



Economic and Social Council

Distr.: General
23 August 2010

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Pollution and Energy

Sixtieth session

Geneva, 8-11 June 2010

Report of the Working Party on Pollution and Energy on its sixtieth session (8-11 June 2010)

Contents

| | <i>Paragraphs</i> | <i>Page</i> |
|---|-------------------|-------------|
| I. Attendance | 1 | 3 |
| II. Adoption of the agenda (agenda item 1)..... | 2–3 | 3 |
| III. Heavy duty vehicles (agenda item 2) | 4–14 | 3 |
| A. Worldwide harmonized Heavy Duty Certification procedure (agenda item 2.1) | 4 | 3 |
| B. Worldwide harmonized Heavy duty On-Board Diagnostics systems (agenda item 2.2) | 5 | 4 |
| C. Heavy Duty Hybrids (agenda item 2.3) | 6–9 | 4 |
| D. Retrofit Emission Control devices (agenda item 2.4)..... | 10–13 | 4 |
| E. Regulation No. 49 (Emissions of C.I. and P.I. (NG and CNG) engines) (agenda item 2.5) | 14 | 5 |
| IV. Particle Measurement Programme (agenda item 3) | 15–20 | 5 |
| V. Worldwide harmonized Motorcycle emission Test Cycle (agenda item 4)..... | 21–23 | 6 |
| VI. Engines of tractors and Non-Road Mobile Machinery (agenda item 5)..... | 24–26 | 6 |
| A. Regulation No. 120 (Internal combustion engines for tractors) (agenda item 5.1) | 26 | 7 |

| | | | |
|----------------|--|-------|----|
| VII. | Light vehicles (agenda item 6)..... | 27–39 | 7 |
| A. | Worldwide harmonized Light vehicle Test Procedures (agenda item 6.1).... | 27–31 | 7 |
| B. | Gaseous-Fuelled Vehicles (agenda item 6.2)..... | 32–33 | 8 |
| C. | Regulation No. 83 (Emissions of M ₁ and N ₁ categories of vehicles) (agenda item 6.3) | 34–37 | 8 |
| D. | Regulation No. 103 (Replacement catalytic converters) (agenda item 6.4) | 38 | 9 |
| E. | Mobile Air-Conditioning Test Procedure (agenda item 6.5)..... | 39 | 9 |
| VIII. | Hydrogen and Fuel Cell Vehicles – Subgroup Environment (agenda item 7) | 40–41 | 9 |
| IX. | Environmentally Friendly Vehicles (agenda item 8) | 42–45 | 9 |
| X. | Fuel Quality (agenda item 9) | 46–48 | 10 |
| XI. | Consolidated Resolution on the Construction of Vehicles (agenda item 10) | 49 | 10 |
| XII. | Exchange of information on national and international requirements on emissions (agenda item 11) | 50 | 11 |
| XIII. | Election of officers (agenda item 12) | 51–52 | 11 |
| XIV. | Other business (agenda item 13) | 53–56 | 11 |
| A. | Round Table on Climate Change and Transport (agenda item 13.1)..... | 54–55 | 11 |
| B. | Project on Climate Change and Inland Transport (agenda item 13.2) | 56 | 11 |
| XV. | Provisional agenda for the next session | 57–58 | 12 |
| A. | Informal meetings in conjunction with the next GRPE session proper | 57 | 12 |
| B. | Provisional agenda for the sixty-first session of GRPE proper | 58 | 13 |
| Annexes | | | |
| I. | List of informal documents (GRPE-60-...) distributed without an official symbol during the session | | 14 |
| II. | Informal meetings held in conjunction with the sixtieth session of GRPE | | 16 |
| III. | GRPE informal group on Heavy Duty Hybrids | | 17 |
| IV. | GRPE informal group on Retrofit Emission Control devices | | 19 |
| V. | Amendments adopted by GRPE to ECE/TRANS/WP.29/GRPE/2010/7 | | 21 |
| VI. | Amendments adopted by GRPE to ECE/TRANS/WP.29/GRPE/2010/13 | | 23 |
| VII. | GRPE informal group on Mobile Air-Conditioning Test Procedures | | 25 |

I. Attendance

1. The Working Party on Pollution and Energy (GRPE) held its sixtieth session from 8 to 11 June 2010, under the chairmanship of Mr. B. Gauvin (France). 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; Equatorial Guinea; France; Germany; Hungary; India; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea; Russian Federation; South Africa; Spain; Sweden; Switzerland; United Kingdom of Great Britain and Northern Ireland; United States of America. Experts from the European Commission (EC) also participated. The International Energy Agency (IEA) was also represented. Experts from the following non-governmental organizations took part in the session: Association for Emission Control by Catalyst (AECC); European Association of Automobile Suppliers (CLEPA); European Liquefied Petroleum Gas Association (AEGPL); International Association for Natural Gas Vehicles (IANGV); International Motorcycle Manufacturers Association (IMMA); International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Road Transport Union (IRU) and European Federation for Transport and Environment (T&E). Upon the special invitation of the Chairman, the experts from: European Association of Internal Combustion Engine Manufacturers (EUROMOT); International Petroleum Industry Environment Conservation Association (IPIECA) and Technical Committee of Petroleum Additive Manufacturers in Europe (ATC) also attended.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRPE/2010/6 and Add.1,
Informal document No. GRPE-60-01

2. GRPE noted GRPE-60-01 regarding the organization of the GRPE working group meetings. GRPE adopted the agenda ECE/TRANS/WP.29/GRPE/2010/6, including Add.1, and added new items:

6.5. Mobile Air-Conditioning Test Procedure (MACTP),

13.1. Round Table on Climate Change and Transport,

13.2. Project on Climate Change and Inland Transport.

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

III. Heavy duty vehicles (agenda item 2)

A. Worldwide harmonized Heavy Duty Certification procedure (agenda item 2.1)

Documentation: ECE/TRANS/WP.29/2010/48, ECE/TRANS/WP.29/2010/51

4. Regarding the proposal to remove from global technical regulation (gtr) No. 4 on the Worldwide harmonized Heavy Duty Certification procedure (WHDC) the remaining options on hot soak period and cold start weighting factors, GRPE noted that the proposal ECE/TRANS/WP.29/2010/48 had been submitted to WP.29 and AC.3, for consideration at their June 2010 sessions and establishing into the Global Registry as Amendment 2 to the

gr. With regard to the corresponding alignment of Regulation No. 49, GRPE welcomed the anticipated adoption by WP.29 at its March 2010 session of ECE/TRANS/WP.29/2010/51.

B. Worldwide harmonized Heavy duty On-Board Diagnostics (agenda item 2.2)

5. GRPE noted that no further information was given under this agenda item and agreed to keep this subject on the agenda of its next session.

C. Heavy Duty Hybrids (agenda item 2.3)

Documentation: Informal documents Nos. GRPE-60-11 and GRPE-60-12

6. Referring to the discussion of the previous session, GRPE agreed with the request by the expert from India to add the following sentences to paragraph 12 of the GRPE report ECE/TRANS/WP.29/GRPE/59:

“India recommended that in addition to the “hardware in the loop (HILS)”, there should be an option for carrying out the test on a chassis dynamometer used for type approval purposes. The expert from the Netherlands expressed a similar view.”

7. The Chairman of the informal group on Heavy Duty Hybrids (HDH) reported on the work progress made by the group at its first and second meetings. He introduced a proposal for the terms of reference and rules of procedures for the HDH group (GRPE-60-11). GRPE adopted the term of references and rules of procedures as reproduced in Annex III to this report. Detailed information is available on the GRPE website at:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/hd-hybrids02.html>.

8. The expert from EC presented GRPE-60-12 regarding the objectives and the time line to set up an emission test procedures for heavy duty hybrid vehicles which finally would be established as an amendment to gr No. 4 (WHDC). GRPE agreed with the proposal to develop an amendment to gr No. 4 and requested the secretariat to distribute GRPE-60-12 with an official symbol for consideration by WP.29 and AC.3 at their November 2010 sessions. The expert from Japan underlined the importance of this subject and announced the preparedness of his government to co-sponsor this activity together with the European Union.

9. GRPE noted the intention of the HDH group to possibly meet again in October 2010. The GRPE Chair recommended that the informal group on HDH should also meet prior to the next session of GRPE (see para. 57 below). He volunteered to inform WP.29 and AC.3, at their June 2010 sessions, about the progress made by the HDH group.

D. Retrofit Emission Control devices (agenda item 2.4)

Documentation: Informal documents Nos. GRPE-60-02-Rev.2 and GRPE-60-05

10. The expert from the Netherlands, chairing the informal group on Retrofit Emission Control devices (REC), reported on the fruitful discussion of the group during its first meeting held in Geneva, on 7 June 2010. He presented the draft terms of reference and rules of procedures of the new informal group (GRPE-60-02-Rev.1). GRPE noted a number of study reservations. Following the discussion, GRPE adopted the revised term of references and rules of procedures (GRPE-60-02-Rev.2) of the informal group on REC as reproduced in Annex IV to this report. Detailed information is available on the GRPE website at: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/rec01.html>.

11. GRPE noted the intention of the informal group on REC to convene again in Brussels, on 29 September 2010. The GRPE Chairman invited the REC group to also meet prior to the next session of GRPE (see para. 57 below).

12. Following the request by GRPE at its previous session, the expert from EUROMOT introduced GRPE-60-05 providing additional background information about the need to develop, under the 1958 Agreement, a new Regulation on retrofit emission control systems for engines used in non-road mobile machinery (NRMM) and agricultural tractors with respect to the emissions of pollutants, originally covered by Regulation No. 96.

13. GRPE welcomed that information and referred it to the informal group for a detailed consideration. The GRPE Chairman invited the informal group on REC to also meet prior to the next session of GRPE (see para. 57 below).

E. Regulation No. 49 (Emissions of C.I. and P.I. (NG and CNG) engines) (agenda item 2.5)

14. Regarding the insertion of the Euro 5 requirements into Regulation No. 83 and the corresponding update and clarification of the scope of Regulation No. 49, GRPE noted that ECE/TRANS/WP.29/2010/54/Rev.1 had been adopted by WP.29 in March 2010 as Supplement 3 to the 05 series of amendments to Regulation No. 49.

IV. Particle Measurement Programme (agenda item 3)

Documentation: ECE/TRANS/WP.29/GRPE/2010/7, ECE/TRANS/WP.29/GRPE/2010/8, ECE/TRANS/WP.29/GRPE/2010/9, Informal documents Nos. GRPE-60-08 and GRPE-60-16

15. The Chairman of the informal group on the Particle Measurement Programme (PMP) reported on the progress made by the group with regard to the heavy duty validation exercise and Round Robin tests (GRPE-60-16). He recommended that the laboratories should monitor and manage the tunnel background and that the sample flow extraction for particle number should be corrected in case of the partial flow dilution system and the particulate mass measurement method. He added that a higher variability of the World harmonized Steady state Cycle (WHSC) was needed too. GRPE endorsed the recommendations and conclusions by the informal group on PMP.

16. GRPE noted the final report on the results of the heavy duty inter-laboratory correlation exercise (ECE/TRANS/WP.29/GRPE/2010/9).

17. The PMP Chairman introduced ECE/TRANS/WP.29/GRPE/2010/7 and GRPE-60-08 proposing to insert particle number measurement procedures into Regulations No. 49. GRPE adopted ECE/TRANS/WP.29/GRPE/2010/7 as amended by Annex V to this report. The secretariat was requested to submit the adopted proposal to WP.29 and AC.1, for consideration at their November 2010 sessions, as Supplement 4 to the 05 series of amendments to Regulation No. 49.

18. The expert from the United Kingdom presented a proposal to clarify, correct and update elements of the provisions of Annex 4a to Regulation No. 83 (ECE/TRANS/WP.29/GRPE/2010/8). GRPE adopted the document, not amended, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their November 2010 sessions, as Corrigendum to Supplement 7 to the 05 series of amendments to Regulation No. 83.

19. The expert from EC underlined that the same corrections reproduced in ECE/TRANS/WP.29/GRPE/2010/8 would apply to the 06 series of amendments to Regulation No. 83, which had recently been adopted by WP.29 at its March 2010 session on the basis of documents ECE/TRANS/WP.29/2009/57 and Corr.1, ECE/TRANS/WP.29/2009/134 and ECE/TRANS/WP.29/2010/56. GRPE invited the secretariat to also prepare the above corrections as Corrigendum 1 to the 06 series of amendments to Regulation No. 83, for consideration by WP.29 and AC.1 at their November 2010 sessions.

20. The GRPE Chairman invited the PMP group to meet again prior to the next session of GRPE (see para. 57 below) in January 2011.

V. Worldwide harmonized Motorcycle emission Test Cycle (agenda item 4)

Documentation: ECE/TRANS/WP.29/GRPE/2010/10,
Informal documents Nos. GRPE-60-04, GRPE-60-07 and
GRPE-60-14

21. Recalling the discussion at the previous session of GRPE, the Chairman of the informal group on Worldwide harmonized Motorcycle emission Test Cycle (WMTC) introduced ECE/TRANS/WP.29/GRPE/2010/10 proposing to introduce limit values into gtr No. 2. He reported that the discussions on the proposal were still ongoing on the following three issues: (i) final set of limit values, (ii) reference fuel and (iii) durability requirements. He announced his intention to hold a further meeting in Brussels on 13-14 September 2010 to resolve the remaining open issues. He expected to submit the final proposal to GRPE for consideration at its next session.

22. The expert from IMMA raised concerns (GRPE-60-04) and suggested improving the text of ECE/TRANS/WP.29/GRPE/2010/10. The expert from Japan proposed to amend the provisions in part 1 (preamble) regarding reference fuel (GRPE-60-14). The expert from the United States of America presented GRPE-60-07 proposing a number of improvements and clarifications to ECE/TRANS/WP.29/GRPE/2010/10. The experts from India and Canada supported these comments. GRPE agreed to refer these informal documents to the WMTC informal group for a detailed consideration.

23. The GRPE Chairman expressed his intention to inform WP.29 and AC.3 in June 2010 about the status and he recommended having a final review of ECE/TRANS/WP.29/GRPE/2010/10 at the next session of GRPE in January 2011.

VI. Engines of tractors and Non-Road Mobile Machinery (agenda item 5)

Documentation: Informal documents Nos. GRPE-60-03 and GRPE-60-10

24. GRPE welcomed the intention by the expert from EC to prepare, for the January 2011 session of GRPE, a concrete proposal to align the provisions Regulation No. 96 to those of the corresponding European Directive 2004/26/EC (GRPE-60-10). He added that, herewith, the text of gtr No. 11 on engines emissions from Non-Road Mobile Machinery (NRMM) would be transposed into the Regulation No. 96 under 1958 Agreement.

25. The Secretary of the informal group on NRMM introduced GRPE-60-03 proposing a number of editorial corrections to improve the text of gtr No. 11. GRPE agreed to resume

consider of this subject at its next session in January 2011. For this purpose, the secretariat was requested to distribute GRPE-60-03 with an official symbol.

A. Regulation No. 120 (Internal combustion engines for tractors) (agenda item 5.1)

Documentation: Informal document No. GRPE-60-09

26. The expert from Italy suggested preparing, for the January 2011 session of GRPE, a concrete proposal to align the provisions of Regulation No. 120 to those of the revised Regulation No. 96 (see para. 24 above) and gtr No. 11 (GRPE-60-09). In this respect, he invited all experts to send him their eventual comments. GRPE agreed to resume consider of this subject at its next session in January 2011 on the basis of a concrete proposal.

VII. Light vehicles (agenda item 6)

A. Worldwide harmonized Light vehicle Test Procedures (agenda item 6.1)

Documentation: Informal document No. GRPE-60-19

27. The Secretary of the informal group on Worldwide harmonized Light vehicle Test Procedures (WLTP) reported on the good progress made by both subgroups on the Development of the Harmonized driving Cycle (DHC) and on the Development of the Test Procedure (DTP) (GRPE-60-19). He announced the intention of the subgroups to hold further meetings in Vienna on 13-15 October 2010. Detailed information on the activities of both groups is available on the GRPE websites at:

http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/wltp_dhc04.html, and

http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/wltp_dtp02.html.

28. The expert from the United States of America announced that his government had recently reviewed the national priorities and that, accordingly, the Environmental Protection Agency (EPA) could no longer accomplish their commitments on the development of the draft gtr on WLTP. She mentioned that EPA had decided to withdraw their active participation and sponsorship in the development of the new gtr on WLTP for a time period of about 18 months. She added that her colleagues were nevertheless committed to ensure, over the next few months, a smooth transition of their leadership roles. GRPE noted with deep regret this decision by the United States of America.

29. The expert from EC underlined the importance to continue the development of the new emission test cycle on WLTP. He urged all other stakeholders to continue their commitments and to stick to the original time line. Following the discussion, GRPE agreed to continue the process of development of the gtr and invited Contracting Parties to commit additional efforts in order to keep the initial time line for establishing the gtr on WLTP.

30. The GRPE Chairman announced his intention to inform WP.29 and AC.3, at their June 2010 sessions, of the circumstances in the development of the gtr on WLTP. With regard to the follow-up of the WLTP activities and the relief of the sponsorship as well as the chairmanship of the WLTP subgroup on DTP, he recommended to leave this issues to the decision of WP.29 and AC.3. He invited all experts to inform in this respect their representative in WP.29.

31. The GRPE Chairman suggested that the WLTP subgroups on DHC and DTP should also meet prior to the next session of GRPE (see para. 57 below).

B. Gaseous-Fuelled Vehicles (agenda item 6.2)

Documentation: Informal document No. GRPE-60-20

32. The Chairman of the informal group on Gaseous-Fuelled Vehicles (GFV) reported on the work progress (GRPE-60-20) made by the GFV group at its recent meetings, held in Brussels on 28 April 2010 and in Geneva on 8 June 2010. GRPE noted some concerns on the need to amend Regulation No. 115 with additional provisions to ensure that retrofit equipment comply with the new Euro 5 emission requirements.

33. GRPE noted that the next meeting of the GFV working group would take place in October 2010. GRPE agreed that the GFV group should also meet prior to the next session of GRPE (see para. 57 below).

C. Regulation No. 83 (Emissions of M₁ and N₁ categories of vehicles) (agenda item 6.3)

Documentation: ECE/TRANS/WP.29/GRPE/2009/8,
ECE/TRANS/WP.29/GRPE/2010/11,
ECE/TRANS/WP.29/GRPE/2010/12,
Informal document No. GRPE-60-06

34. The expert from OICA recalled the purpose of ECE/TRANS/WP.29/GRPE/2009/8 proposing to clarify and update Regulation No. 83 with regard to the specifications for the Flame Ionisation Detector (FID) hydrocarbon analyser. He presented GRPE-60-06 justifying the proposed equivalent measurement method. GRPE noted a number of study reservations. Following the discussion, the Chairman recommended having a final review of ECE/TRANS/WP.29/GRPE/2009/8 at the next session of GRPE in January 2011.

35. The expert from OICA introduced ECE/TRANS/WP.29/GRPE/2010/11 proposing to insert into Regulation No. 83 new specifications for the proportional speed fan which might be used during the testing of vehicles on the chassis dynamometer. GRPE noted some concerns about the air cooling velocity. GRPE adopted the proposal ECE/TRANS/WP.29/GRPE/2010/11, not amended. The secretariat was requested to submit the adopted proposal to WP.29 and AC.1, as Supplement 1 to the 06 series of amendments as well as Supplement 10 to the 05 series of amendments to Regulation No. 83, for consideration by WP.29 and AC.1 at their November 2010 sessions.

36. The GRPE Chairman invited the experts from the Netherlands, Poland, the United Kingdom, EC and OICA to jointly prepare a proposal regarding the air cooling velocity for consideration at the next GRPE session.

37. Recalling the discussion at the previous GRPE session, GRPE considered and adopted ECE/TRANS/WP.29/GRPE/2010/12 tabled by the expert from the Russian Federation. The secretariat was requested to submit the adopted proposal to WP.29 and AC.1, for consideration at their November 2010 sessions as part (see para. 35 above) of Supplement 10 to the 05 series of amendments to Regulation No. 83.

D. Regulation No. 103 (Replacement catalytic converters) (agenda item 6.4)

Documentation: ECE/TRANS/WP.29/GRPE/2010/13,
Informal documents Nos. GRPE-60-17 and GRPE-60-18

38. The EC expert introduced ECE/TRANS/WP.29/GRPE/2010/13, GRPE-60-17 and GRPE-60-18 to align the provisions of Regulation No. 103 with the Euro 5 requirements in Regulation No. 83 (06 series of amendments). GRPE adopted ECE/TRANS/WP.29/GRPE/2010/13, as amended by Annex VI to this report, and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their November 2010 sessions, as Supplement 3 to Regulation No. 103.

E. Mobile Air-Conditioning Test Procedures (agenda item 6.5)

Documentation: Informal document No. GRPE-60-15-Rev.1

39. The expert from the Netherlands, chairing the informal group on Mobile Air-Conditioning Test Procedures (MACTP), reported on the good progress made by the group during its first meeting held in Geneva, on 8 June 2010. He introduced GRPE-60-15-Rev.1 proposing the draft terms of reference and rules of procedures of the informal group. GRPE noted a number of comments. GRPE adopted the term of references and rules of procedures of the informal group on MACTP as reproduced in Annex VII to this report. Detailed information about the group's activities is available on the GRPE website at: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/mactp01.html>.

VIII. Hydrogen and Fuel Cell Vehicles – Subgroup Environment (agenda item 7)

40. The expert from EC, chairing the informal group on Hydrogen and Fuel Cell Vehicles – Subgroup Environment (HFCV-SGE), reported on the results of the subgroup's meeting held prior to the GRPE session proper. He announced the SGE's intention to prepare a technical report recommending that the introduction of new provisions on environmental issues should be submitted as amendments to existing gtrs and Regulations, subject to the consent of AC.3 at its June 2010 session. He expected to submit the draft technical report to GRPE for consideration at its next session in January 2011. More detailed information about the technical report of the SGE subgroup is available at: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/grpehfcv-sge06.html>.

41. GRPE noted that the HFCV subgroup on safety (SGS) would meet again in Seoul on 15-18 June 2010 and that the SGE subgroup would possibly meet again in November 2010.

IX. Environmentally Friendly Vehicles (agenda item 8)

Documentation: Informal document No. GRPE-60-21

42. GRPE noted a brief report (GRPE-60-21) by the expert from India, chairing the informal group on Environmentally Friendly Vehicles (EFV), about the progress made by the informal group at its sixth meeting held in Geneva, on 15 January 2010. The informal group was expected to meet after the GRPE session proper and to consider a number of working papers on a single score evaluation such as CO₂ emissions, noise level, gaseous pollutants, the recyclability and type of fuels. Detailed information on these parameters is available at: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/efv07.html>.

43. The group agreed to refer the noise issues (EFV-07-05) for detailed consideration to the Working Party on Noise. Referring to the EFV feasibility statement (GRPE-58-02 and GRPE-58-03), the expert from OICA did not agree with the single score evaluation concept. He preferred to follow the integrated well-to-wheels approach as initially agreed in the feasibility study.

44. A number of experts were of the opinion that the future EFV concept document should include a more general part (e.g. preamble) with provisions for the well-to-tank approach and a more detailed part (e.g. regulation, recommendation) with technical specifications (such as the single score concept) for the tank-to-wheel approach focusing on the construction of EFV and their environmental performance.

45. The GRPE Chairman suggested that the informal group should again meet in conjunction with the next session of GRPE in January 2011 (see para. 57 below).

X. Fuel Quality (agenda item 9)

Documentation: Informal document No. GRPE-60-13

46. The Secretary of the informal group on Fuel Quality (FQ) briefed GRPE about the outcome of the third joint IPIECA/OICA meeting held in Washington in April 2010. He reported on the conclusions by the FQ group at its sixth meeting, held on 9 June 2010 (GRPE-60-13). GRPE noted that the discussion on the market fuel quality parameters was close to an agreement.

47. GRPE agreed with the conclusions of the informal group and invited both organizations IPIECA and OICA to conclude, at a further joint meeting, (i) on the final list of parameters for Euro 2 to Euro 4 emissions levels, (ii) to set up draft recommendations including an explanatory text for the use of the recommendation and (iii) to submit it to WP.29 for consideration at its November 2010 session.

48. The GRPE Chairman announced his intention to inform WP.29 about the status at its June 2010 session. Regarding a possible extension of the mandate of the informal group on FQ, he recommended to reconsider this issue at the next session of GRPE in January 2011, depending on the final proposal by IPIECA/OICA. In this respect, he invited all experts to think about their preference on a possible extension of the informal group's mandate (e.g. inclusion of market fuel quality parameters for gaseous fuels, biofuels, etc.).

XI. Consolidated Resolution on the Construction of Vehicles (agenda item 10)

Documentation: ECE/TRANS/WP.29/2009/123 and Corr.1, Corr.2, Corr.3, Corr.4

49. GRPE welcomed the revised proposal of the Consolidated Resolution on the Construction of Vehicles (R.E.3). GRPE noted that the Working Party on General Safety provisions (GRSG) had recently adopted a further amendment to R.E.3 to insert a definition for non-road mobile machinery. WP.29 might consider adding the recommendations on market fuel quality as an annex to the R.E.3, if appropriate.

XII. Exchange of information on national and international requirements on emissions (agenda item 11)

Documentation: ECE/TRANS/WP.29/GRPE/2010/14

50. The expert from IRU introduced ECE/TRANS/WP.29/GRPE/2010/14 underlining the need to focus in future on the reduction of the CO₂ emissions rather than emissions of gaseous pollutants. GRPE preferred to continue its ongoing work on both, the further reduction of pollutants and CO₂ emissions and referred the policy issue to WP.29 for consideration and advice. GRPE agreed to keep this subject on the agenda of its next session.

XIII. Election of officers (agenda item 12)

51. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690 and Amend.1), GRPE called the election of officers on Friday morning. Learning that Mr. Bernard Gauvin (France) would no longer chair the GRPE sessions in 2011, Mr. Ch. Albus (Germany) was unanimously elected Chairman of GRPE for the sessions of the year 2011.

52. GRPE thanked Mr. Gauvin for his excellent chairmanship of GRPE during the past thirty-seven years. The Secretary expressed his gratitude to Mr. Gauvin for his huge contributions and outstanding guidance, which had facilitated the work of GRPE and its secretariat. GRPE expressed its appreciation to Mr. Gauvin with a great and long ovation.

XIV. Other business (agenda item 13)

53. GRPE noted the request by the WP.29 informal group on Intelligent Transport Systems (ITS) to consider the guidelines on establishing requirements for high-priority warning signals (see report ECE/TRANS/WP.29/1083, para. 27). GRPE agreed to resume consideration of this subject at its next session in January 2011.

A. Round Table on Climate Change and Transport (agenda item 13.1)

54. The secretariat informed GRPE about the forthcoming WP.29 Round Table on "Climate Change and Transport", scheduled to be held in Geneva on 24 June 2010. He announced that the programme and all background documents were available on the WP.29 website at: http://www.unece.org/trans/events/ClimateChange_Transport.html.

55. The Chairman invited all GRPE experts to participate in this important event. He added that the conclusions of the Round Table would be presented to WP.29 at its November 2010 session.

B. Project on Climate Change and Inland Transport (agenda item 13.2)

56. GRPE noted the initiative of the UNECE secretariat to launch, in cooperation with other United Nations Regional Commissions, a new project funded by the United Nations Development Account (UNDA) aimed at: (a) raising awareness of the levels of CO₂ emissions in the inland transport sector, (b) developing a web-based uniform tool for the monitoring and assessment of inland transport CO₂ emissions including a transport policy converter and (c) organizing capacity building workshops in all United Nations regions to improve the skills of users of the CO₂ assessment tool. The Secretary volunteered to provide detailed information on this project at the next session of GRPE.

XV. Provisional agenda for the next session

57. For its sixty-first session to be held in Geneva, Palais des Nations, GRPE decided to start on Monday, 10 January 2011, at 10.00 a.m. until Friday, 14 January 2011, 5.30 p.m., subject to confirmation by the secretariat (see GRPE-61-01). For that purpose, the following time schedule and provisional agenda was suggested:

A. Informal meetings in conjunction with the next GRPE session proper

1. Informal meeting of the GRPE working group on Retrofit Emission Control devices (REC)

To be held on Monday morning, 10 January 2011, from 10.00 a.m. till 12.30 p.m. The agenda of the meeting will be prepared by the REC secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

2. Informal meeting of the GRPE working group on Heavy Duty Hybrids (HDH)

To be held on Monday afternoon, 10 January 2011, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the HDH secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

3. Informal meeting of the GRPE working group on Gaseous-Fuelled Vehicles (GFV)

To be held on Tuesday morning, 11 January 2011, from 9.30 a.m. till 12.30 p.m. The agenda of the meeting will be prepared by the GFV secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

4. Informal meeting of the GRPE working group on Mobile Air-Conditioning Test Procedures (MACTP)

To be held on Tuesday afternoon, 11 January 2011, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the MACTP secretariat and distributed to the members of the group prior to the meeting.

5. Informal meeting of the GRPE/WLTP subgroup on the Development of the Harmonized driving Cycle (WLTP-DHC)

To be held on Wednesday morning, 12 January 2011, from 9.30 a.m. till 12.30 p.m. The agenda of the meeting will be prepared by the WLTP-DHC secretariat and distributed to the members of the group prior to the meeting.

6. Informal meeting of the GRPE/WLTP subgroup on the Development of Test Procedures (WLTP-DTP)

To be held on Wednesday afternoon, 12 January 2011, from 2.30 p.m. till 4.00 p.m. The agenda of the meeting will be prepared by the WLTP-DTP secretariat and distributed to the members of the group prior to the meeting.

7. Informal meeting of the GRPE working group on Particle Measurement Programme (PMP)

To be held on Wednesday afternoon, 12 January 2011, from 4.00 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the PMP secretariat and distributed to the members of the group prior to the meeting.

8. Informal meeting of the GRPE working group on Environmentally Friendly Vehicles (EFV)

To be held on Friday afternoon, 14 January 2011, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the EFV secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

B. Provisional agenda for the sixty-first session of GRPE proper

58. To be held on Thursday, 13 January 2011, from 9.30 a.m. to Friday, 14 January 2011, until 12.30 p.m.:

1. Heavy duty vehicles:
 - (a) Worldwide harmonized Heavy Duty Certification procedure;
 - (b) Worldwide harmonized Heavy duty On-Board Diagnostic systems;
 - (c) Heavy Duty Hybrids;
 - (d) Retrofit Emission Control devices;
 - (e) Regulations No. 49 (Emissions of C.I. and P.I. (NG and LPG) engines).
2. Particle Measurement Programme.
3. Worldwide harmonized Motorcycle emission Test Cycle.
4. Tractors and Non-Road Mobile Machinery:
 - (a) Corrigendum to gtr No. 11;
 - (b) Regulation No. 96 (Engine emissions of agricultural tractors);
 - (c) Regulation No. 120 (Internal combustion engines for tractors).
5. Light vehicles:
 - (a) Worldwide harmonized Light vehicles Test Procedures;
 - (b) Gaseous-Fuelled Vehicles;
 - (c) Regulation No. 83 (Emissions of M₁ and N₁ categories of vehicles);
 - (d) Regulation No. 103 (Replacement catalytic converters)
 - (e) Mobile Air-Conditioning Test Procedures.
6. Hydrogen and Fuel Cell Vehicles – Sub Group Environment.
7. Environmentally Friendly Vehicles.
8. Fuel Quality.
9. Exchange of information on national and international requirements on emissions.
10. Project on Climate Change and Inland Transport.
11. Other business.

Annexes

Annex I

List of informal documents (GRPE-60-...) distributed without an official symbol during the session

| <i>No.</i> | <i>Transmitted by</i> | <i>Agenda item</i> | <i>Language</i> | <i>Title</i> | <i>Follow-up</i> |
|------------|--------------------------|--------------------|-----------------|---|------------------|
| 01 | Secretariat | - | E | Informal group meetings scheduled to be held in conjunction with the 60th GRPE session proper (including the room reservations – see Annex) | (a) |
| 02-Rev.2 | The Netherlands | 2(d) | E | Revised proposal for a mandate for an informal group of GRPE dealing with Retrofit Emissions Control devices (REC) | (b) |
| 03 | EC-JRC | 5 | E | Corrigenda to gtr No. 11 (NRMM) | (c) |
| 04 | IMMA | 4 | E | IMMA comments on the draft amendment 2 to global technical regulation No. 2 (WMTC) | (a) |
| 05 | EUROMOT | 2(d) | E | Proposal for a Regulation for retrofit emission control systems for engines used in non-road mobile machinery and agricultural tractors | (a) |
| 06 | OICA | 6(c) | E | OICA proposal for amendments to Regulation No. 83 | (a) |
| 07 | India, Canada, USA | 4 | E | India's comments to ECE/TRANS/WP.29/GRPE/2010/10, including Canada/US response | (a) |
| 08 | United Kingdom | 3 | E | Corrections to document ECE/TRANS/WP.29/GRPE/2010/7 | (b) |
| 09 | Italy | 5(a) | E | Proposal for amendments to Regulation No. 120 (Internal combustion engines to be installed in agricultural and forestry tractors and in non-road mobile) | (a) |
| 10 | EC-JRC | 5 | E | Proposal for amendments to Regulation No. 96 (Emissions of pollutants by compression ignition (CI) engines to be installed in agricultural and forestry tractors) | (a) |
| 11 | HDH Chair | 2(c) | E | Proposal for the terms of reference of the informal group on HDH | (b) |

| <i>No.</i> | <i>Transmitted by</i> | <i>Agenda item</i> | <i>Language</i> | <i>Title</i> | <i>Follow-up</i> |
|------------|-----------------------|--------------------|-----------------|---|------------------|
| 12 | EC | 2(c) | E | Proposal for an emission test procedure for heavy duty hybrid vehicles | (b) |
| 13 | FQ Secretary | 9 | E | Summary of the 6th meeting of the informal group on Fuel Quality | (a) |
| 14 | Japan | 4 | E | Proposal for draft amendments to global technical regulation No. 2 | (a) |
| 15-Rev.1 | EC | 6(e) | E | GRPE informal group on Mobile Air-Conditioning Test Procedure (MACTP) | (b) |
| 16 | PMP Chair | 3 | E | PMP Heavy duty validation exercise | (a) |
| 17 | EC | 6(d) | E | Corrigenda to the proposal for draft amendments to Regulation No. 103 | (b) |
| 18 | EC | 6(d) | E | Proposal and its corrigendum for draft amendments to Regulation No. 103 (non-official consolidated version) | (b) |
| 19 | WLTP Secretary | 6(a) | E | Summary of the 5th informal group on WLTP | (a) |
| 20 | GFV Chair | 6(b) | E | Informal group on gaseous fuelled vehicles: Report to 60th GRPE June 2010 | (a) |
| 21 | India | 8 | E | Brief report to GRPE about the progress made by EFV informal group during its 6th meeting held at Geneva on 15 January 2010 | (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

Informal meetings held in conjunction with the sixtieth session of GRPE

1. Following the agreement reached at the previous GRPE session, nine informal meetings were held in conjunction with the sixtieth session of the GRPE.
2. The first informal meeting of the GRPE working group on Retrofit Emission Control devices (REC) was held in the morning of 7 June 2010, under the chairmanship of Mr. H. Baarbé (Netherlands). A summary of the proceedings of this informal meeting is given in the report above (paras. 10–13).
3. The sixth informal meeting of the GRPE working group on Hydrogen and Fuel Cell Vehicles – Sub Group Environment (HFCV-SGE) was held in the afternoon of 7 June 2010, under the chairmanship of Mr. A. Perujo (EC-JRC). A summary of the proceedings of this informal meeting is given in the report above (paras. 40–41).
4. The second informal meeting of the GRPE working group on Heavy Duty Hybrids (HDH) was held in the afternoon of 7 June 2010, under the chairmanship of Mr. P. Asman (EC). A summary of the proceedings of this informal meeting is given in the report above (paras. 6–9).
5. The tenth informal meeting of the GRPE working group on Gaseous Fuelled Vehicles (GFV) was held in the morning of 8 June 2010, under the chairmanship of Mr. A. Rijnders (Netherlands). A summary of the proceedings of this informal meeting is given in the report above (paras. 32–33).
6. The first informal meeting of the GRPE working group on Mobile Air-Conditioning Test Procedures (MACTP) was held in the afternoon of 8 June 2010, under the chairmanship of Mr. A. Rijnders (Netherlands). A summary of the proceedings of this informal meeting is given in the report above (para. 39).
7. The fourth informal meeting of the WLTP subgroup on the Development of the Harmonized driving Cycle (WLTP-DHC) was held in the morning of 9 June 2010 under the co-chairmanship of Mr. H. Ishii (Japan) and Mr. C. Mills (United Kingdom). A summary of the proceedings of this informal meeting is given in the report above (paras. 27–31).
8. The second informal meeting of the WLTP subgroup on the Development of the Test Procedure (WLTP-DTP) was held in the afternoon of 9 June 2010 under the chairmanship of Mr. M. Olechiv (USA). A summary of the proceedings of this informal meeting is given in the report above (paras. 27–31).
9. The sixth informal meeting of the GRPE working group on Fuel Quality (FQ) was held in the afternoon of 9 June 2010 under the chairmanship of Mr. B. Gauvin (France). A summary of the proceedings of this informal meeting is given in the report above (paras. 46–48).
10. The seventh informal meeting of the GRPE working group on Environmentally Friendly Vehicles (EFV) was held in the morning of 11 June 2010 under the chairmanship of Mr. A. Sharma (India). A summary of the proceedings of this informal meeting is given in the report above (paras. 42–45).

Annex III

GRPE informal group on Heavy Duty Hybrids

A. Terms of reference

1. The objective of the informal group on Heavy Duty Hybrids (HDH) is to establish an amendment to global technical regulation (gtr) No. 4 (WHDC) with respect to pollutant emissions and CO₂ emission from heavy duty hybrids under the 1998 Global Agreement. The informal group will also consider if the scope of gtr No. 4 is appropriate or if a separate gtr should be considered. The group shall report to GRPE on its conclusions on this matter at the sixty-first session of GRPE in January 2011.
2. The informal group shall investigate the Hardware-in-the-Loop Simulation (HILS) approach, which starts from a vehicle cycle and simulates powertrain and vehicle components to result in a hybrid specific engine cycle for pollutant emissions and CO₂ testing and measurement, and which is based on the test cell environment, data evaluation procedures and emissions calculations specified in gtr No. 4. The engine cycle (speed/load pattern) created by HILS will be verified against the engine cycle resulting from a chassis dynamometer test.
3. As a starting point, the vehicle speed pattern of the World Harmonized Vehicle Cycle (WHVC) will be used.
4. Modifications to the WHVC with respect to using subsets of the cycle in combination with appropriate weighting or scaling factors will be investigated for specific hybrid vehicle designs (e.g. city buses).
5. The final procedure shall result in outputs that are quantifiable, verifiable, and reproducible and that provide a method for assessing real world compliance broadly and on a case by case basis, shall be capable of incorporating updated information and new data to produce the most accurate outputs, and shall be appropriately transparent as to allow governmental entities the latitude to easily assess its performance and ensure accuracy and a level playing field.
6. During the course of this work the feasibility of a chassis dynamometer based emission test procedure will be assessed as an alternative to HILS. The result of this activity will be reported to GRPE.
7. The informal group shall submit to GRPE for consideration, at its sixty-first session in January 2011 the milestones, the roadmap and the necessary budget for step 1 of the future work program.
8. The informal group shall submit the final report on the investigation on HILS for consideration to GRPE at its sixty-fifth session in January 2013.
9. The target completion date for the work of the informal group on HILS shall be the 163rd session of WP.29 in June 2014.
10. This target completion date and the necessity of a chassis dynamometer test as a second step will be reviewed by WP.29 at its 160th session in June 2013, taking into account the assessment by GRPE of the final report on HILS.

B. Rules of procedure

1. The informal group is open to all participants of GRPE. A limitation of the number of participants from any country and organization to participate in the informal group is actually not foreseen. A Chairperson and a Secretary will manage the informal group.
2. The working language of the informal group will be English.
3. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format, preferably in line with the UNECE guidelines in advance of the meetings. The group may refuse to discuss any item or proposal which has not been circulated at least 5 working days in advance of the scheduled meeting.
4. An agenda and related documents will be circulated to all members of the informal group in advance of all scheduled meetings.
5. The work process will be developed by consensus. When consensus cannot be reached, the Chairperson of the informal group shall present the different points of view to GRPE. The Chairperson may seek guidance from GRPE, as appropriate.
6. The progress of the informal group will be routinely reported to GRPE orally or as an informal document by the Chairperson or the Secretary.
7. All working documents shall be distributed in digital format. A specific website of the GRPE informal group on HDH will be created and the URL will be noticed to all related parties.

Annex IV

GRPE informal group on Retrofit Emission Control devices

A. Terms of reference

1. Name of the Group: Informal group on Retrofit Emissions Control devices (REC)
2. Scope

The scope will include the following:

- (a) Regulation No. 49: Emissions of C.I., NG, and P.I. (LPG) engines,
- (b) Regulation No. 96: Emissions of engines for tractors and Non-Road Mobile Machinery (NRMM),
- (c) Regulation No. 103: Replacement catalytic converters,
- (d) other topics dealing with REC that are addressed by the GRPE.

3. Tasks

Evaluate harmonized requirements for retrofit emission control devices with the aim to facilitate testing and type approval of such devices in the light of:

- (a) the need for defined performance measures for such devices,
- (b) the adoption of low emission zones in the territories of Contracting Parties,
- (c) the need for uniform provisions applicable to vehicles engaged in cross-border transport,
- (d) the market entry of new technologies.

The requirements will be performance oriented as far as possible.

This will include retrofit emissions control devices intended for fitment to:

- (a) heavy duty vehicles equipped with engines type approved according to Regulation No. 49,
- (b) NRMM and tractors with engines type approved according to Regulation No. 96.

Evaluate harmonized requirements for replacement catalytic converters of Regulation No. 103 in conjunction with the development of harmonized requirements for REC.

Develop a draft Regulation for REC to be installed on heavy duty vehicles and non-road mobile machinery and tractors resulting from these evaluations and submit it for consideration by GRPE.

4. Organisation

Chairmanship: The Netherlands

Secretariat: AECC

B. Rules of procedures

1. Membership: Open to all government, industry and other parties affiliated with UNECE, with an interest in retrofitting of emissions control devices.
2. Meetings: Meetings will, whenever possible, be linked to the GRPE sessions. However, additional meetings, when necessary, can be organized in between these GRPE-linked meetings.

All working documents, agenda and reports will be posted on the GRPE website.

The working language of the informal group will be English.
3. Duration: 2 years: June 2010 to June 2012.
4. Priorities: The group will start its work with the review of retrofit requirements for control of particulate emissions from heavy duty vehicles, categories M and N and equivalent requirements for other applications such as NRMM and tractors.

The group will in parallel review the potential to develop requirements for systems which control NOx emissions.

Annex V

Amendments adopted by GRPE to ECE/TRANS/WP.29/GRPE/2010/7

In Annex 4C, paragraph 4.1.1., amend “0.1 per cent” to read “0.5 per cent”.

In Annex 4C, paragraph 4.2.2., amend to read:

“4.2.2. The instantaneous exhaust gas flow rate into the dilution system (q_{mp}), used for controlling the proportionality of sampling, shall be corrected according to one of the following methods;

- (a) In the case where the extracted particle number sample flow is discarded, equation (83) in Annex 4B, paragraph 9.4.6.2. shall be replaced by the following:

$$q_{mp} = q_{mdew} - q_{mdw} + q_{ex}$$

Where:

q_{mp} = sample flow of exhaust gas into partial flow dilution system, kg/s

q_{mdew} = diluted exhaust mass flow rate, kg/s

q_{mdw} = dilution air mass flow rate, kg/s

q_{ex} = particle number sample mass flow rate, kg/s

The q_{ex} signal sent to the partial flow system controller shall be accurate to within 0.1 per cent of q_{mdew} at all times and should be sent with frequency of at least 1 Hz.

- (b) In the case where the extracted particle number sample flow is **fully or partially** discarded, but an equivalent flow is fed back to the dilution system upstream of the flow measurement device, equation (83) in Annex 4B, paragraph 9.4.6.2. shall be replaced by the following:

$$q_{mp} = q_{mdew} - q_{mdw} + q_{ex} - q_{sw}$$

where:

.....”

In Annex 4C, Appendix 1, paragraph 1.2.1., amend to read:

“1.2.1. The particle sampling point shall be located within a dilution system.

The sampling probe tip or particle

In the case of partial flow dilution systems of the total sampling type (as described in Annex 4B, section A.3.2.1) the particle sampling point or sampling probe shall be located in the particulate transfer tube, upstream of the particulate filter holder, flow measurement device and any sample/bypass bifurcation point. The sampling point or sampling probe shall be positioned so that the sample is taken from a homogeneous diluent/exhaust mixture. **The dimensions of the particle sampling probe should be sized not to interfere with the operation of the partial flow dilution system.**

Sample gas drawn through the PTS shall meet the following conditions:

In the case of full flow dilution systems, it shall have a flow Reynolds number (Re) of < 1700;

In the case of partial flow dilution systems, it shall have a flow Reynolds number (Re) of < 1700 in the PTT i.e. downstream of the sampling probe or point,

It shall have a residence time in

Annex VI

Amendments adopted by GRPE to ECE/TRANS/WP.29/GRPE/2010/13

Paragraph 1., amend to read:

“1. Scope

This Regulation applies to the type-approval, as separate technical units, of pollution control device to be fitted in one or more types of motor vehicles of categories **covered by the scope of the related version of Regulation No. 83** as replacement parts.

Catalytic converters and particulate filters shall be considered to be pollution control devices for the purposes of this Regulation.”

*Paragraph 4.4., correct “catalytic converter” to read “**pollution control device**”.*

Paragraph 5.2.3., amend to read:

“5.2.3. Evaluation of the emission of pollutants of vehicles equipped with replacement pollution control devices.

The test vehicle(s) with the original pollution control device shall comply with the limit values according to the type approval of the vehicle(s) including — if applicable — the deterioration factors applied during the type approval of the vehicle(s).

The requirements regarding emissions of the vehicle(s) equipped with the replacement pollution control device shall be deemed to be fulfilled if the results meet for each regulated pollutant (CO, HC, NO_x, particulates **and particles**) the following conditions:

$$(1) \quad M \leq 0.85S + 0.4G$$

$$(2) \quad M \leq G$$

where :

M: mean value of the emissions of one pollutant (CO, HC, NO_x, particulates **and particles**) or the sum of two pollutants (HC + NO_x) obtained from the three type I tests with the replacement pollution control device.

S: mean value of the emissions of one pollutant (CO, HC, NO_x, particulates **and particles**) or the sum of two pollutants (HC + NO_x) obtained from the three type I tests with the original pollution control device.

G: limit value of the emissions of one pollutant (CO, HC, NO_x, particulates **and particles**) or the sum of two pollutants (HC + NO_x) according to the type approval of the vehicle(s):

i) **divided by the multiplicative or**

ii) **minus the additive**

— if applicable — deterioration factors determined in accordance with paragraph 5.4. below.

Where approval is applied for different types of vehicles from the same car manufacturer, and provided that these different types of vehicles are fitted with the same type of original equipment pollution control device, the type I testing may be limited to at least two vehicles selected after agreement with the technical service responsible for approval.”

Paragraph 5.4., correct “paragraph 5.3.5.” to read “paragraph 5.3.6.”.

Paragraph 5.4.1., correct “paragraph 5.3.6.2.” to read “paragraph 5.3.6.”.

*Paragraph 5.5., correct “original catalyst” to read “original **pollution control device**”.*

Insert new paragraphs 5.5.6. and 5.5.7., to read:

- 5.5.6. For vehicles with positive-ignition engines, if the THC and NMHC emissions measured during the demonstration test of a new original equipment catalytic converter, under paragraph 5.2.1. of this Regulation are higher than the values measured during the type-approval of the vehicle, the difference shall be added to the OBD threshold limits. The OBD threshold limits are specified in paragraph 3.3.2. of Annex 11 to Regulation No. 83.**
- 5.5.7. The revised OBD threshold limits will apply during the tests of OBD compatibility set out in paragraphs 5.5. to 5.5.5. of this Regulation. In particular, when the exceedance allowed in paragraph 1. of Appendix 1 to Annex 11 to Regulation No. 83 is applied. ”**

Annex VII

GRPE informal group on Mobil Air-Conditioning Test Procedures

A. Terms of reference

The European Union (EU) is currently developing a test procedure for CO₂ and pollutant emissions generated by the use of Mobil Air-Conditioning systems (MAC), which should be implemented for regulatory purposes as soon as possible. While during an initial phase results from this test procedure may just be used for consumer information, at a latter stage also minimum requirements for the performance of MAC may be mandated.

Consequently, an informal working group on the development of mobile air-conditioning test procedures "MACTP" for M₁ and N₁ vehicles has been established with the following tasks:

1. Accompany as an active stakeholder the EU developments of test procedures suitable for type approval assessing the energy efficiency of MAC operation in a vehicle and its impact on vehicle emissions in order to ensure that also non-EU Contracting Parties are informed about and can contribute to the EU work;
2. Sharing of information and experience on MAC test procedures with all other GRPE participants, such as United States of America, Japan, India, China and Korea;
3. After completion of a draft MAC test procedure within the EU, presumably in the second half of 2010, the informal group on MACTP should review it and prepare its integration into Regulation No. 101 and Regulation No. 83, Annex 4.

The group may consider, at a later stage, the transposition of the developed procedure into a global technical regulation (gtr) under the 1998 Agreement.

The work of the group on the MAC test procedure should be completed by January 2012. A prolongation and extension of the mandate of the group, e.g. in relation to the performance of in-vehicle heating systems (for hybrid and electric vehicles) should be considered in due time by GRPE. The work by MACTP should not prevent the regulatory implementation of MAC test procedures by Contracting Parties at an earlier stage.

B. Rules of Procedure

1. The informal group is open to all participants of GRPE. A limitation of number of participants from any country and organization to participate in the informal group is actually not foreseen.
2. A Chair and a Secretary (supported by a Co-Secretary) will manage the informal group.
3. The working language of the informal group will be English.
4. All documents and/or proposals shall be submitted to the Secretary and Co-Secretary of the group in a suitable electronic format, preferably in line with the UNECE guidelines in advance of the meetings. The group may refuse to discuss any item or proposal which has not been circulated 5 working days in advance of the scheduled meeting.

5. The informal group shall meet regularly at the GRPE meetings in Geneva. Additional meetings will be organized upon demand.
 6. An agenda and related documents will be circulated to all members of the informal group in advance of all scheduled meetings.
 7. The work process will be developed by consensus. When consensus cannot be reached, the Chair of the informal group shall present the different points of view to GRPE. The Chair may seek guidance from GRPE as appropriate.
 8. The progress of the informal group will be routinely reported to GRPE orally or as an informal document by the Chair or the Secretary.
 9. All working documents shall be distributed in digital format. A specific MACTP section on the UNECE website will be created and the URL will be noticed to all related parties.
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