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Working Party on Pollution and Energy

**REPORT OF THE WORKING PARTY ON POLLUTION AND ENERGY
ON ITS FIFTY-FIFTH SESSION
(Geneva, 15 – 18 January 2008)**

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I. ATTENDANCE

1. The Working Party on Pollution and Energy (GRPE) held its fifty-fifth session from 15 to 18 January 2008, 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 WP.29 (TRANS/WP.29/690): Belgium; Canada; Czech Republic; France; Germany; Hungary; Italy; Luxembourg; Japan; Netherlands; Norway; People's Republic of China; Poland; Republic of Korea; Republic of South Africa; Russian Federation; Serbia; Spain; Sweden; Switzerland; Thailand; United Kingdom of Great Britain and Northern Ireland; United States of America. Experts from the European Commission (EC) also participated. The United Nations Environment Programme (UNEP) was also represented. Experts from the following non-governmental organizations took part in the session: European Association of Automobile Suppliers (CLEPA); Foundation for the Automobile and Society (FIA Foundation); International Association of Natural Gas Vehicles (IANGV); International Motorcycle Manufacturers Association (IMMA); International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); Association for Emission Control by Catalyst (AECC); Engine Manufacturers Association (EMA); European Association of Internal Combustion Engine Manufacturers (EUROMOT); European Liquefied Petroleum Gas Association (AEGPL); Liaison Committee of the body and trailer building industry (CLCCR); Technical Committee of Petroleum Additive Manufacturers in Europe (ATC/CEFIC). Upon the special invitation of the Chairman, the experts from the Natural Gas Vehicle Association of Europe (NGVA Europe) participated.

II. ADOPTION OF THE AGENDA (Agenda item 1)

2. GRPE inserted new agenda items 2(d), 6(c), 6(d) and 6(e), and adopted the agenda.

**III. REGULATION No. 49 (Emissions of C.I. and P.I. (NG and LPG) engines)
(Agenda item 2)**

A. Off-Cycle Emissions (OCE) (Agenda item 2(a))

Documentation: Informal document No. GRPE-55-28 of Annex I to this report

3. The Chairman of the OCE working group, Mr. T. Sherwood (United States of America), recalled the discussion at the previous GRPE session regarding the two options on how to further develop the OCE gtr and added that the Executive Committee of the 1998 Agreement (AC.3) had agreed at its June 2007 session to develop the first option (i.e. finalizing first the draft gtr within the existing framework, and then either developing alternative test procedures, via a new gtr or amendments to the OCE gtr, or to cover a wider range of in-use operation including associated emission limits) (see WP.29 report ECE/TRANS/WP.29/1062, para. 87). He reported on the progress of work (GRPE-55-28) made by the informal group during its eighteenth meeting (held in San Francisco on 16-17 October 2007) and its nineteenth meeting (held in Geneva prior to the proper GRPE session) (see Annex II to this report).

4. GRPE noted that the OCE working group would meet again in Tokyo (Japan), on 8 and 9 April 2008, and its intention to consider, at the next GRPE session in June 2008, a first draft gtr on OCE on the basis of an informal document. GRPE agreed that the OCE group should also meet prior to its next session (para. 40 below).

**B. Gtr No.2 on the Worldwide harmonized Heavy-Duty Certification
(WHDC) procedure (Agenda item 2(b))**

Documentation: ECE/TRANS/WP.29/AC.3/20; Informal documents Nos. GRPE-55-15 and GRPE-55-26 of Annex I to this report

5. GRPE noted that the official proposal (submitted by the EC) to amend gtr No. 4 had been published as ECE/TRANS/WP.29/AC.3/20. The Chairman of the WHDC working group, Mr. J.P. Laguna (EC), informed GRPE about the results of the twenty-first and twenty-second informal group's meetings, held respectively in San Francisco on 18-19 October 2007 and on 16 January 2008, prior to the GRPE session (GRPE-55-15). He recalled the main task of the group aimed at reducing the number of the remaining options in the gtr (i.e. engine power, reference fuel, hot soak period, cold start, particulate filter material and filter size). He announced the group's intention to finalize the draft gtr for consideration and adoption at the GRPE session in June 2009. The WHDC Secretary reported on the group's progress of work and presented the outcome of the twenty-second meeting, indicating the actions agreed by the informal group for each of the remaining options (GRPE-55-26). He announced that the experts from China and the Russian Federation were expected to participate in a validation test programme, specifically with regard to gasoline engines in order to extend the scope of the gtr to

such engines. He concluded that additional funding for the test programme would still be needed and highly appreciated.

6. The expert from the United States of America expressed concerns regarding the WHDC test programme and announced he would send written comments to the WHDC Secretary.

7. GRPE agreed on the general approach to extend, if possible, the scope to gasoline engines and that, at the present time, the test conditions could not be modified in this respect. It was also agreed that, at a further stage, a more specific test programme could be developed specifically for such engines. GRPE noted that the next meeting of the informal group would take place in Tokyo, on 10-11 April 2008, in conjunction with the OCE group meeting. GRPE agreed that the WHDC group should also meet prior to its next session (para. 40 below).

C. Amendments to UNECE Regulation No. 49 (Agenda item 2(c))

8. GRPE noted that no new document was submitted for consideration under this item.

D. Gtr No. 5 on the World-Wide harmonized Heavy-duty On-Board Diagnostic (WWH-OBD) (Agenda item 2(d))

Documentation: Informal document No. GRPE-55-01 of Annex I to this report

9. The expert from India introduced GRPE-55-01, proposing to amend the test conditions for OBD systems with regard to the ambient temperature range. GRPE noted some concerns and agreed to refer GRPE-55-01 to both the OCE and WHDC groups, for a joint consideration at their next sessions in Tokyo. GRPE also agreed to resume consideration of this subject at its next session in June 2008.

10. The expert from Germany questioned the need, at the present time, to submit an official proposal to amend gtr No. 5. GRPE agreed that such a proposal by the technical sponsor was not yet necessary at this stage of consideration, subject to the confirmation by WP.29 and AC.3.

IV. PARTICULATE MEASUREMENT PROGRAMME (PMP) (Agenda item 3)

Documentation: Informal documents Nos. GRPE-55-04, GRPE-55-05, GRPE-55-16, GRPE-55-17 and GRPE-55-29 of Annex I to this report

11. The Chairman of the PMP working group, Mr. C. Parkin (United Kingdom), reported on the progress made by the working group since the previous GRPE session. Referring to GRPE-55-16 and GRPE-55-17, he informed GRPE that additional particle number measurements, using PMP compliant measurement systems, had been performed independently at different laboratories. The results have provided additional confidence in the reproducibility of the particle number measurement method and in the comparability of the two different measurement systems according to the PMP performance requirements (GRPE-55-29).

12. Regarding the particle number measurement method, the expert from OICA re-stated a number of remaining concerns about the calibration and the measurement procedure

(GRPE-55-04). He added that OICA might propose amendments when more experience has been gained with the new equipment and in the light of a Round Robin test to be conducted by manufacturers. He introduced GRPE-55-05 aiming at improving the validation procedure and efficiency of the volatile particle removal. He requested that the PMP informal group should continue its work in order to further improve the calibration and the accuracy of that measurement method. Mr. Parkin commented that the amendments proposed in GRPE-55-05 had been incorporated, except for the reduction in gas dilution validation frequency.

13. Following the discussion, GRPE agreed that the informal group should continue its work and address, at its next informal meeting, the remaining issues. It was also agreed to resume consideration of these issues at the next GRPE session in June 2008.

V. GTR No. 2 ON THE WORLDWIDE HARMONIZED MOTORCYCLE EMISSION TEST CYCLE (WMTC) (Agenda item 4)

Documentation: ECE/TRANS/WP.29/AC.3/19

14. GRPE noted that, during the AC.3 session in November 2007, Amendment 1 to gtr No. 2 had been established into the Global Registry together with the official proposal to amend gtr No. 2 (ECE/TRANS/WP.29/AC.3/19). Mr. C. Albus (Germany), chairing the WMTC group, informed GRPE about the work progress made by the group during its meetings in Bonn on 9-10 October 2007 and in Geneva on 15 January 2008 (see Annex II to this report). Regarding the performance requirements, he stated that the group was collecting data and information regarding the correlation exercise aimed at finding a compromise solution for the insertion of new limit values into gtr No. 2. He added that the group expected to receive further test results by the experts from China and India. He invited all Contracting Parties to deliver test data, if available. Concerning the gearshift provisions, he stated that the WMTC group was still considering the improvement of practicability and reproducibility of the testing conditions, without affecting the emission results. He reported that the informal group had agreed to stop the discussion on the family concept and to leave it open to Contracting Parties to introduce their own concepts when transposing the gtr into their national or regional legislation.

15. GRPE noted that the next WMTC meeting was scheduled to be held in Geneva (IMMA offices) on 23-24 April 2008. Following the suggestion by the WMTC Chairman, it was agreed that the informal group would not meet prior to the next GRPE session.

VI. EXHAUST EMISSION TEST PROTOCOL FOR NON-ROAD MOBILE MACHINERY ENGINES (NRMM) (Agenda item 5)

Documentation: Informal documents Nos. GRPE-55-21 and GRPE-55-22-Rev.1 of Annex I to this report

16. The EC expert reported, on behalf of the Chairman of the NRMM group, on the good progress of work (GRPE-55-22-Rev.1) made by the group during the recent meetings held in Ispra (Italy) in September and November 2007 and prior to the GRPE session (see Annex II to this report). He recalled the main objectives of the group's work and how the guidance document would backup the gtr on NRMM. He presented the complete structure of the draft gtr and

focused on chapters 7-9 regarding the test and measurement procedures for the determination of the emissions of gaseous pollutants and particles (GRPE-55-21). He announced the group's intention to finalize the draft gtr as an official document for consideration by GRPE at its January 2009 session, and to recommend it for adoption by AC.3 at their June 2009 session.

17. The GRPE Chairman suggested that the NRMM working group should also meet prior to the next GRPE session in June 2008 (para. 40 below).

VII. AMENDMENTS TO OTHER UNECE REGULATIONS (Agenda item 6)

A. Regulation No. 83 (Emissions of M₁ and N₁ categories of vehicles) (Agenda item 6(a))

Documentation: ECE/TRANS/WP.29/GRPE/2007/8/Rev.1; ECE/TRANS/WP.29/GRPE/2008/2; Informal documents Nos. GRPE-55-06, GRPE-55-07, GRPE-55-08, GRPE-55-09, GRPE-55-10, GRPE-55-11, GRPE-55-24 and GRPE-55-29 of Annex I to this report

18. Referring to GRPE-55-29, the expert from the United Kingdom presented the revised amendments to Regulation No. 83 (ECE/TRANS/WP.29/GRPE/2007/8/Rev.1) to improve the current particle mass measurement procedure and to incorporate the particle number measurement procedure in line with the conclusions of the particle measurement programme.

19. The expert from OICA introduced GRPE-55-06 and GRPE-55-07 proposing a number of corrections and amendments to ECE/TRANS/WP.29/GRPE/2007/8/Rev.1.

20. GRPE adopted ECE/TRANS/WP.29/GRPE/2007/8/Rev.1 as amended by Annex III to this report. The secretariat was requested to submit it to WP.29 and AC.1, for consideration at their June 2008 sessions, as Supplement 7 to the 05 series of amendments to Regulation No. 83.

21. The expert from CLEPA presented ECE/TRANS/WP.29/GRPE/2008/2 and GRPE-55-24, proposing to amend the provision of Regulation No. 83 to allow the use of an On-Board Diagnostic (OBD), designed for "monofuel plus" systems, to also be used as a "bi-fuel" system, when certain conditions were met.

22. GRPE adopted ECE/TRANS/WP.29/GRPE/2008/2 as reproduced below and requested the secretariat to submit it to WP.29 and AC.1, for consideration at their June 2008 session, as Corrigendum 1 to Supplement 6 to the 05 series of amendments to Regulation No. 83.

Annex 11, paragraph 3.9.4., correct to read:

"3.9.4. Regarding the status code (as described in paragraph 3.6. of this annex), one of the following two options has to be used, **if one or more of the diagnostics reporting readiness is fuel type specific:**

- (a) the status code is fuel specific, i.e. use of two status codes, one for each fuel type;
- (b) the status code shall indicate fully evaluated control systems for both fuel types (petrol and NG/LPG) when the control systems are fully evaluated for one of the fuel types.

If none of the diagnostics reporting readiness is fuel type specific, then only one status code has to be supported."

23. The expert from OICA introduced GRPE-55-08 (amending in Regulation No. 83 the preconditioning requirements for Type I and type VI tests), GRPE-55-09 (inserting, as an alternative, in Regulations Nos. 83 and 101 new reference fuels such as biofuels) and GRPE-55-10 (updating and clarifying the test specifications of Regulation No. 83). A number of governmental experts welcomed and supported these proposals. The expert from Poland raised a concern on the difference between GRPE-55-09 and the corresponding European Union Directive. The EC expert made suggestions to improve the proposal in GRPE-55-10. Following the discussion, GRPE agreed to have, at its next session, a final review of the proposals on the basis of an official document. For this purpose, the expert from OICA was requested to prepare, in due time and jointly with the EC expert, an updated consolidated proposal.

24. The expert from OICA also proposed to insert into Regulation No. 83 new provisions for regenerative braking systems and engine start-stop systems (GRPE-55-11). GRPE noted a number of concerns. Following the discussion, the expert from OICA was invited to complement his proposal with additional justification data. Thus, GRPE agreed to resume consideration of this subject at its next session on the basis of an updated document by OICA.

B. Gaseous-Fuelled Vehicles (GFV) (Agenda item 6(b))

Documentation: Informal documents Nos. GRPE-55-03 and GRPE-55-27 of Annex I to this report

25. The Chairman of the informal group on Gaseous-Fuelled Vehicles (GFV), Mr. A. Rijnders (Netherlands), reported on the work progress (GRPE-55-27) made by the group at its first meeting, on 15 January 2008 (see Annex II to this report). He introduced GRPE-55-03 regarding the mandate and tasks of the GFV informal group. GRPE agreed on the terms of reference and the rules of procedures, as reproduced in Annex IV to this report.

C. Worldwide harmonized Light vehicles Test Procedures (WLTP) (Agenda item 6(c))

Documentation: Informal documents Nos. GRPE-55-12 and GRPE-55-18 of Annex I to this report

26. The GRPE Chairman recalled the decision by AC.3 at its November 2007 session (ECE/TRANS/WP.29/1064, para. 104) that detailed preparatory work would be necessary for the elaboration of a new gtr. The expert from Japan proposed a work plan for the new informal group on WLTP (GRPE-55-18). He announced his country's intention to co-sponsor the gtr on WLTP and to provide, at the next session of AC.3 in March 2008, the name of the Secretary of the informal group.

27. The expert from OICA introduced GRPE-55-12 complementing the above-mentioned work plan and proposing a road map for the development of a gtr on WLTP. He announced an active participation of his organization in these new activities.

28. The GRPE Chairman, also chairing the informal group on WLTP, underlined the need to establish a detailed roadmap and added that, before starting to work on the development of the WLTP gtr, the informal group should have a clear view on the work items to be done, the resulting costs and a description of the contributions to be made by the Contracting Parties and the automotive industry.

29. GRPE welcomed the initiative by Japan to develop a gtr in this important field and noted the full support by the experts from the EC, India, OICA and the FIA Foundation. GRPE agreed the WLTP informal group should start to work on a detailed roadmap and that the group should convene its first meeting in June 2008, prior to the GRPE session proper (para. 40 below).

D. Regulation No. 101 (CO₂ emissions/fuel consumption) (Agenda item 6(d))

Documentation: Informal documents Nos. GRPE-55-02 and GRPE-55-19 of Annex I to this report

30. The expert from the United Kingdom reported on the increased interest in hybrid vehicles with additional electrical energy storage and charging from off-vehicle sources (GRPE-55-02). He underlined the need to better reflect the merits of hybrid vehicles based on such plug-in hybrid concepts. This, he introduced GRPE-55-19 proposing to amend Regulation No. 101. The documents received a number of comments.

31. The expert from France questioned the need to amend, in this respect, also Regulation No. 83. The expert from the United Kingdom announced his intention to submit a proposal for amendments to Regulation No. 83, for consideration at the next GRPE session. He invited all GRPE experts to send him, before 1 March 2008, their written comments on this issue. GRPE agreed to resume consideration of this subject at its next session on the basis of official documents by the expert from the United Kingdom.

E. Regulation No. 115 (Specific LPG and CNG retrofit systems) (Agenda item 6(e))

Documentation: Informal document No. GRPE-55-20 of Annex I to this report

32. The expert from AEGPL introduced GRPE-55-20 proposing to amend the transitional provisions of Regulation No. 115. GRPE noted some comments and referred the proposal to the GFV informal group for a detailed consideration. GRPE agreed to have, at its next session, a final review of the proposal and requested the secretariat to distribute GRPE-55-20 with an official symbol.

VIII. HYDROGEN AND FUEL CELL VEHICLES – SUBGROUP ENVIRONMENT (HFCV-SGE) (Agenda item 7)

33. GRPE noted that the official proposal to develop a gtr on hydrogen and fuel cell vehicles (HFCV), submitted by the co-sponsors Germany, Japan and the United States of America, had been published as ECE/TRANS/WP.29/AC.3/17. Referring to the action plan

adopted by WP.29 and AC.3, the HFCV Project Manager, M. Albus (Germany), informed GRPE about the work progress of the subgroup on environmental issues (HFCV-SGE) made during its meeting prior the GRPE session (see Annex II to this report). He added that, for its further activity, the group would take into consideration the Japanese legislation, as well as the new one of the European Community under development. He informed GRPE that the GRSP subgroup on safety also convened prior to the GRPE session, and that the group made good progress. He announced his intention to present, at the next GRPE session in June 2008, a detailed status report on the HFCV-SGE activities.

34. Following the suggestion by Mr. Albus, it was agreed that the subgroup on HFCV-SGE would not meet in conjunction with the next GRPE session.

IX. ENVIRONMENTALLY FRIENDLY VEHICLES (EFV) (Agenda item 8)

Documentation: Informal documents Nos. GRPE-55-13 and GRPE-55-23 of Annex I to this report

35. The expert from Germany reported on the success of the third EFV Conference, held in Dresden (Germany) on 19 and 20 November 2007 (see <http://www.bmvbs.de/en>). He informed GRPE about the positive outcome to organize such conference on a regular basis and announced India's intention to organize the fourth EFV conference in the year 2009. He underlined the decision made during the conference to develop a close cooperation with the World Forum and its subsidiary bodies, especially with GRPE and GRB. For this purpose, he suggested establishing, under GRPE and in a close cooperation with GRB, a new informal group on Environmentally Friendly Vehicles. He introduced GRPE-55-23 proposing the terms of reference for that informal group and he announced that Germany was willing to chair this informal group. Referring to GRPE-55-13, the expert from OICA welcomed the initiative by Germany and announced an active participation by his organization in this activity.

36. GRPE fully endorsed the proposal to establish a new informal group on EFV, under the chairmanship of Mr. Albus. GRPE agreed on the terms of reference as reproduced in Annex V to this report. The GRPE Chairman announced his intention to seek the consent of WP.29 at its March 2008 session. He suggested that, in the case of WP.29's consent, the EFV group should convene its first meeting in conjunction with the GRPE June 2008 session (see para. 40 below).

X. EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS ON EMISSIONS (Agenda item 9)

37. GRPE noted that no new information was given under this agenda item.

XI. OTHER BUSINESS (Agenda item 10)

A. WP.29 Round table on Fuel Quality (Agenda item 10(a))

Documentation: Informal documents Nos. GRPE-55-14 and GRPE-55-25 of Annex I to this report

38. Recalling the decision by WP.29 to establish a GRPE informal group on this subject (see report ECE/TRANS/WP.29/1064, para. 11), the GRPE Chairman, also chairing the informal group on Fuel Quality (FQ), informed GRPE about the positive results of the Round Table on Fuel Quality in November 2007. GRPE noted the outcome of the first informal meeting on fuel quality held on 16 January 2008 (see Annex II to this report). The expert from OICA introduced GRPE-55-14 proposing a roadmap for the harmonization of fuel quality requirements and announced full support by his organization for this activity. GRPE considered GRPE-55-25, submitted by the informal group, and agreed on the terms of reference and rules of procedures as reproduced in Annex VI to this report. The Chairman announced to inform WP.29, at the March 2008 session, about the positive outcome of the first informal meeting on FQ. He suggested that the group should convene again in June 2008, prior to the GRPE session proper (para. 40 below).

B. Tributes to Mr. M. Bond

39. Learning that Mr. Michael Bond (South Africa) would no longer attend the sessions, GRPE acknowledged his fruitful and professional contributions to the group's work during all the years of his participation. GRPE expressed its appreciation with applause and underlined the leading role of South Africa for other African countries with regard to the activities of WP.29.

XII. PROVISIONAL AGENDA FOR THE NEXT SESSION

40. For its fifty-sixth session to be held in Geneva, Palais des Nations, GRPE decided to start on Monday afternoon, 2 June 2008, at 2.30 p.m. until Friday, 6 June 2008, 5.30 p.m. For that purpose, the following agenda was agreed:

A. INFORMAL MEETINGS IN CONJUNCTION WITH THE GRPE SESSION PROPER

1. Informal meeting of the GRPE working group on Off-Cycle Emissions (OCE)

To be held on Monday afternoon, 2 June 2008, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the OCE secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

2. (a) Informal meeting of the GRPE working group on the emissions of Non-Road Mobile Machinery (NRMM)

To be held on Tuesday morning, 3 June 2008, from 9.30 a.m. till 12.30 p.m. The agenda of the meeting will be prepared by the NRMM secretariat and distributed to the members of the group prior to the meeting. This meeting will be held without interpretation.

(b) Informal meeting of the GRPE working group on Gaseous Fuelled Vehicles (GFV)

To be held on Tuesday morning, 3 June 2008, 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.

3. Informal meeting of the GRPE working group on the World-wide harmonized Heavy-Duty Certification procedure (WHDC)

To be held on Tuesday afternoon, 3 June 2008, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the WHDC secretariat and distributed to the members of the group prior to the meeting.

4. Informal meeting of the GRPE working group on the Fuel Quality (FQ)

To be held on Wednesday morning, 4 June 2008, from 9.30 a.m. till 12.30 p.m. The agenda of the meeting will be prepared by the FQ secretariat and distributed to the members of the group prior to the meeting.

5. Informal meeting of the GRPE working group on the World-wide harmonized Light-duty Test Procedures (WLTP)

To be held on Wednesday afternoon, 4 June 2008, from 2.30 p.m. till 5.30 p.m. The agenda of the meeting will be prepared by the WLTP secretariat and distributed to the members of the group prior to the meeting.

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

To be held on Friday afternoon, 6 June 2008, 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 FIFTY-SIXTH SESSION OF GRPE PROPER

To be held on Thursday, 5 June 2008, from 9.30 a.m. to Friday, 6 June 2008, until 12.30 p.m.:

1. Regulation No. 49 (Emissions of C.I., NG, and P.I. (LPG) engines):
 - (a) Off-Cycle Emissions (OCE);
 - (b) Gtr No. 4 on Worldwide harmonized heavy-duty certification procedure (WHDC);
 - (c) Gtr No. 5 on World-Wide harmonized Heavy-duty OBD systems (WWH-OBD).
2. Particle Measurement Programme (PMP).
3. Gtr No. 2 on the Worldwide harmonized Motorcycle emission Test Cycle (WMTC).
4. Exhaust emissions test protocol of Non-Road Mobile Machinery (NRMM).

5. Amendments to other UNECE Regulations:
 - (a) Worldwide harmonized Light vehicles Test Procedures (WLTP);
 - (b) Gaseous-Fuelled Vehicles (GFV);
 - (c) Regulation No. 83 (Emissions of M₁ and N₁ categories of vehicles);
 - (d) Regulation No. 101 (CO₂ emissions/fuel consumption);
 - (e) Regulation No. 115 (Specific LPG and CNG retrofit systems).
6. Hydrogen and Fuel Cell Vehicles – Subgroup Environment (HFCV-SGE).
7. Environmentally Friendly Vehicles (EFV).
8. Fuel Quality (FQ).
9. Exchange of information on national and international requirements on emissions.
10. Other business.

Annex I

LIST OF INFORMAL DOCUMENTS (GRPE-55-...)
DISTRIBUTED WITHOUT AN OFFICIAL SYMBOL DURING THE SESSION

No.	Transmitted by	Agenda item	Language	Title	Follow-up
01.	India	2(d)	E	Proposed amendments to gtr No. 5 on WWH-OBD: technical requirements for on-board diagnostic systems (OBD) for road vehicles	(a)
02.	United Kingdom	6(a)	E	Plug-In Hybrid Vehicles: Amendment to Regulations Nos. 83 and 101	(a)
03.	Netherlands	6(b)	E	Proposal for a mandate for the GRPE informal group dealing with gaseous fuelled vehicles	(a)
04.	OICA	3.	E	OICA statement on the progress of the PMP programme	(a)
05.	OICA	3.	E	PMP programme	(a)
06.	OICA	6(a)	E	OICA proposal for Corrigenda to document ECE/TRANS/WP.29/2007/8/Rev.1	(b)
07.	OICA	6(a)	E	OICA proposal for amendment to document ECE/TRANS/WP.29/2007/8/Rev.1	(c)
08.	OICA	6(a)	E	OICA proposal for draft amendments to Regulation No. 83	(a)
09.	OICA	6(a)	F	OICA proposal for draft amendments to Regulations Nos. 83 and 101	(a)
10.	OICA	6(a)	E	OICA proposal for draft amendments to Regulation No. 83	(a)
11.	OICA	6(a)	E	OICA proposal for draft amendment to Regulation No. 83	(a)
12.	OICA	6(c)	E	Proposal to develop a roadmap to a global technical regulation on Worldwide harmonized Light-duty Test procedures (WLTP)	(a)
13.	OICA	8.	E	OICA proposal to develop a scheme for an Environmentally Friendly Vehicle (EFV)	(a)
14.	OICA	10(a)	E	OICA proposal for worldwide harmonisation of fuel quality	(a)

No.	Transmitted by	Agenda item	Language	Title	Follow-up
15.	WHDC	2(b)	E	Progress report on global technical regulation No. 4 (WHDC)	(a)
16.	United Kingdom	3.	E	Compilation of existing particle number data from outside (ILCE)	(a)
17.	United Kingdom	3.	E	Particle Measurement Programme – Analysis of errors (NPL report AS 17)	(a)
18.	Japan	6(c)	E	Workplan for GRPE/WLTP-IG (draft)	(a)
19.	United Kingdom	6(d)	E	Proposal for amendments to Regulation No. 101	(a)
20.	AEGPL	6(e)	E	Proposal for amendments to Regulation No. 115	(a)
21.	JRC/EC	5.	E	Draft chapters 7-9- of gtr on NRMM engine emissions	(a)
22.- Rev.1	JRC/EC	5.	E	NRMM gtr draft technical procedure (chapters 7-9)	(a)
23.	Germany	8.	E	Draft terms of reference for the establishment of an informal group to develop an evaluation concept for environmentally friendly vehicles (EFV)	(a)
24.	CLEPA	6(a)	E	Draft amendments to document ECE/TRANS/WP.29/GRPE/2008/2	(b)
25.	FQ	10(a)	E	Proposal for the terms of reference of the informal group on fuel quality (FQ)	(a)
26.	WHDC	2(b)	E	Worldwide harmonized Heavy-Duty emissions Certification (WHDC) procedures	(a)
27.	GFV	(6(b)	E	Informal group on gaseous-fuelled vehicles (GFV)	(a)
28.	OCE	2(a)	E	Progress report from the Chair of the OCE informal working group to the 55th session of GRPE	(a)
29.	United Kingdom	6(a)	E	PMP progress report since GRPE 55	(a)

Notes:

- (a) Consideration completed or to be superseded
- (b) Adopted and submitted to WP.29
- (c) Partially adopted and submitted to WP.29

Annex II

INFORMAL MEETINGS HELD IN CONJUNCTION WITH
THE FIFTY-FIFTH SESSION OF GRPE

1. Following the agreement reached at the fifty-fourth GRPE session, seven informal meetings were held prior to the proper session of the fifty-fifth GRPE.
2. The third informal meeting of the GRPE working group on Hydrogen and Fuel Cell Vehicles – Subgroup Environment (HFCV-SGE) was held on 14 January 2008 (afternoon only) under the Chairmanship of Mr. A. Perujo (EC). A summary of the proceedings of this informal meeting is given in the report above (paras. 33-34).
3. The tenth informal meeting of the GRPE working group on the Worldwide harmonized Motorcycle emission Test Cycle (WMTC) was held on 15 January 2008 (morning only) under the Chairmanship of Mr. C. Albus (Germany). A summary of the proceedings of this informal meeting is given in the report above (paras. 14-15).
4. The twentieth informal meeting of the GRPE working group on the emissions from Non-Road Mobile Machinery (NRMM) was held on 15 January 2008 (afternoon only) under the Chairmanship of Mr. R. Hummel (EC/JRC). A summary of the proceedings of this informal meeting is given in the report above (paras. 16-17).
5. The first informal meeting of the GRPE working group on Gaseous-Fuelled Vehicles (GFV) was held on 15 January 2008 (afternoon only) under the Chairmanship of Mr. A. Rijnders (Netherlands). A summary of the proceedings of this informal meeting is given in the report above (para. 25).
6. The nineteenth informal meeting of the GRPE working group on Off-Cycle Emissions (OCE) was held on 16 January 2008 (morning only) under the Chairmanship of Mr. T. Sherwood (United States of America). A summary of the proceedings of this informal meeting is given in the report above (paras. 3-4).
7. The twenty-second informal meeting of the GRPE working group on the Worldwide harmonized Heavy-Duty Certification (WHDC) procedure was held on 16 January 2008 (afternoon only) under the Chairmanship of Mr. J.P. Laguna (EC). A summary of the proceedings of this informal meeting is given in the report above (paras. 5-7).
8. The first informal meeting of the GRPE working group on Fuel Quality (FQ) was held on 16 January 2008 (afternoon only) under the Chairmanship of Mr. B. Gauvin (France). A summary of the proceedings of this informal meeting is given in the report above (para. 38).

Annex III

ADOPTED AMENDMENTS TO ECE/TRANS/WP.29/GRPE/2007/8/Rev.1
(Regulation No. 83, see paragraph 20 of this report)

New Annex 4a

Paragraph 6.3.1., amend to read:

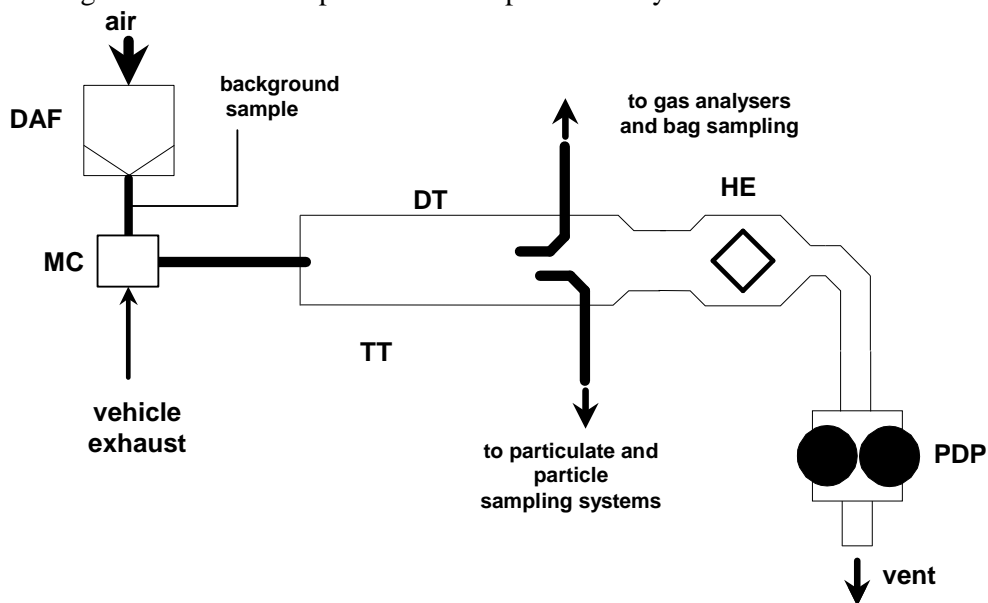
"6.3.1. For the purpose of

In a test facility in which there may be possible contamination of a low particulate emitting vehicle test with residue from a previous test on a high particulate emitting vehicle, it is recommended, **for the purpose of sampling equipment pre-conditioning**, that a 120 km/h steady state drive cycle of 20 minutes duration **followed by three consecutive Part Two cycles be driven by a low particulate emitting vehicle.**

After this preconditioning"

Appendix 2, paragraph 1.4.1., figure 6, amend to read:

" Figure 6: Positive Displacement Pump Dilution System



Full Flow Dilution System with Positive Displacement Pump

"

Appendix 2, insert a new paragraph 1.4.1.5., to read:

"1.4.1.5. A mixing chamber (MC) in which exhaust gas and air are mixed homogeneously, and which may be located close to the vehicle so that the length of the transfer tube (TT) is minimized."

Appendix 3, paragraph 3.1., correct the mathematical sign " \pm " to read " \leq " (10 times).

Appendix 4, paragraph 1.3.3.3., correct the range of "50 cm/s to 80 cm/s" to read "**20** cm/s to 80 cm/s".

Annex IV

TERMS OF REFERENCE AND RULES OF PROCEDURES FOR THE GRPE INFORMAL GROUP ON GASEOUS-FUELLED VEHICLES (GFV) (see paragraph 25 of this report)

I. TERMS OF REFERENCE

1. Name of the working group: GRPE informal group on Gaseous Fuelled Vehicles (GFV)
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. 83 - Emissions of M₁ and N₁ categories of vehicles,
 - (c) Regulation No. 101 - Measurement of fuel consumption/CO₂ emissions of M₁ and N₁ categories of vehicles,
 - (d) Regulation No. 115 - Specific LPG and CNG retrofit systems (emissions provisions),
 - (e) Other topics dealing with gaseous fuelled vehicles that are addressed by GRPE.
3. Tasks:
 - (a) To evaluate regulatory requirements with the aim to facilitate testing and type approval of vehicles and equipment designed for gaseous fuels, in the light of:
 - (i) adaptation to technical progress;
 - (ii) regulatory changes, such as new emissions requirements of the Contracting Parties;
 - (iii) market entry of new technologies.The updated requirements will be performance oriented, as far as possible.
 - (b) To develop draft amendments to the regulatory requirements of gaseous fuelled vehicles resulting from these evaluations and submit them for consideration by GRPE.
4. Organisation: A Chairperson and a Secretary will govern the informal group.

II. RULES OF PROCEDURES

1. Membership: Open to all government, industry and other parties affiliated with UNECE, with an interest in gaseous fuelled vehicles.
2. Meetings: Meetings will, wherever possible, be linked to the GRPE sessions. However, additional meetings, possibly of a smaller group may, where necessary, be organised between these GRPE-linked meetings. All working documents, agenda and reports will be posted on a specific GRPE website.
3. Duration: The mandate of the group is 2 years: 2008-2009.
4. Priorities: The group will start its work with the review of emission related requirements for light-duty vehicles, categories M₁ and N₁. At a further step, it will also review the requirements for the other categories of vehicles.

Annex V

TERMS OF REFERENCE AND RULES OF PROCEDURES FOR THE GRPE INFORMAL GROUP ON ENVIRONMENTALLY FRIENDLY VEHICLES (EFV) (see para. 36 above)

1. INTRODUCTION

Tackling climate change and improving energy efficiency are two of the major challenges currently facing transport policymakers around the world. In this context, the development and introduction of EFVs as well as renewable fuels are the main fields of action. This issue concerns all: the government, the industry, the research community and the consumers. Nobody can and shall shirk from the responsibility for protecting health and tackling climate change especially with regard to safeguarding the life support systems for future generations.

The presentations and discussions at the third EFV Conference in Dresden as well as at previous conferences in Tokyo (2003) and Birmingham (2005) as well as in WP.29 have shown that the current challenges can only jointly be met. The presentations and the conclusion paper of the Dresden conference are available on the website of Federal Ministry of Transport, Building and Urban Affairs (www.bmvbs.de). Essential results of the third EFV Conference are:

- (a) The United Nations expect that between 2000 and 2030 the global vehicle population will double from 800 million to 1.6 billion vehicles. Given this growth it is essential to take action now to achieve a greater use of EFVs and advanced technologies.
- (b) In an integrated approach, all road transport players have to be involved in the reduction of CO₂ and pollutant emissions. Increasing the use of environmentally friendly alternative energy sources like for example biodiesel, bioethanol, biogas, synthetic biofuels or hydrogen is one of the essential fields of action.
- (c) Measures to support the introduction of EFVs should be based on a common understanding. This means that a globally harmonised method should jointly be developed for evaluating the environmental friendliness of a vehicle.
- (d) In developing an evaluation method, focussing solely on the vehicle will not yield the required results. Rather, the development has to be based on a holistic approach. Energy consumption and the emission of greenhouse gases have to be evaluated on the basis of an integrated "well-to-wheels" approach which comprises both the preceding fuel provision chain ("well-to-tank") and the fuel use in the vehicles ("tank-to-wheels"). In the long run, the possibility of an extensive lifecycle evaluation, which also takes into account the fields development - production - use - disposal of vehicles, should be examined as well.
- (e) It is recommended to have a close cooperation with the World Forum for Harmonisation of Vehicle Regulations (WP.29) of the United Nations in Geneva (UNECE).
- (f) Future EFV Conferences is to be held every two years and should focus on:
 - (i) status report regarding the set goals,

- (ii) exchange of experiences regarding ongoing measures for promoting/introducing EFVs,
- (iii) exchange of experiences and analysis regarding the legal and economic framework,
- (iv) regular status report to the G8-Leaders (according to the decision at Heiligendamm).

2. OBJECTIVE OF THE PROPOSAL

To continue a fruitful cooperation between WP.29 and the future EFV conferences, it is proposed to establish an informal group under GRPE as a parallel activity. In a first step the informal group shall prepare a review of the feasibility of the proposed EFV concept (evaluation method, holistic approach). Taking the idea of worldwide harmonisation into account, the applicability of the EFV concept needs to be considered for all regions of the world. Therefore, following work packages are foreseen:

- (a) The available literature and concepts, including regulations and standards, shall be screened and analysed.
- (b) In a first step energy efficiency and CO₂ emissions will be considered and assessed on the basis of an integrated "well-to-wheels" approach.
- (c) The feasibility of the successful development of a harmonised evaluation method should be examined and assessed.

3. ORGANISATIONAL STRUCTURE

The EFV concept requires an involvement of the two environmental Working Parties of WP.29: GRPE (pollutant emissions, fuel consumption/CO₂) and GRB (noise). In addition, assistance is needed from further experts i.e. those dealing with well to wheel aspects. The following organisational structure is proposed:

- (a) Establishment of an informal group under GRPE, in cooperation with GRB;
- (b) Report to GRPE and GRB.

The Chair/Co-chair of the informal group should rotate, in relationship to the country organising the EFV conference.

4. WORK PLAN AND TIME SCHEDULE

January 2008	Terms of reference to GRPE (as an informal document)
February 2008	Terms of reference to GRB (as an informal document)
March 2008	Request for a mandate by WP.29
April 2008	Initiation of work of informal group
2009	Documents to GRPE, GRB and WP.29 for a review of the feasibility of the EFV evaluation concept
November 2009	Conclusion by WP.29
November 2009	Presentation at the fourth EFV conference in India

Annex VI

TERMS OF REFERENCE AND RULES OF PROCEDURES FOR
THE GRPE INFORMAL GROUP ON FUEL QUALITY (FQ)
(see paragraph 30 of this report)

Terms of Reference of the informal group on Fuel Quality

1. The WP.29 Round Table on Fuel Quality, held on 15 November 2007, clearly showed that there is a close link between the market fuel quality and the emissions of pollutants from motor vehicles. It was recognized that a further reduction of emissions through more stringent emission regulations requires more advanced emission control technologies, which drives the crucial need for improved fuel quality.
2. The goal for the establishment of the informal group is to contribute to environmental protection, specifically to the reduction of air pollution.
3. The informal group shall develop recommendations on market fuel quality to enable that vehicles, which were tested in conformity with the UN regulations or other equivalent regulations and using specific reference fuels for the tests, use in their daily service fuels with specific characteristics relating to the vehicle emission levels and technology type.
4. These recommendations should enable that vehicles in use fulfil during their service life the same performance level as during their certification procedure with regard to the emission of gaseous pollutants and particles.
5. The discussion shall be aimed at:
 - (a) agreeing on fuel specifications as a WP.29 guideline and
 - (b) adopting fuel specifications in connection to UN vehicle emissions regulations.
6. The mandate for the informal group shall be limited, in a first step, to November 2010.

Proposal for 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.
2. A Chairperson and a Secretary will govern the informal group.
3. The official language of the informal group will be English.
4. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated 10 working days in advance.
5. An agenda and related documents will be circulated to all members of the informal group at least two weeks in advance of all scheduled meetings.
6. The process will pursue consensus. When consensus can not be reached, the Chairperson of the group shall present the different points of view to GRPE.
7. The progress of the informal group will be reported to GRPE orally or as an informal document by the Chairperson or another participant of the group.
8. All working papers should be distributed in digital form via specific GRPE website: see <http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/fq01.html>.
