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**ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Pollution and Energy (GRPE)

REPORT OF THE WORKING PARTY ON POLLUTION AND ENERGY (GRPE)  
ON ITS FORTY-SIXTH SESSION 1/

(19 – 23 May 2003)

ATTENDANCE

1. GRPE held its forty-sixth session from 19 to 23 (morning only) May 2003, 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; Denmark; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea; Republic of South Africa; Russian Federation; Serbia and Montenegro; Spain; Sweden; Switzerland; United Kingdom; United States of America. Experts from the European Commission (EC) also participated. Experts from the following non-governmental organizations took part in the session: International Organization for Standardization (ISO); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); European Association of Automobile Suppliers (CLEPA); International Motorcycle Manufacturers Association (IMMA); The Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); Association for Emissions Control by Catalyst (AECC/CEFIC); European Natural Gas Vehicle Association (ENGVA); European LPG Association (AEGPL); European Association of Internal Combustion Engine Manufacturers (EUROMOT); European Committee of Associations of Manufacturers of Agricultural Machinery (CEMA). Experts from the Engine Manufacturers Association (EMA) participated at the invitation of the secretariat.

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1/ Following the agreement reached at the forty-fifth session, the forty-sixth session of GRPE proper was preceded by five informal meetings (TRANS/WP.29/GRPE/2003/13 and Add.1, and paras. 2 to 6 below).

2. The fourth informal meeting of the GRPE working group on Off-Cycle emissions (Off-Cycle), was held on 19 May 2003 (morning only), under the chairmanship of Ms. Jane Armstrong (USA). Experts from the following countries and organizations participated in the work: Canada; Czech Republic; Finland; France; Germany; Hungary; Japan; Netherlands; Norway; Republic of South Africa; Russian Federation; Sweden; Switzerland; United States of America; European Commission (EC); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); Association for Emissions Control by Catalyst (AECC/CEFIC); Engine Manufacturers Association (EMA). A summary of the proceedings of this informal meeting is given below (paras. 11 and 12).

3. The seventh informal meeting of the GRPE Particle Measurement Programme (PMP) working group was held on 19 May 2003 (afternoon only) under the Chairmanship of Mr. M. Dunne (United Kingdom). Experts from the following countries and organizations participated in the work: Canada; Czech Republic; Denmark; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Republic of South Africa; Russian Federation; Sweden; Switzerland; United Kingdom; United States of America; European Commission (EC); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); European Association of Automobile Suppliers (CLEPA); International Motorcycle Manufacturers Association (IMMA); Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); Engine Manufacturers Association (EMA). A summary of the proceedings of this informal meeting is given below (paras. 15-17).

4. The seventh informal meeting of the GRPE working group on the world-wide motorcycle emission test cycle (WMTC) was held on 20 May 2003 (morning only), under the chairmanship of Mr. C. Albus (Germany). Experts from the following countries and organizations participated in the work: Belgium, Canada; Czech Republic; Denmark; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Republic of South Africa; Serbia and Montenegro; Spain; Sweden; Switzerland; United Kingdom; United States of America; European Commission (EC); International Organization for Standardization (ISO); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA). A summary of the proceedings of this informal meeting is given below (paras. 18-20).

5. The fourth informal meeting of the GRPE working group on world-wide harmonized heavy-duty vehicle on-board diagnostics (WWH-OBD) was held on 20 May 2003 (afternoon only), under the chairmanship of Mr. M. Odaka (Japan). Experts from the following countries and organizations participated in the work: Belgium; Canada; Czech Republic; Denmark; Finland; France; Germany; Hungary; Japan; Netherlands; Poland; Republic of Korea; Republic of South Africa; Russian Federation; Serbia and Montenegro; Sweden; Switzerland; United Kingdom; United States of America; European Commission (EC); International Organization for Standardization (ISO); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); Engine Manufacturers Association (EMA). A summary of the proceedings of this informal meeting is given below (paras. 13 and 14).

6. The fifteenth informal meeting of the GRPE working group on the world-wide heavy-duty certification procedure (WHDC) was held on 21 May 2003, under the chairmanship of Mr. C. Havenith (Netherlands). Experts from the following countries and organizations participated in the work: Belgium; Canada; Czech Republic; Denmark; Finland; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea; Republic of South Africa; Russian Federation; Serbia and Montenegro; Sweden; Switzerland; United Kingdom; United States of America; European Commission (EC); International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); European LPG Association (AEGPL); Engine Manufacturers Association (EMA). A summary of the proceedings of this informal meeting is given below (paras. 8-10).

REGULATION No. 49 (Emissions of C.I., NG and P.I. (LPG) engines)

(a) Declaration of compliance with a specific (former) version of an ECE Regulation

7. GRPE was informed that its proposal for draft amendments to the Consolidated Resolution on the Construction of Vehicles (R.E.3), adopted at its forty-fifth session, had been submitted to WP.29/AC.1 for consideration at their June 2003 sessions (TRANS/WP.29/2003/44).

(b) World-wide heavy-duty certification procedure (WHDC)

Documentation: Informal document No. 4 of annex 1 to this report.

8. The Chairperson of the WHDC informal group, Mr. C. Havenith (Netherlands) informed GRPE on the status of the group's work, as considered during the fifteenth informal meeting on 21 May 2003 (para. 6). He introduced the WHDC Final Summary Report (informal document No. 4) and thanked the participants of the group for their contributions. He confirmed that the transient and steady state test cycles for heavy-duty vehicles have been finalized and that their validation had shown good resolution. He added that the new emission measurement methods by partial flow dilution had shown satisfactory correlation with the full flow dilution systems. He reported that the evaluation of further emissions validation (step 2) were still in progress and that Hungary had volunteered to participate in the calibration tests. He stated that the round robin tests would be carried out from October 2003 until June 2005, under the coordination of Mr. Stein (OICA), who would also report the test results to GRPE. The WHDC Chairman pointed out the intention of Germany and Poland to participate in these round robin tests. Concluding his report, he informed GRPE that the expert from the European Commission had volunteered to prepare the first draft global technical regulation (gtr) for consideration at the forty-seventh GRPE session in January 2004.

9. The GRPE Chairman recalled the decision of AC.3 (TRANS/WP.29/909, para. 143), that a gtr should be performance oriented and include limit values. He stated that AC.3 had nevertheless agreed to consider, in a first step, the test cycles without limit values (as AC.3 or WP.29 final documents or as annexes to the respective formal proposals) and to introduce the limit values in a second step. GRPE agreed to resume consideration at its next session on the basis of the draft gtr (without limit values) by the European Commission.

10. GRPE noted that Mr. Havenith was taking his merited retirement by the end of the year, terminating also the chairmanship of the WHDC informal group. The GRPE Chairman expressed

his gratitude for the excellent work done during the last seven years and stated that Mr. Havenith had contributed considerably in the development of a world-wide certification procedure for heavy duty vehicles. The Chairman and all GRPE experts thanked Mr. Havenith for his considerable efforts in chairing the informal group during all these years and wished him a long and happy retirement. GRPE expressed to Mr. Havenith its deep appreciation with long applause.

(c) Off-Cycle emissions (Off-Cycle)

Documentation: Informal document No. 1 of annex 1 to this report.

11. The Chairperson of the Off-Cycle group, Ms. J. Armstrong (United States of America) informed GRPE that the informal meetings of the Off-Cycle group and the WWH-OBD group, initially scheduled for 9 and 10 April 2003 in Windsor (Canada), were cancelled due to the international circumstances and travel restrictions at that time. With regard to the status of the off-cycle emissions project, she briefed GRPE on the minutes of the third informal meeting (informal document No. 1) and on the discussion results of the draft definitions as well as the specific operating conditions of emission control systems, as considered during the fourth informal meeting of the Off-Cycle group, in the morning of 19 May 2003 (para. 2). She pointed out the group's intention to hold its next informal meeting on 11 September 2003 in Windsor, too.

12. Following the discussion, GRPE agreed that the draft definitions of the emission technologies should be coordinated between the concerned GRPE working groups. The Chairman of GRPE expressed his thanks for the report and the progress made by the group. He added that he would inform WP.29 on the informal meeting scheduled to be held on 11 September 2003 in Windsor (Canada). He suggested that the Off-Cycle group should also meet again in Geneva, prior to the next GRPE session in January 2004 (para. 58).

(d) World-Wide Harmonized Heavy-Duty OBD group (WWH-OBD)

13. The Chairman of the WWH-OBD informal group, Mr. M. Odaka (Japan), confirmed that, due to the cancellation (see para. 11 above) of the informal meeting initially scheduled to be held in Windsor (Canada), the progress of work had been delayed. He briefed GRPE about the results of the fourth meeting held prior to the GRPE session, in the afternoon of 20 May 2003 (para. 5). He reported that the main objective of the discussions was to gather material for the elaboration of the test procedure. He stated the group's intention to meet again before the informal meeting of the Off-Cycle group (see para. 11 above) on 9 and 10 September 2003 in Windsor (Canada), on November 2003 in Tokyo (Japan) as well as on March 2004 in South Africa, in order to make progress on the scope and the structure of the gtr, the common definitions, the test procedure and the timetable of the development work. He informed GRPE that all the working papers of the working group could be consulted and downloaded from the OICA website at the following address: <http://www.oica.net/htdocs/main.htm>.

14. The Chairman of GRPE thanked the group for the progress made and suggested to resume consideration of this subject at the next WWH-OBD meetings. He added that the group should also meet prior to the forty-seventh GRPE session in Geneva (January 2004), using one full day of the session (para. 58 below).

## PARTICULATE MEASUREMENT PROGRAMME (PMP)

Documentation: Informal document No. 16 of annex 1 to this report.

15. The Chairman of the PMP informal group, Mr. M. Dunne (United Kingdom), introduced the progress report of the government sponsored PMP programme (informal document No. 16). He also briefed GRPE on the results of the PMP meeting prior to the GRPE session, in the afternoon of 19 May 2003 (para. 3). He recalled the key aim of the programme (repeatable and robust test procedures by reasonable costs) and mentioned that a large number of measurement systems have been undertaken and he reported on the preliminary results. He pointed out the group's intention to finalize the work on the PMP methodology at the end of July 2003. He raised the group's request to have an additional session of GRPE in September 2003 in order to finalize the report of the governmental sponsored work and stated his intention to present the final report to GRPE at its next session in January 2004. Concluding his report, he welcomed the initiation of a parallel research programme by the industry (OICA) and suggested to consolidate, in a later stage, the results of both PMP programmes.

16. Recalling his request of the last GRPE session for a wider and better cooperation between the governmental and industry research work, the expert from OICA stated that the industry had participated at several informal meetings of PMP, but that they had no chance to work on the concrete proposal developed by the governmental working group. He pointed out his disappointment about that situation and said that industry had to wait for the final report of the governmental group in September 2003 and that, consequently, the time until the next session of GRPE on January 2004 would be too short for a valuable contribution to PMP by the industry.

17. With regard to the request of the PMP working group for an extra GRPE session in September 2003, the Chairman of GRPE confirmed his support to have the consent by WP.29. The Chairman added that, if it would not be possible to have an official GRPE session, the informal meeting would be held without interpretation. He suggested that the PMP group should also meet again before the forty-seventh session of GRPE, using one full day of the official session time (para. 58 below). Note by the secretariat: WP.29 endorsed at its June 2003 session the GRPE request for an extra session in September 2003, but as an informal GRPE session without interpretation (see TRANS/WP.29/926, para. 41); an appropriate room in the Palais des Nations has been reserved for 15 September 2003, from 09.30 h until 17.30 h.

## DEVELOPMENT OF A WORLDWIDE MOTORCYCLE EMISSION TEST CYCLE (WMTC)

Documentation: Informal document No. 15 of annex 1 to this report.

18. The Chairman of the WMTC working group, Mr. C. Albus (Germany), briefed GRPE about the work of the tenth WMTC-FE expert meetings of 7 to 8 May 2003 in Bonn (Germany) and reported on the results of the seventh informal meeting of WMTC prior to the GRPE session, in the morning of 20 May 2003 (para. 4 above). He stated that the remaining outstanding issues (weighting factors, classification) were agreed and, with the exception of the round robin test, the technical work for the development of the WMTC was finalized. He presented the group's work results on the elaboration of a draft motorcycle emissions certification procedure relating to the worldwide-harmonized motorcycle test cycle (informal document No. 15). He requested all experts to send their comments to the Secretary of the WMTC working group (erwin.segors@honda-eu.com) before end of July 2003.

19. The expert from the United States of America confirmed that, thanks to the coordination by IMMA, the round robin tests regarding the WMTC test cycle already started.

20. The Chairman of GRPE expressed his thanks for the good progress made by the group and stated his intention to report to AC.3 on the results of the development of the draft gr. GRPE agreed to resume consideration of this subject at the next session of GRPE in January 2004.

#### EXHAUST EMISSION TEST PROTOCOL OF NON-ROAD MOBILE MACHINERY (NRMM)

Documentation: Informal document No. 17 of annex 1 to this report.

21. Representing the NRMM Chairman, the expert from the European Commission, Mr. Hummel, reported on the results of the start-up meeting in Ispra (Italy) on 16 May 2003. Recalling the main objectives of the NRMM working group to develop a gr on the exhaust-emissions of non-road mobile machinery, he introduced informal document No. 17 relating to the summary of the start-up meeting. He raised the groups wish to cancel the informal meeting initially scheduled on the afternoon of 23 May 2003.

22. Following the informal group's request, GRPE agreed to extend the terms of reference (informal document No. 1 of the forty-fifth GRPE session) not only to the transient test cycles, but also to the steady state test. GRPE also agreed to resume consideration of this subject at the meeting scheduled to be held on 12 September 2003 in Ann Arbor (MI, United States of America), subject to confirmation by WP.29. The Chairman of GRPE expressed his thanks for the report and suggested that the group should also meet prior to the forty-seventh GRPE session in January 2004 (para. 58 below).

#### AMENDMENTS TO ECE REGULATIONS

(a) Regulation No. 83 (Emissions of M1 and N1 categories of vehicles)

Documentation: TRANS/WP.29/GRPE/2003/10, TRANS/WP.29/GRPE/2003/17; informal document No. 9 of annex 1 to this report.

23. The expert from OICA introduced TRANS/WP.29/GRPE/2003/10, proposing the deletion of the ECE approval marking, as requested by WP.29 at its one-hundred-and-twenty-seventh session (TRANS/WP.29/861, para. 132). GRPE adopted the document, not amended, and requested the secretariat to submit it, as a proposal for draft Supplement 4 to the 05 series of amendments to Regulation No. 83, for consideration to WP.29 and AC.1 at their November 2003 sessions. Note by the secretariat: following the suggestion of WP.29/AC.2 at its eighty-second session in June 2003, the documents relating to the deletion of the approval marking should be addressed by WP.29 under a special agenda item, i.e. it has to be prepared as a separate document (see TRANS/WP.29/2003/95).

24. The expert from the European Commission introduced TRANS/WP.29/GRPE/2003/17 and informal document No. 9, proposing the alignment of the provisions of the Regulation with those of the European Union Directive 2002/80/EC.

25. GRPE adopted TRANS/WP.29/GRPE/2003/17, with the amendments reproduced in annex 2 to this report. The secretariat was requested to transmit the amended document, as a separate proposal for draft Supplement 4 to the 05 series of amendments to Regulation No. 83, for consideration to WP.29 and AC.1 at their November 2003 sessions (see TRANS/WP.29/2003/73).

(b) Regulation No. 96 (Off-road engines)

Documentation: TRANS/WP.29/GRPE/2003/12.

26. The expert from Italy introduced TRANS/WP.29/GRPE/2003/12, proposing the alignment of the definition of "net power" with the definition specified in the draft Regulation on the measurement of the net power, net torque and specific fuel consumption of internal combustion engines for agricultural and forestry tractors and non-road mobile machinery.

27. GRPE adopted the document, not amended, and requested the secretariat to submit it, as a proposal for draft Supplement 2 to the 01 series of amendments to Regulation No. 96, for consideration to WP.29 and AC.1 at their November 2003 sessions (TRANS/WP.29/2003/74).

(c) Regulation No. 101 (Emissions of carbon dioxide and fuel consumption)

Documentation: TRANS/WP.29/GRPE/2003/11.

28. The expert from OICA introduced TRANS/WP.29/GRPE/2003/11, proposing the deletion of the ECE approval marking, as requested by WP.29 at its one-hundred-and-twenty-seventh session (TRANS/WP.29/861, para. 132). GRPE adopted the document, not amended, and requested the secretariat to submit it, as a proposal for draft Supplement 6 to Regulation No. 101, to WP.29 and AC.1 for consideration at their November 2003 sessions (see TRANS/WP.29/2003/75).

(d) Regulation No. 103 (Replacement catalytic converters)

Documentation: TRANS/WP.29/GRPE/2003/18; informal document No. 10 of annex 1 to this report.

29. The expert from the European Commission presented TRANS/WP.29/GRPE/2003/18 and informal document No. 10, relating to the alignment of the provisions of the Regulation with those of the European Union Directive 2002/80/EC.

30. GRPE adopted TRANS/WP.29/GRPE/2003/18 with the following amendments:

Insert a new paragraph 4.4., to read:

"4.4. When the applicant for type-approval can demonstrate to the type-approval authority or technical service that the replacement catalytic converter is of a type indicated in item 18 of annex 2 to the series 05 of amendments to Regulation No. 83, the granting of a type approval certificate shall not be dependent on the requirements specified in paragraph 5. having to be verified."

Paragraphs 4.3. to 4.7. (former), renumber as paragraphs 4.5. to 4.9.

31. GRPE requested the secretariat to transmit the document, as amended in para. 30 above, as a proposal for draft Supplement 2 to Regulation No. 103, for consideration to WP.29 and AC.1 at their November 2003 sessions (see TRANS/WP.29/2003/76).

#### REPLACEMENT CATALYTIC CONVERTERS FOR VEHICLES WITH OBD

32. As no new proposal was tabled on this subject, GRPE agreed to resume its consideration at the forty-seventh GRPE session.

#### APPLICATION OF ECE REGULATIONS TO HYBRID VEHICLES

Documentation: Informal document No. 5 of annex 1 to this report.

33. Mrs. B. Lopez (France), chairing the informal group on hybrid vehicles, informed GRPE on the status of the results of the group's work and introduced informal document No. 5, proposing the revision of a consolidated text of Regulation No. 101 and including the new provisions for the type approval of hybrid vehicles. She announced the group's intention to meet again on 25 June 2003 in order to finalize the proposal. She also mentioned that Regulations Nos. 10, 13, 34, 51, 68, 94, 95 and 100 also have to be adapted with regard to the inclusion of prescriptions for the approval of hybrid vehicles.

34. Following the discussion on the presentation of the results of externally chargeable hybrid vehicles, GRPE agreed to present both, the individual results of the tests as well as the weighted average, in the communication form.

35. The Chairman thanked the informal group for the work done and suggested to resume consideration of this subject at the next GRPE session in January 2004 on the basis of an official document. For that purpose, the secretariat was requested to distribute informal document No. 5 with an official symbol (note by the secretariat: see TRANS/WP.29/GRPE/2004/2). With regard to the further elaboration of amendments to other Regulations (see para. 33 above), the Chairman stated his intention to inform WP.29 in order to mandate the concerned Working Groups for the development of such amendments.

#### HYDROGEN / FUEL CELL – VEHICLES

Documentation: TRANS/WP.29/GRPE/2003/14; informal documents Nos. 6, 7, 8, 11, 12, and 18 of annex 1 to this report.

36. The expert from Germany, Mr. Ch. Albus, chairing the informal group on hydrogen and fuel cell vehicles, reported on the results of the group's informal meetings on 13 and 14 February 2003 in Rüsselsheim (Germany) and on 10 and 11 April 2003 in Gothenburg (Sweden) (see informal document No. 11). He raised some open questions concerning the proposal for a new draft Regulation for motor vehicles using liquid hydrogen (TRANS/WP.29/GRPE/2003/14). He also briefly introduced informal document No. 12, proposing a new draft Regulation for motor vehicles using compressed gaseous hydrogen. He announced the informal group's intention to meet again on 6 and 7 October 2003 in Munich (Germany).

37. The Chairman thanked the informal group for the elaboration of the draft proposals for new Regulations on hydrogen vehicles under the 1958 Agreement and he suggested to consider in detail both proposals at the forty-seventh GRPE session. For that purpose, the secretariat was requested to distribute informal document No. 12 with an official symbol (note by the secretariat: see TRANS/WP.29/GRPE/2004/3). The expert from Japan expressed his view that the present approach was based on components and that this might create restraint problems for the development of new technologies. He preferred to have an approach based on systems.

38. Recalling the statement of Dr. Runge, made during the WP.29 session in March 2003 (TRANS/WP.29/909, para. 5), the Chairman raised the question of the need to develop a global technical regulation (gtr) on hydrogen vehicles. The expert from the United States of America supported the development of such a gtr and confirmed the commitment of his Government to cooperate in the elaboration of an action plan for the safety assessment of the hydrogen vehicles, as well as in the research and development of adequate test methods. He stated that, in order to assure the public's confidence in hydrogen vehicles, the provisions of such a gtr should be very comprehensive and performance oriented, where suitable, and not to restrict future technologies and methodologies. He also mentioned his preference to develop proposals for the new Regulations as gtrs under the 1998 Agreement.

39. The Chairman requested the experts from the United States of America, Japan and the European Community to clarify, for the next GRPE session in January 2004, their positions with regard to the technical and political approach on the development and introduction of a global technical regulation on hydrogen vehicles under the 1998 Agreement. Following the discussion, GRPE requested the informal group on hydrogen and fuel cell vehicles to prepare a proposal for a concrete action plan (road map) for the assessment of the hydrogen technologies for motor vehicles and development of gtrs for hydrogen vehicles. The Chairman concluded to resume consideration on this subject at the next GRPE session and to dedicate to this subject the whole session of Friday morning, 16 January 2003.

40. With regard to the 1958 Agreement, the expert from OICA shortly introduced informal documents Nos. 6, 7 and 8 proposing draft amendments to Regulations Nos. 83, 85 and 101 in order to include provisions for hydrogen as propulsion fuel. He suggested to submit the proposals for consideration to the informal group on hydrogen and fuel cell vehicles. The expert from OICA gave also a presentation on the current status of development of proposals for new draft Regulations for gaseous hydrogen vehicles. He concluded that all presentations and documents concerning the draft proposals were also available on the European Integrated Hydrogen Project (EIHP) website: <http://www.eihp.org>

41. The expert from ISO introduced informal document No. 18 concerning the timetable for the publication of standards ISO 13985 (liquid hydrogen) and ISO 15869 (gaseous hydrogen and hydrogen blends) for land vehicle fuel tanks.

#### ENVIRONMENTALLY FRIENDLY VEHICLES (EFVs)

Documentation: Informal document No. 2 of annex 1 to this report.

42. Recalling the purpose of the EFV International Conference held in Tokyo on 23 and 24 January 2003, the expert from Japan introduced informal document No. 2 concerning the

Chair's statement on that meeting. He underlined the important role of WP.29 and GRPE in the development of worldwide-harmonized regulations.

43. The GRPE Chairman again expressed his thanks for the invitation by Japan and acknowledged the importance and the high level of participation in that interesting Conference. He confirmed the unanimous decision of the participants in that meeting that WP.29 and its subsidiary bodies should be the main fora for the introduction of new technologies in the field of the construction of vehicles. The experts from the European Commission, Japan and the United States of America agreed on the high importance of this subject and volunteered to prepare a proposal for the definition of environmentally friendly vehicles (EFVs) as well as an appropriate draft programme. The expert from ENGVA welcomed this initiative and offered his contribution in that work. GRPE agreed to dedicate for the future GRPE sessions a separate agenda item to this subject and to resume its consideration at the forty-seventh GRPE session on the basis of concrete proposals.

#### EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS ON EMISSIONS

Documentation: Informal document Nos. 3 and 13 of annex 1 to this report.

44. The expert from Japan informed GRPE on the outline of the future policy of Japan for motor vehicle exhaust emission reduction (informal document No. 3).

45. The expert from the United States of America presented informal document No. 13 on the US Environmental Protection Agency's proposal for non-road diesel engines and fuels aiming at the reduction of sulphur levels in fuels to enable advanced emission control technologies.

#### ELECTION OF OFFICERS

46. Following the announcement by the Chairman on Thursday morning, 22 May 2003, and in compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690), GRPE called the election of officers on Thursday afternoon. Mr. B. Gauvin (France) was re-elected Chairman for the two sessions scheduled for the year 2004.

#### OTHER BUSINESS

(a) Evolution of fuel quality

Documentation: TRANS/WP.29/GRPE/2003/6/Rev.1.

47. The expert from OICA introduced TRANS/WP.29/GRPE/2003/6/Rev.1, proposing the alignment of the provisions in Regulation No. 83 with those in European Union Directive 98/77/EC. GRPE adopted the document with the following corrections:

Paragraph 8.2.7.3.1., correct the words "amendments to Regulation when those vehicles" to read "amendments to Regulation provided that those vehicles" (twice).

Paragraph 11.1.6.1., correct the words "amendments to this Regulation when the vehicles" to read "amendments to Regulation provided that the vehicles" (three times).

Paragraph 11.1.7.1., correct the words "amendments to this Regulation when the vehicles" to read "amendments to Regulation provided that the vehicles".

48. The secretariat was requested to transmit the document, as amended in para. 47 above, as a part of the proposal for draft Supplement 4 to the 05 series of amendments to Regulation No. 83 (para. 25 above), for consideration to WP.29 and AC.1 at their November 2003 sessions (see TRANS/WP.29/2003/73).

(b) Proposal for an administrative provision allowing to declare compliance with an obsolete version of a Regulation

49. With regard to TRANS/WP.29/GRPE/2003/8, adopted during its forty-fifth session, GRPE noted that the proposal was under consideration by WP.29 (see TRANS/WP.29/2003/44) and agreed to take this subject off the agenda.

(c) Regulation No. 110 (Specific components for CNG)

Documentation: TRANS/WP.29/GRPE/2003/15.

50. The expert from ENGVA introduced TRANS/WP.29/GRPE/2003/15, proposing new provisions for the testing of flexible hoses made of plastic.

51. GRPE adopted the proposal and requested the secretariat to submit the document, not amended, as a proposal for draft Supplement 3 to Regulation No. 110 for consideration to WP.29 and AC.1 at their November 2003 sessions (see TRANS/WP.29/2003/77).

(d) Regulation No. 67 (Equipment for liquefied petroleum gas)

Documentation: TRANS/WP.29/GRPE/2003/16; informal doc. No. 14 of annex 1 to this report.

52. With regard to the proposal relating to the introduction of the so-called Euro filling unit, which had been adopted by GRPE at its forty-second session, the expert from Italy recalled that related document TRANS/WP.29/2001/61 was still pending on the agenda of WP.29. He introduced TRANS/WP.29/GRPE/2003/16, proposing a modified design of that filling unit.

53. The expert from AEGPL raised her concerns about the proposed design of the Euro filling unit and stated that the new design could rise to confusion with other filling units and that the related flow reduction would considerably reduce the safety of the filling unit.

54. The expert from the Netherlands expressed his disappointment about the present position of Italy. He recalled that the initial proposal for the Euro filling unit had been adopted by the European Committee for Standardization (CEN) as well as by GRPE already in 2001. He also stated that, as the Euro filling unit was an additional filling unit amongst others, it would not cause any economical problem.

55. Following the discussion, the GRPE Chairman suggested to have a final review on this subject at the extra session of GRPE in September 2003 (para. 17). For that purpose, the expert from Italy was requested to prepare a new concrete proposal agreed by CEN and the Chairman of the PMP working group was requested to include this item on the agenda of the extra session.

56. The expert from Germany introduced informal document No. 14 proposing to increase the maximum outer diameter of the gas tubes in order to reduce the time for the refilling of gas containers for buses. GRPE agreed to resume consideration of this subject at its forty-seventh GRPE session. For that purpose the secretariat was requested to distribute informal document No. 14 with an official symbol (note by the secretariat: see TRANS/WP.29/GRPE/2004/4).

(e) Tributes to Mr. Jan Jerie (Secretary of WP.29)

57. The Chairman informed GRPE that Mr. Jan Jerie, Secretary of WP.29 and its subsidiary Working Parties during the last thirteen years, was departing at his own request for an early retirement at the end of May 2003. He thanked Mr. Jerie for his outstanding personal dedication to his commitment on assuring the secretariat of WP.29 and its subsidiary bodies during all the years and wished him a long and happy retirement. GRPE expressed deep appreciation to Mr. Jerie with long applause.

AGENDA FOR THE NEXT SESSION

58. For the forty-seventh session of GRPE to be held in Geneva, Palais des Nations, GRPE decided to start on Monday, 12 January 2004, 09.30 h until Friday, 16 January 2004, 12.30 h. For that purpose, the secretariat suggested the following agenda:

(a) Informal meeting of the GRPE working group on the emissions of non-road mobile machinery (NRMM)

To be held on Monday, 12 January 2004, from 09.30 h till 12.30 h. The agenda of the meeting will be prepared by the NRMM secretariat and distributed to the members of the group prior to the meeting. Note by the secretariat: This meeting will be held without interpretation.

(b) Informal meeting of the GRPE working group on Off-Cycle emissions (Off-Cycle)

To be held on Monday, 12 January 2004, from 14.30 h till 17.30 h. The agenda of the meeting will be prepared by the Off-Cycle secretariat and distributed to the members of the group prior to the meeting. Note by the secretariat: This meeting will be held without interpretation.

(c) Informal meeting of the GRPE working group on world-wide harmonized heavy-duty on-board diagnostics (WWH-OBD)

To be held on Tuesday, 13 January 2004, from 09.30 h till 17.30 h. The agenda of the meeting will be prepared by the WWH-OBD secretariat and distributed to the members of the group prior to the meeting. Note by the secretariat: This informal meeting will have interpretation only in the afternoon.

(d) Informal meeting of the GRPE Particle Measurement Programme (PMP)

To be held on Wednesday, 14 January 2004, from 09.30 h till 17.30 h. The agenda of the meeting will be prepared by the PMP group secretariat and distributed to the members of the group prior to the meeting.

(f) Forty-seventh session of the GRPE proper

To be held Thursday, 15 January 2004, from 09.30 h to Friday, 16 January 2004, until 12.30 h 2/:

1. Regulation No. 49 (Emissions of C.I., NG, and P.I. (LPG) engines)
  - 1.1. Development of the emission testing procedure (WHDC)
  - 1.2. Off-Cycle emissions
  - 1.3. On-board diagnostics for heavy-duty vehicles (WWH-OBD)
2. Particle Measurement Programme (PMP)
3. Development of a worldwide motorcycle emission test cycle (WMTC)
4. Exhaust emissions test protocol of Non-Road Mobile Machinery (NRMM)
5. Amendments to ECE Regulations
  - 5.1. Regulation No. 67 (Equipment for liquefied petroleum gas)
  - 5.2. Regulation No. 83 (Emissions of M1 and N1 categories of vehicles)
6. Replacement catalytic converters for vehicles with OBD
7. Application of ECE Regulations to hybrid vehicles
8. Hydrogen / fuel cell - vehicles
9. Environmentally Friendly Vehicles (on Friday morning, 16 January 2004, see para. 41)
10. Exchange of information on national and international requirements on emissions 3/
11. Other business
  - 11.1. Evolution of fuel quality
  - 11.2. Proposal for an administrative provision allowing to declare compliance with an obsolete version of a Regulation

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2/ As part of the secretariat's efforts to reduce expenditure, all the official documents as well as the informal documents distributed prior to the session, by mail or placed on the UNECE WP.29 website, will not be available in the conference room for distribution to session participants. Delegates are kindly requested to bring their copies of documents to the meeting. (The WP.29 website address is: <http://www.unece.org/trans/main/welcwp29.htm> select GRPE and find "working documents" as well as "informal documents").

3/ Delegations are invited to submit brief written statements on the latest status in national requirements and, if necessary, to supplement this information orally.

Annex 1

## LIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL DURING THE SESSION

No.	Transmitted by	Agenda item	Language	Title
1.	United States of America	1.3.	E	Meeting Minutes of the third plenary meeting of the Working Group on Off-Cycle Emissions
2.	Japan	9.	E	EFV International Meeting
3.	Japan	10.	E	Outline of the future policy for motor vehicle exhaust emission reduction
4.	Netherlands	1.2.	E	Final summary of the Worldwide Harmonized Heavy Duty Emissions Certification Procedure (WHDC)
5.	France	7.	E	Proposal for amendments to Regulation No. 101 including prescriptions for approval of hybrid vehicles
6.	OICA	8.	E	Proposal for draft amendments to the 05 series of amendments to Regulation No. 83 to introduce hydrogen (H2) as propulsion fuel
7.	OICA	8.	E	Proposal for draft amendments to Regulation No. 85 to introduce hydrogen (H2) as propulsion fuel
8.	OICA	8.	E	Proposal for draft amendments to Regulation No. 101 to introduce hydrogen (H2) as propulsion fuel
9.	European Commission	5.1.	E	Corrigendum to the proposal for draft amendments to Regulation No. 83
10.	European Commission	5.4.	E	Corrigendum to the proposal for draft amendments to Regulation No. 103
11.	Germany	8.	E	Status report about informal group Hydrogen / Fuel Cells – Vehicles
12.	Germany	8.	E	Proposal for a new draft Regulation concerning the approval of specific components of motor vehicles using compressed gaseous hydrogen
13.	USA	10.	E	EPA's proposal for nonroad diesel engines and fuel
14.	Germany	12.4.	E/F	Proposal for draft amendments to Regulation No. 67
15.	Germany	3.	E	WMTC: Draft global technical regulation (gtr)
16.	United	2.	E	GRPE Particle Measurement Programme: Progress

No.	Transmitted by	Agenda item	Language	Title
	Kingdom			Report of the Government sponsored work programmes
17.	European Commission	4.	E	Summary of the kick-off meeting of the informal NRMM Working group of the GRPE, held at EC DG-JRC in Italy on 16 May 2003
18.	ISO	8.	E	Timetable for the publication of ISO 13985 and ISO 15869 (liquid hydrogen and gaseous hydrogen and hydrogen blends for land vehicle fuel tanks)
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-	OICA	8.	E	Presentation on the development of the draft ECE Regulations for gaseous hydrogen vehicles

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Annex 2

AMENDMENTS TO TRANS/WP.29/GRPE/2003/17 (mainly based on informal document no. 9)  
ADOPTED BY GRPE AT ITS FORTY-SIXTH SESSION (see para. 25 of this report)

Insert new paragraphs 2.22. and 2.23., to read:

- "2.22. "Mono-fuel vehicle" means a vehicle that is designed primarily for permanent running on LPG or NG, but may also have a petrol system for emergency purposes for starting only, where the petrol tank does not contain more than 15 litres of petrol;
- 2.23. "Bi-fuel vehicle" means a vehicle that can run part-time on petrol and also part-time on either LPG or NG."

Paragraph 5.2.2., amend to read:

- "5.2.2. Positive-ignition engine-powered vehicle and hybrid electric vehicles equipped with a positive-ignition engine fuelled with LPG or NG (mono or bi-fuel) shall be subjected to the following tests:  
Type I (verifying the average exhaust emissions after a cold start),  
Type II (carbon monoxide emissions at idling speed),  
Type III (emission of crankcase gases),  
Type IV (evaporative emissions), where applicable,  
Type V (durability of anti-pollution devices),  
Type VI (verifying the average low ambient temperature carbon monoxide and hydrocarbon exhaust emissions after a cold start), where applicable,  
OBD test, where applicable."

Paragraph 8.2.2., amend to read:

- "8.2.2. The information gathered by the manufacturer must be sufficiently comprehensive to ensure that in-service performance can be assessed for normal conditions of use as defined in paragraph 8.2. and in a way representative of the manufacturer's geographic penetration.  
For the purpose of this Regulation, the manufacturer shall not be obliged to carry out an audit of in-service conformity for a vehicle type if he can demonstrate to the satisfaction of the type-approval authority that the annual worldwide sales of that vehicle type is less than 10,000 per annum.  
In the case of vehicles to be sold within the European Union, the manufacturer shall not be obliged to carry out an audit of in-service conformity for a vehicle type if he can demonstrate to the satisfaction of the type-approval authority that the annual sales of that vehicle type is less than 5,000 per annum within the European Union."

Paragraph 11.1.5.1.2., amend to read:

- "11.1.5.1.2. Vehicles of category M<sub>1</sub>, other than vehicles whose maximum mass exceeds 2,500 kg, and N<sub>1</sub> class I, running permanently or part-time on either LPG or NG fuel shall be equipped with on-board diagnostic system from 1 October 2004 for new types and from 1 July 2005 for all types.  
....."

Paragraph 11.1.5.2.1., amend to read:

"11.1.5.2.1. Vehicles of category M<sub>1</sub>, other than vehicles designed to carry more than six occupants (including the driver) or vehicles whose maximum mass exceeds 2,500 kg, shall be equipped with on-board diagnostic system from 1 October 2004 for new types and from 1 July 2005 for all types."

Annex 4, Appendix 1, table 1.2, in the column entitled "Acceleration (m/s<sup>2</sup>)", correct operation 23 to read "-0.99" instead of "-0.86".

Annex 11

Paragraph 3.3.3.4., amend to read:

"3.3.3.4. if active on the selected fuel, other emission control system components or systems, or emission related powertrain components or systems which are connected to a computer, the failure of which may result in tailpipe emissions exceeding the limits given in paragraph 3.3.2."

Paragraph 4.5.2., amend to read:

"4.5.2. Notwithstanding the requirements of paragraph 6.6. of appendix 1 to this annex, and where requested by the manufacturer, the type-approval authority shall accept the following deficiencies as meeting the requirements of this annex for the evaluation and transmission of diagnostic signals:

- transmission of the diagnostic signals for the fuel currently in use on a single source address;
- evaluation of one set of diagnostic signals for both fuel types (corresponding to the evaluation on mono-fuelled gas vehicles, and independent of the fuel currently in use);
- selection of one set of diagnostic signals (associated to one of the two fuel types) by the position of a fuel switch.
- evaluation and transmission of one set of diagnostic signals for both fuels in the petrol computer independent of the fuel in use. The gas supply system computer will evaluate and transmit the gaseous fuel system related diagnostic signals and store fuel status history.

Further options may be requested by the manufacturer and granted at the discretion of the type-approval authority."

Appendix 1

Inserted new paragraph 6.6., amend to read:

"6.6. Specific requirements regarding the transmission of diagnostic signals from bi-fuelled gas vehicles

- 6.6.1. For bi-fuelled gas vehicles where the specific signals of the different fuel systems are stored in the same computer, the diagnostic signals for the operation on petrol and for the operation on gas shall be evaluated and transmitted independently of each other.
  - 6.6.2. For bi-fuelled gas vehicles where the specific signals of the different fuel systems are stored in separate computers, the diagnostic signals for the operation on petrol and for the operation on gas shall be evaluated and transmitted from the computer specific to the fuel.
  - 6.6.3. On a request from a diagnostic tool, the diagnostic signals for the vehicle operating on petrol shall be transmitted on one source address and the diagnostic signals for the vehicle operating on gas shall be transmitted on another source address. The use of source addresses is described in ISO DIS 15031-5 "Road vehicles – Communication between vehicles and external test equipment for emissions-related diagnostics – Part 5: Emissions-related diagnostic services", dated 1 November 2001."
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