofit Emission Control devices (REC) (group)	Henk Baarbé, henk.baarbe@minienm.nl	Dirk Bosteels, dirk.bosteels@aecc.be	June 2014

<i>Name (Acronym) (Status)</i>	<i>Chair or Co-chairs</i>	<i>Secretaries</i>	<i>End of mandate</i>
Vehicle Propulsion System Definitions (VPSD) (group)	Christoph Albus, christoph.albus@bmvbs.bund.de	Daniela Leveratto, dleveratto@oica.net	November 2013
Worldwide harmonized Light vehicles Test Procedure (WLTP) (group)		Noriyuki Ichikawa (technical secretary), nick@ichikawa.tec.toyota.co.jp	March 2014
Development of the Harmonized driving Cycle (DHC) (subgroup)	Hajime Ishii, ishii@ntsel.go.jp	Noriyuki Ichikawa, nick@ichikawa.tec.toyota.co.jp	March 2014
Development of the Test Procedure (DTP) (subgroup)	Giovanni D'Urbano, giovanni.durbano@bafu.admin.ch	Jakob Seiler, seiler@vda.de	March 2014
Validation Task Force (VTF) (subgroup task force)	Alessandro Marotta, alessandro.marotta@jrc.ec.europa.eu		March 2014
Lab Process-Electric Vehicles (LabProcEV) (subgroup subgroup)	Kazuki Kobayashi, ka-koba@shinsa.ntsel.go.jp Per Olund, per.ohlund@transportstyrelsen.se		March 2014
Lab Process-Internal Combustion Engines (LabProcICE) (subgroup subgroup)	Stephan Redmann, Stephan.Redmann@bmvbs.bund.de Beatrice Lopez, beatrice.lopez@utac.com Konrad Kolesa, Konrad.Kolesa@audi.de		March 2014
Additional Pollutants (AP) (subgroup subgroup)	Astorga Covadonga, covadonga.astorga-llorens@jrc.ec.europa.eu Oliver Moersch, oliver.moersch@daimler.com		March 2014
Particulate Mass-Particle Number (PM-PN) (subgroup subgroup)	Caroline Hosier, chosier@ford.com Celine Vallaude, celine.vallaude@utac.com		March 2014
Reference Fuel (RF) (subgroup subgroup)	William Coleman, william.coleman@volkswagen.de		March 2014

## Annex IV

### **Report on the development of Amendment 3 to UN Global Technical Regulation (UN GTR) No. 2**

#### **Submitted by Japan**

1. The Japanese experts have identified these editorial errors in UN GTR No.2 (measurement procedure for two-wheeled motorcycles equipped with positive or compression ignition engine with regard to the emission of gaseous pollutants, CO<sub>2</sub> emissions and fuel consumption) on the World-wise harmonized Motorcycle Test Cycle (WMTC) as below:
  - (a) Corrections to ECE/TRANS/180/Add.2: the equations 8-2, 8-4, 8-6 and 8-10 under paragraph 8 need to be corrected in accordance with the unit of each factor in the equation;
  - (b) Correction to ECE/TRANS/180/Add.2/Corr.2: figure A13-1 in the Annex 13, paragraph 1 needs to be replaced reflecting actual use conditions.
2. The Working Party on Pollution and Energy (GRPE) agreed, at its sixty-fourth session, to the Proposal of Japan, to correct these editorial errors (described in the informal document No. GRPE-64-05). The proposal was submitted with document ECE/TRANS/WP.29/GRPE/2013/4 to GRPE for adoption at the sixty-fifth GRPE session in January 2013.



## Annex V

### Terms of reference for the Informal Working Group on Electric Vehicles and Environment (EVE)

#### 1. Introduction

- 1.1. The executive committee of the 1998 Agreement (AC.3) gave, in November 2011, its general support to a joint proposal by the United States, Japan, and the European Union to establish two working groups to address safety and environmental issues associated with electric vehicles (EVs). The proposal (ECE/Trans/WP.29/2012/36 and its Corr1) was submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) at its March 2012 session with China joining as a cosponsor with the European Union, Japan and the United States and the proposal was formally adopted at that time.
- 1.2. The adopted proposal highlights the objectives for the two informal groups as:
  - (a) Exchange information on current and future regulatory requirements for EVs in different markets;
  - (b) Identify and seek to minimize the differences between regulatory requirements, with a view toward facilitating the development of vehicles to comply with such requirements;
  - (c) Where possible, develop common requirements in the form of one or more UN Global Technical Regulations (UN GTRs).
- 1.3. The purpose of this document is to set forth the Terms of Reference (ToR) for the Electric Vehicles and Environment (EVE) informal working group, focusing on the information exchange and joint research concerning the related impacts of the development of EVs to the environment such as CO<sub>2</sub> emissions, energy consumption and efficiency, energy storage (batteries, capacitors, etc.) and infrastructure.
- 1.4. It is also important to note that while EVs are currently on the market and regulators are moving forward with setting applicable technical requirements, the technology is still evolving. This ongoing technology development necessitates a flexible yet solid regulatory framework - one that is performance-oriented, based on the best available data and scientific research and analysis. Cooperation with relevant researchers and technical experts will be a prerequisite for successful operation of the informal working group. In its work the EVE informal working group may identify regulatory areas for the development of UN GTRs and as such would seek approval from AC.3 at that time to develop UN GTR(s).

#### 2. Objective

- 2.1. The EVE informal working group will be an open structure which will enable the exchange of information and experiences on relevant regulations, policy measures and standardization efforts. It is intended that the discussions will encompass all types of road vehicles with electrical propulsion. The EVE informal working group is to provide an international forum for examining a range of issues and sharing information about the developing technologies, current regulatory activities, and policy approaches, including the important considerations such as research priorities, current projects and the deployment of EVs. Where possible and most important, the EVE informal working group will work to identify areas of common or shared

research to advance understanding and to identify potential gaps where coordination can enhance understanding.

- 2.2. The general consensus is that EVs have superior environmental performance to conventional vehicles, but the exact methods of measurement of CO<sub>2</sub> emissions and energy efficiency is still not defined under the 1998 Agreement (although there is ongoing work on test-cycle and test procedure development for EVs in the Worldwide harmonized Light vehicles Test Procedure (WLTP) and Heavy Duty Hybrids (HDH) groups). The EVE informal working group should look to enhance these discussions, where possible. The EVE informal working group is intended to pay significant attention and discuss the possibility to develop UN GTRs in line with the scope of the 1998 Agreement.
- 2.3. Among the important potential considerations regarding the environmental aspects of EVs to be examined by the EVE informal working group, there would be methods and procedures necessary to determine the operational performance including cold start and durability, recharging performance of the battery drive system in any given vehicle and end-of-life battery approaches including battery recycling and repurposing.
- 2.4. In the event the EVE informal working group identifies the need to develop a UN GTR following a thorough review of the issues and potential areas for regulatory harmonization, a recommendation would be brought to the Working Party on Pollution and Energy (GRPE) and then to AC.3 for consideration regarding potential UN GTR activities.
- 2.5. With the continuing efforts to foster the development of electro-mobility, there will also be opportunities to share information on issues such as infrastructure build-up, standards for charging infrastructure and other standardization issues, and support for electrical vehicles market introduction and promotion.

### **3. Organization and structure**

- 3.1. The EVE informal working group shall be open to all interested parties. The United States will serve as chairman. China and Japan will serve as vice-chairmen and Canada will serve as secretary. Participation in the EVE informal working group is open to all Contracting Parties, vehicle manufacturers and suppliers, as well as battery technical experts and manufacturers. The Chairs may allow for the participation of others whose expertise would assist the group.
- 3.2. The informal working group will initially develop the means and resources to address the issues before the EVE informal working group:
  - (a) Develop a priority list of topics to address the most timely and significant considerations before the EVE informal working group;
  - (b) Understand and document the current consideration of EVs under the work of other established informal working groups: Electric Vehicles and Safety (EVS), WLTP, HDH, Environmentally Friendly Vehicles (EFV) and Vehicle Propulsion System Definitions (VPSD);
  - (c) Establish a mechanism for sharing ongoing research and information sharing on topics related to EVs and the environment;
  - (d) Develop a reference guide for regulatory activities already established or being considered by contracting parties.

- 3.3. The available literature, including standards and regulations, should then be screened and analyzed for potential identification and recommendation to AC.3 of future regulatory action.
- 3.4. The informal working group will make every effort to stay abreast of developing concepts and implementation strategies for the development of the possible UN GTRs and the introduction of EVs through regular dialogue and expert presentations.
- 3.5. All of these considerations regarding environmental performance aspects and other issues should be reviewed and coordinated in the context of the existing work already being conducted by the EVS, WLTP, HDH, EFV, and VPSD informal working groups. Because the work of the EVE informal working group is linked to the activities of other on-going related working groups, it will be important to have a clear understanding of the mandates of those informal working groups so that, as defined in this terms of reference, the EVE informal working group activities are unique or complement the activities of the other informal working groups.

#### 4. Operating principles

- (a) The official language of the EVE informal working group will be English;
- (b) Sessions shall be held in agreement with the majority of the participants based on the joint proposal by the chair, vice-chairs and secretariat;
- (c) All documents will be circulated by e-mail to the members and posted on the UNECE/GRPE website in advance of the meetings. The informal working group may refuse to discuss any item or proposal which has not been circulated 10 working days in advance of the scheduled session;
- (d) Agenda: a provisional agenda shall be drawn up by the chairman, vice-chairman and secretariat in accordance with the participants of the EVE informal working group. The first item upon the provisional agenda for each session shall be the adoption of the agenda. The second item on the provisional agenda will be the discussion, matters arising and adoption of the Report of the previous session;
- (e) Proposals will be developed by consensus. When consensus cannot be reached, the chairman shall present the different points of view to GRPE. The chairman may seek guidance from AC.3 and GRPE as appropriate;
- (f) Meeting Reports: draft meeting reports will be circulated in advance of the next session with the view to be formally adopted at the next meeting;
- (g) Reporting: the progress of the informal working group will be reported to GRPE and AC.3 orally or as an informal document by the chairperson or a designated participant of the group.

#### 5. Timeline

<i>Date</i>	<i>Achievement</i>
January 2012	Consideration of drafted terms of reference in anticipation of the approval of the proposal to establish the EVE informal working group
March 2012	Approval by WP.29 of the EVE informal working group
June 2012	First EVE informal working group meeting during the 64th session of the GRPE; discussion of drafted terms of reference

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September 2012	Second EVE informal working group meeting; Expected adoption of terms of reference by EVE informal working group
January 2013	Third EVE informal working group meeting during the 65th session of the GRPE, presentation of the terms of reference of the EVE informal working group and report on of the progress of the IWG
2012-November 2014	Meetings of the EVE informal working group, regular reporting to GRPE and AC.3, including identification of any potential proposals for UN GTRs

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