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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  
ON ITS THIRTY-NINTH SESSION  
(11 - 14 January 2000)

ATTENDANCE

1. GRPE held its thirty-ninth session 1/ from 11 January (afternoon) to 13 January 2000 only, under the chairmanship of Mr. B. Gauvin (France). Experts from the following countries participated in the work: Belgium; Czech Republic; Denmark; Finland; France; Germany; Hungary; Italy; Netherlands; Norway; Poland; Russian Federation; Spain; Sweden; Switzerland; Ukraine; United Kingdom; United States of America. Experts from the European Commission (EC) also participated. Representatives of Japan took part in the session under paragraph 11 of the Commission's Terms of Reference. Experts from the following non-governmental organizations also participated: 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); Automobile Emissions Control by Catalysts (AECC/CEFIC); European LPG Association (AEGPL); European Natural Gas Vehicle Association (ENGVA); European Association of Internal Combustion Engine Manufactures (EUROMOT); The Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); European Committee of Associations of Manufacturers of Agricultural Machinery (CEMA); Committee for European Construction Equipment (CECE).

1/ Following the decision taken by GRPE at its thirty-eighth session (TRANS/WP.29/GRPE/38, para. 72.), two separate informal meetings, with interpretation services, were held prior to the thirty-ninth GRPE session proper.

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2. The informal meeting on particulate emissions was held on 11 January 2000, afternoon only, under the chairmanship of Mr. M. Dunne (United Kingdom) and Mr. T. Baines (United States of America). Experts from the following countries and organizations participated in the work: Belgium, Czech Republic; Denmark; Finland; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Russian Federation; Spain; Sweden; Switzerland; Ukraine; United Kingdom; United States of America; European Community (EC); International Organization for Standardization (ISO); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); European Association of Automotive Suppliers (CLEPA); Automobile Emissions Control by Catalysts (AECC/CEFIC); European Association of Internal Combustion Engine Manufacturers (EUROMOT); The Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); European Garage Equipment Association (EGEA); European Environmental Bureau (EEB); European Automobile Manufacturers Association (ACEA). A summary of the proceedings of this informal meeting is given below (paras. 54 to 61).

3. The eighth informal meeting of the GRPE working group on the world-wide heavy-duty certification procedure (WHDC) was held on 12 January 2000, under the chairmanship of Mr. C. Havenith (Netherlands). Experts from the following countries and organizations participated in the work: Belgium; Czech Republic; Denmark; Finland; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Russian Federation; Spain; Sweden; Switzerland; Ukraine; United Kingdom; United States of America; European Community (EC); International Organization for Standardization (ISO); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); Automobile Emissions Control by Catalysts (AECC/CEFIC); European Association of Internal Combustion Engine Manufacturers (EUROMOT); The Oil Companies' European Organization for Environment, Health and Safety (CONCAWE); European Automobile Manufacturers Association (ACEA). A summary of the proceedings of this informal meeting is given below (paras. 4 to 12).

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

(a) Development of the emission testing procedure

Documentation: informal documents Nos. 1 and 12 of annex 1 to this report.

4. The Chairman of the WHDC group informed GRPE that the minutes of the seventh WHDC meeting (Geneva, 26 May 1999) had been approved by the WHDC group. After that he reported orally on the results of the eighth meeting of WHDC held on 12 January 2000.

5. He said that considerable progress had been made in the "Fundamental Elements" subgroup, where a research carried out by TÜV (Germany) and TNO (Netherlands) had identified a candidate for a world transient cycle which should represent real-life heavy-duty vehicle engine operation. He illustrated the main contents of the study and informed GRPE that a final report would be available before the next session. In particular, he said that after the completion of the "cycle by-pass prevention" subject, there

would be a validation phase in order to test the new cycle. He also mentioned the good cooperation between TÜV and TNO and the Japanese research institute (JARI) whose approach and conclusions were most in line. He briefly recalled progress made in the "ISO Activities" sub-group where a report on various measurement testing procedures, carried out at EMPA (Switzerland), had been presented by the expert from OICA (informal document No. 1).

6. The Chairman of WHDC informed GRPE that some fruitful meetings had been held in the United States of America with the national administration and industry. In particular, during meetings held at SAE headquarters, the need for additional in-use driving data was recognized in order to improve the representativeness of TNO/TÜV outcomes. He also said that additional data provided by the experts from the United States of America would allow to review the FMVSS test cycle and to assess the need for an update of the world-wide cycle. He considered very helpful a closer cooperation among Europe, Japan, and the United States of America in order to obtain a balanced distribution of technical data. Finally, he thanked all the participants of WHDC for their contribution to the work.

7. The expert from the United States of America considered that, following the positive action of his Government within WP.29 towards the development of the "1998 Agreement on Global Technical Regulation", the WHDC results should be officially taken into account for the preparation of a proposal for a draft Global Technical Regulation. In this respect, he said that his administration would be prepared to consider a proposal for a world-wide test cycle in the framework of the Global Agreement and proposed that GRPE should receive by WP.29 a mandate to study the matter.

8. He finally informed GRPE that US Environmental Protection Agency (EPA) was paying particular attention to the "Not to Exceed" Programme Concept Emissions which would require heavy-duty engines to comply with the applicable limits when operating under any conditions which might reasonably be expected to be encountered in normal vehicle operation and use (informal document No. 12).

9. The expert from Japan agreed on the proposal for having a world-wide harmonized cycle as a result of work carried out by GRPE in the framework of the 1998 Global Agreement. In this respect, he expressed the wish for world-wide cooperation in the work among all Governments and non-governmental organizations.

10. The expert from the European Commission also welcomed the proposal to establish a world-wide cycle under the 1998 Global Agreement.

11. GRPE fully supported the work done by WHDC and invited the WHDC Chairman to present the final results of the study at the next session. GRPE also wished the progress to continue towards closer cooperation of the United States of America in the harmonization activities.

12. GRPE noted the progress report of the WHDC group and agreed that the next meeting of this group should be held on 23 May 2000, the second day of the fortieth GRPE session (see para. 80 below).

(b) Alignment of Regulation No. 49 to the corresponding draft EC Directive

Documentation: informal documents Nos. 2, 7 and 9 of annex 1 to this report.

13. The expert from the European Commission informed GRPE that at its plenary session on 16 November 1999, the European Parliament had voted to accept in full, and without amendment, the EU Council's common position on the proposal to amend Directive 88/77/EEC (informal documents Nos. 2 and 7). Therefore, some of the amendments proposed during the second reading within the European Parliament (e.g. requirements for ethanol fuelled vehicles) had not been adopted. He added that the new Directive should enter into force after its publication, expected by February 2000, and that the agreed emission limits would apply as from October 2000 (Euro III), October 2005 (Euro IV) and October 2008 (Euro V).

14. In view of the above information, GRPE agreed that Regulation No. 49 would need to be amended in line with the amended EC Directive (88/77/EEC) as soon as the latter was published in the Official Journal of the European Communities. In this respect, the expert from the European Commission was requested to prepare a draft proposal to be considered at the coming GRPE sessions and adopted as soon as possible in order to make possible the timely application of the three emission limit stages.

15. The expert from OICA urged GRPE for a prompt alignment of Regulation No. 49 to the corresponding EC Directive. He also reminded GRPE experts that the limits set in Regulation No. 49 would require the use of after-treatment devices whose effectiveness would be influenced by fuel quality (sulphur contents). Therefore, he suggested that each Contracting Party to Regulation No. 49 should ensure the availability of low sulphur or sulphur free fuels in its territory (informal document No. 9).

16. The Chairman reminded the experts that GRPE had no mandate to regulate fuel quality. However, he proposed to discuss the subject again at the next session.

REGULATION NO. 83 (Emissions of M1 and N1 categories of vehicles)

Documentation: TRANS/WP.29/GRPE/2000/4, TRANS/WP.29/GRPE/2000/5; informal documents Nos. 5 and 6 of annex 1 to this report.

17. GRPE considered the proposal, prepared by the experts from France and the United Kingdom, for aligning Regulation No. 83 to the corresponding EC Directive 98/69/EC (TRANS/WP.29/GRPE/2000/4). The proposal had been drafted as a consolidated text including prescriptions applicable from the year 2000 (EURO III) and from 2005 (EURO IV) and transitional provisions.

18. The expert from France informed GRPE that the above proposal (TRANS/WP.29/GRPE/2000/4) had also been made available in the French language (informal document No. 5). The expert from the United Kingdom proposed some editorial corrections (informal document No. 6)

19. The expert from OICA supported the proposal and suggested that it should also incorporate prescriptions contained in the EC Directive 99/102/EC (see para. 45 below). He also drew the attention of GRPE to the impossibility for a Contracting Party to grant type approvals according to the 05 series of amendments to Regulation No. 83 to vehicles fuelled with leaded petrol and wondered whether transitional provisions might still allow this opportunity for vehicles intended to be exported outside the European Union.

20. The expert from the Netherlands presented a proposal to introduce some clarifications concerning reference fuels (TRANS/WP.29/GRPE/2000/5). GRPE adopted the proposal with the amendment noted below and agreed to incorporate it in the text of the proposed draft Regulation No. 83, 05 series of amendments (TRANS/WP.29/GRPE/2000/4):

Paragraph 5.3.5.1.1., amend the word "need to" to read "may".

21. GRPE noted that an agreement on the text of the original proposal could not be found during the session. However, in order to achieve a prompt alignment with the corresponding European Union (EU) prescriptions and to meet the same dates of application, it was agreed that a restricted drafting group would meet after the session, in order to settle all the pending items, and forward to the Secretary a revised version of the proposal for the draft 05 series of amendments to Regulation No. 83. This revised version should incorporate the amendments proposed by the experts from the Netherlands and the United Kingdom (see paras. 18 and 20 above) and the provisions contained in the EC Directive 99/102/EC (see para. 19 above). Furthermore, transitional provisions might also be amended in order to allow Contracting Parties to continue granting approvals according to the previous 04 series of amendments to Regulation No. 83 to vehicles intended to be exported to countries where the use of leaded petrol was still needed.

22. GRPE also agreed that the above revised proposal should be submitted to WP.29 and to the Administrative Committee AC.1 for consideration at its fifteenth session (June 2000) and that GRPE should have the opportunity to consider it again during the next session (May 2000).

23. Pending the application of the requirements of the 05 series of amendments to Regulation No. 83, GRPE recommended Contracting Parties to Regulation No. 83 to accept emission tests carried out according to the amended EU cycle (elimination of the first 40 seconds of engine idle with no emission sampling as required by EC Directive 98/69/EC). A similar recommendation was extended to the application of Regulation No. 101 (reduction of carbon dioxide emissions and fuel consumption) for which a proposal of amendment should be submitted at the next session (see para. 49 below).

AMENDMENTS TO ECE REGULATIONS WITH RESPECT  
TO LPG- AND NG-FUELLED VEHICLES/ENGINES

- (a) Proposal for a draft Regulation concerning the specific equipment of motor vehicles fuelled by compressed natural gas (CNG)

Documentation: TRANS/WP.29/GRPE/1999/9; informal document No. 14 of annex 1 to this report.

24. The secretariat informed GRPE that, during the one-hundred-and-nineteenth session of WP.29, the proposal for a draft Regulation had not been submitted for voting to AC.1 because the EC representative had not yet received the required authorization (TRANS/WP.29/689, paras. 8 and 109). The Chairman expressed the wish that EC would be prepared to vote during the next AC.1 session in March 2000.

25. GRPE agreed to continue the consideration of this matter at the next session provided that the draft Regulation would be adopted by AC.1 during the session of March 2000. Therefore, consideration of document TRANS/WP.29/GRPE/1999/9 was deferred.

- (b) Proposal for a draft Regulation concerning retrofit systems for LPG and CNG

Documentation: TRANS/WP.29/GRPE/1999/11; informal documents Nos. 4 and 14 of annex 1 to this report.

26. GRPE was informed that a meeting had been held in Paris at the invitation of the French Ministry of Transport, under the chairmanship of Mr. C. Lomonaco (Italy), in order to settle all the problems raised during the previous session, which had made impossible the adoption of the proposal contained in document TRANS/WP.29/GRPE/1999/11.

27. The expert from Italy said that during the above meeting, fruitful results had been achieved and a proposal had been jointly drafted by the experts from France, Italy, Netherlands, Poland and the United Kingdom (informal document No. 4).

28. He confirmed that the suggestions received during the previous session of GRPE had been taken into account for the drafting of the above document. He explained that the "engine family" definition had been made more stringent and that, in addition to safety requirements, retrofitted vehicles would also undergo emission requirements provided that they had been approved according to Regulation No. 49, 02 series of amendments or Regulation No. 83, 01 series of amendments or to their following series of amendments.

29. The above-mentioned proposal received general support by all the experts. Consequently, GRPE adopted document TRANS/WP.29/GRPE/1999/11 with the amendments proposed in informal document No. 4. The secretariat was asked to produce an official document to be submitted to WP.29 and to the Administrative Committee AC.1 for consideration at its fifteenth session (June 2000) as a new draft Regulation.

30. The expert from ISO informed GRPE that a list had been prepared on the status of the activities within his organization, concerning CNG standards, (informal document No. 14). The Chairman thanked the expert from ISO for his information and recommended to take into account all new developments within GRPE.

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

Documentation: TRANS/WP.29/GRPE/2000/2, TRANS/WP.29/GRPE/2000/6; informal documents Nos. 16 and 17 of annex 1 to this report.

31. The proposal for introducing specifications and tests applicable to specific material types of synthetic hoses, submitted by the expert from the Netherlands (TRANS/WP.29/GRPE/2000/6) was adopted by GRPE.

32. GRPE also considered a proposal by Belarus to clarify certain prescriptions in Regulation No. 67 (TRANS/WP.29/GRPE/2000/2). In the absence of the expert from Belarus, the expert from Italy gave some explanations concerning the content of the proposal and suggested that not all the amendments should be adopted, since some of them could raise problems during the application of the prescriptions of the Regulation. In this respect he expressed the intention to present at the next GRPE session a proposal for further amendments to Regulation No. 67.

33. In the discussion which followed GRPE adopted only the amendments noted below. All the other amendments contained in document TRANS/WP.29/GRPE/2000/2 did not receive sufficient support and were rejected.

Paragraph 6.15.8.1., amend to read:

"6.15.8.1. The pressure relief valve shall be mounted inside the container or on the container, in the area where the fuel is in gaseous state."

Paragraph 6.15.1.2., replace the figure "6750 kPa" with "4500 kPa".

34. The secretariat was requested to produce an official document based on the amendments proposed in document TRANS/WP.29/GRE/2000/6 and those listed in para. 33 above, to be submitted to WP.29 and to the Administrative Committee AC.1 for consideration at its fifteenth session (June 2000) as Supplement 1 to the 01 series of amendments to Regulation No. 67.

35. The expert from AEGPL informed GRPE that the Technical Committee CEN/TC 286 had adopted two draft standards concerning automotive LPG filling requirements which had been submitted to CEN members for enquiry (informal

documents Nos. 16 and 17). She expressed the intention to present some amendments to Regulation No. 67 on the basis of the above informal documents and invited GRPE experts to send her possible comments on this matter.

36. The expert from ISO regretted that the proposal adopted by CEN had not received any previous agreement by his organization. In this respect, the expert from Italy reminded GRPE that his country had recognized Regulation No. 67 as the only international Regulation applicable to LPG equipments so that he could not recognize any standard adopted by Committees like CEN or ISO. Finally, he offered his cooperation to the expert from AEGPL in order to present the proposal of amendments to Regulation No. 67.

REGULATION No. 96 (Emissions of agricultural and forestry tractors)

Documentation: TRANS/WP.29/GRPE/2000/3.

37. The expert from EUROMOT introduced a proposal aimed to set new emission limits corresponding to those prescribed in Stage II of Directive 97/68/EC, and to extend the scope of the Regulation to non-road mobile machinery (e.g. compressors, mobile cranes, road maintenance equipment) in addition to agricultural and forestry tractors (TRANS/WP.29/GRPE/2000/3).

38. The expert from the European Commission supported the proposal and confirmed that Directive 97/68/EC did not cover agricultural and forestry tractors since those vehicles would be subject to the provisions of a specific Directive which was currently being discussed within the European Parliament in its second reading.

39. The expert from the United States of America welcomed the decision taken by WP.29 to extend the scope of Regulation No. 96 to engines used in non-road mobile machinery (TRANS/WP.29/680, para. 89) and wished a future extension of its scope to other "non road products".

40. The proposal by EUROMOT received general support. However, the experts from France and Italy entered a reservation concerning the date of application of the new limits and suggested to wait for the final adoption of the corresponding EU Directive (see para. 38 above), before taking any final decision. The expert from the United Kingdom also supported the proposal but preferred to consider in detail the proposed dates of application.

41. The expert from Italy expressed the intention to present at the next GRPE session a text of transitional provisions and some editorial corrections to the proposal.

42. GRPE agreed to resume consideration of this matter at its next session on the basis of document TRANS/WP.29/GRPE/2000/3 which should be completed with transitional provisions.

REGULATION NO. 100 (Approval of battery electric vehicles)

Documentation: Informal document No. 13 of the annex 1 to this report.

43 The expert from France presented a proposal to introduce in Regulation No. 100 provisions aimed to limit the hydrogen flow released in the air during the battery recharge operation (informal document No. 13). She recalled that due to its strong flammability properties, an accident could occur in closed areas (e.g. underground parkings) even in the presence of a small concentration of hydrogen. She also said that the proposal had been drafted on the basis of some tests carried out in her country at UTAC.

44. GRPE agreed to resume consideration of this matter at its next session and requested the secretariat to issue informal document No. 13 with an official symbol.

PERSPECTIVES IN TRANSPORT AND THE ENVIRONMENT

(a) Technical requirements on vehicles after the year 2000

Documentation: Informal documents Nos. 2 and 7 of annex 1 to this report.

45. Information was given by the expert from the European Commission (informal documents Nos. 2 and 7) concerning future emission requirements applicable to vehicles. He recalled that three new EC Directives had been published on 28 December 1999 in the Official Journal of the European Communities L334, volume 42 namely:

- S Commission Directive 1999/99/EC of 15 December 1999 adapting to technical progress Council Directive 80/1269/EEC on the approximation of the laws of the Member States relating to the engine power of motor vehicles (to include measurement of vehicles using NG or LPG);
- S Commission Directive 1999/100/EC of 15 December 1999 adapting to technical progress Council Directive 80/1268/EEC relating to the carbon dioxide emissions and the fuel consumption of motor vehicles (to include measurement of vehicles using NG or LPG);
- S Commission Directive 1999/102/EC of 15 December 1999 adapting to technical progress Council Directive 70/220/EEC relating to measures to be taken against air pollution by emissions from motor vehicles (relating to the requirements for on-board diagnostics (OBD) and other editorial amendments).

46. He also gave a presentation of the status of work of the Auto-Oil II programme. He said that its main goals were to assess future air quality, to establish a consistent framework within different policy options, to reduce emissions and to provide a foundation in terms of data and modelling tools for the transition towards longer term air quality studies covering all emission sources. In concluding his presentation, the expert from the European Commission stated that a report of the Auto-Oil II Programme should be made available soon.

47. GRPE agreed to resume consideration of this subject at its next session.

(b) Reduction of carbon dioxide emissions and fuel consumption

48. The expert from the EC recalled the agreement reached between the EC and the European Vehicle Manufacturers Association (ACEA) to reduce the average CO<sub>2</sub> emission value of new passenger cars to 140 g/km by 2008. He said that the text of a similar agreement with the Japanese (JAMA) and the Korean (KAMA) industry had been transmitted by the Commission to the European Parliament and to the Council who endorsed it. He informed GRPE that the Commission would ensure the monitoring of the agreements and provide statistical data for tracking the evolution of the average new car CO<sub>2</sub> emissions. In this respect, he said that two Directives on monitoring and "vehicle labelling" were in the final stages of agreement.

Note by the secretariat: Directive 1999/94/EC relating to "the availability of consumer information on fuel economy and CO<sub>2</sub> emissions in respect of the marketing of new passenger cars" has been published in the Official Journal of the European Communities No. L12 of 18 January 2000

49. The expert from France expressed the intention to present at the coming GRPE sessions a proposal to amend Regulation No. 101 in order to align it to the corresponding EU Directive 99/100/EC. In particular, he said that the test cycle should be modified by eliminating the first 40 seconds of engine idle with no emission sampling.

EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS  
ON EMISSIONS

Documentation: Informal documents Nos. 2, 7, 8 and 11 of the annex 1 to this report.

50. The expert from Japan informed GRPE that a proposal for a procedure concerning the approval of "low emission vehicles" was being considered in his country (informal document No. 8). He said that categories of vehicles covered by the above procedure would be tested after having run for 60-80 thousand km and approved as "low emission vehicles" if they met the relevant emission limits.

51. The expert from the United States of America gave a presentation of the actions taken in his country to reduce emissions (informal document No. 11). He said that the Environmental Protection Agency (EPA) was proposing a

programme to significantly reduce emissions from cars and light trucks, including sport utility vehicles, minivans and pickup trucks. The above proposal would apply from 2004 and allow a production of passenger cars that would be at least 77 per cent cleaner than those produced today, since they should not emit more than 0.07 g/mile of NO<sub>x</sub>. He added that a low-sulphur petrol which would ensure the effectiveness of low emission-control technologies in vehicles and reduce harmful air pollution would be made available on the market. He finally gave an overview of the complete regulatory packages contained in the "EPA Mobile Sources Regulatory Agenda for Fiscal Year 2000".

#### OTHER BUSINESS

##### (a) Replacement catalytic converters for vehicles with OBD

52. The expert from the European Commission recalled that in accordance with article 4 of Directive 98/69/EC (OJ No. L350 of 28/12/98), the Commission was dealing with the issue of compatibility between replacement catalytic converters and the OBD system. In this respect, he said that the Motor Vehicle Emission Group (MVEG) had given to the experts from CLEPA and ACEA the mandate to deal with the matter and that first results were expected by the end of the year 2000.

53. GRPE agreed to resume consideration of this subject at its next session.

##### (b) Particulate emissions

54. The Chairman of the informal meeting on particulate emissions (see para. 2 above) informed GRPE that, during the meeting, several presentations and reports on developments in the field of particulate emissions from road vehicles were made.

55. The Chairman mentioned a presentation made by the expert from Denmark concerning the results of a study on ultra-fine particles in a city environment and also an assessment of vehicle emissions in a laboratory. The study had found that traffic is the dominating source of particles in the street and that modelling can provide a good estimation of particles and particle size distributions from the vehicle mix. It was also reported that laboratory tests had shown a significant particulate contribution from petrol vehicles and that diesel vehicles also emit smaller particles than are seen from petrol cars.

56. With regard to health risk assessment, GRPE was informed about a presentation made by the expert from Germany who had shown that a dramatic reduction of carcinogenic pollutants had been achieved with the application of the recent emission stages (e.g. EURO III and EURO IV). In particular, it was said that thanks to the introduction of new technologies, some of them requiring fuel quality improvements, the health risk posed from diesel engine emissions could be dramatically reduced.

57. The group also received information on advanced emission control technologies. The presentation indicated that technologies, suitable for on-road and off-road vehicles employing heavy-duty diesel engines, were available both as original equipment and for retrofit applications.

58. The expert from ACEA informed the meeting of an industry study comparing the emissions performance of conventional and advanced diesel technology with current petrol technologies. The meeting was advised that the conclusions of the draft report were that, when compared with conventional technology, advanced diesel technology reduced particulate mass emission by a substantial amount and also reduced particulate number. The study also concluded that the size range of particles emitted was unaffected by the technology. In comparison, the study found that particulate emission from gasoline engines was close to the detectable limit in terms of mass, number and size.

59. GRPE received also information about progress made on United States of America and European legislative measures. In this respect, the expert from the United States of America recalled his informal document No. 11 (see para. 51 above).

60. The expert from the United States of America drew the attention of GRPE to the adequacy of the current test procedures to measure the low levels of particulate that would be emitted by engines meeting the future stringent emission rules. He proposed that the issue of methodology and instrumentation should be considered at the next session of the informal meeting and that a whole day should be devoted to it.

61. GRPE noted the progress made and agreed that the informal discussion of particulate emissions should be resumed during the fortieth session (see para. 82 below).

(c) Evolution of fuel quality

Documentation: Informal document No. 3 of annex 1 to this report.

62. The expert from CONCAWE presented the contents of a report on "fuel quality technology and their interaction" (informal document No. 3). He said that the intention of the above report was to stimulate the discussion with the motor industry and the legislators on the best way to deal with fuel quality and emissions. The main conclusions were that the effects of fuel improvements alone on emissions and performance were relatively small, but benefits arose when they were used to enable new technologies. Therefore, he said that fuels and engines needed to be developed together as a common system and that more joint industry technical programmes would be required to rapidly develop new technologies.

63. The expert from OICA agreed that the use of good quality fuels was essential for engines designed according to the latest technology development and wished future cooperation with CONCAWE.

64. The Chairman welcomed the possible cooperation between vehicle manufacturers and fuel producers, which could help in developing new technologies and achieving maximum effectiveness of anti-pollution devices. GRPE agreed to resume consideration of this subject at its next session.

(d) Development of a world-wide motorcycle emission test cycle (WMTC)

Documentation: Informal document No. 18 of annex 1 to this report.

65. The expert from Germany informed GRPE about the results of a research concerning "short term development of a new test cycle for measuring exhaust emissions of motorcycles" which had been carried out in his country, by TÜV. He said that the existing test cycle, based on ECE Regulation No. 40 needed to be revised in order to better address the extra-urban driving behaviour. He said that according to this "short term solution" the test cycle should be derived from the passenger car test cycle and the relevant accelerations should be made more realistic. He presented in detail the results of the study, which had already been transmitted at the EC Motor Vehicle Emission Group (MVEG).

66. The expert from Poland supported in principle the proposal made by the expert from Germany. However, he proposed to reduce the maximum test speed from 120 km/h to 90 or 100 km/h which in his opinion would best represent the realistic driving conditions.

67. Recalling the provisions laid down in Article 5 of Directive 97/24/EC (OJ No. L 226 of 18 August 1997), the expert from the European Commission informed GRPE that a proposal taking into account and assessing cost-effectiveness of the various measures for reducing pollutant emissions (based on the results of studies made by TÜV and TNO and IMMA) should be adopted by the Commission, and submitted to the European Parliament and to the Council. In particular, he said that the proposed emission limits would be more stringent and would apply as from 2003 on the basis of the existing test cycle. However, he informed GRPE that by the end of the year 2002 the Commission intended to adopt a new test cycle which should be applicable as from 2006.

68. The expert from the Netherlands informed GRPE about the activities of TNO and IMMA. He suggested that a world-wide harmonized test cycle could be set up by the year 2003, and after that GRPE agreement should be sought. He presented a proposal for a programme of work aimed to study a "World-wide Motorcycle Certification Procedure" (informal document No. 18) considering this schedule.

69. The experts from Italy and the United Kingdom supported the idea to have a harmonized cycle as a long term solution. However, they expressed some doubts concerning the possibility to have an interim cycle, as proposed by the expert from Germany.

70. The experts from Japan, the United States of America and the European Commission supported the proposal for having a world-wide harmonized test cycle which in their opinion should be established in the framework of the 1998 Agreement on Global Technical Regulations.

71. The expert from IMMA also considered the harmonized cycle as the best suitable choice and informed GRPE that his organization was close to completion of a world-wide driving pattern data collection which would enable the development of a new cycle.

72. Having noted the great support given by GRPE to the proposal for a world-wide harmonized motorcycle emission test cycle, the Chairman concluded that he would submit to WP.29 the draft programme of work (see para. 68 above) in order to obtain an official mandate to study within a GRPE sub-group a draft Global Technical Regulation concerning motorcycle test cycle. He also proposed to resume consideration of this subject at the next session and asked the secretariat to record the text of informal document No. 18 (see annex 2 to this report).

- (e) Regulation No. 24 (Approval of C.I. engines and of vehicles equipped with C.I engines with regard to the emission of visible pollutants)

Documentation: Informal document No. 10 of annex 1 to this report.

73. The expert from OICA introduced a proposal to amend Regulation No. 24 in order to take account of technical progress and to align it with the corresponding draft EU Directives and with some existing standards (ISO and SAE). He said that this amendment would allow the use of a green LED as a light source and confirmed that it would not influence measurement of the optical path length .

74. The following proposal was agreed by GRPE:

Annex 8, paragraph 3.3., amend to read:

".....in the range of 2800 to 3250 K or a green light-emitting diod (LED) with a spectral peak between 550 and 570 nm. The light source shall be protected against sooting by means that do not influence the optical path length beyond the manufacturer's specifications."

75. The secretariat was requested to produce an official document to be submitted to WP.29 and to the Administrative Committee AC.1 for consideration at its fifteenth session (June 2000) as Supplement 1 to the 03 series of amendments to Regulation No. 24.

- (f) Type-approval of post-treatment devices with discontinued regeneration

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

76. The expert from France informed GRPE that certain new anti-pollution technologies intended to be fitted on petrol and diesel fuelled vehicles would

require the use of discontinued regeneration device(s). She gave the opinion that a proper assessment of these vehicles should be made taking into account the measurement of pollutants during a normal cycle and a regenerating cycle and combining these two values in due regard to the actual frequency of the regeneration procedure. She proposed that the type approval procedure for these devices should be precised in the text of Regulation No. 83 (05 series of amendments) and Regulation No. 101 with possible reference to fuel quality (informal document No. 15).

77. In support of her position, she explained that in the United States of America the Code of Federal Regulations (Title 40, Part 86) contained a procedure for the approval of post-treatment devices, based on the measurement of emissions with and without regeneration, and on the number of regenerations recorded during the endurance test carried out at 50,000 or 100,000 miles.

78. The experts from Switzerland and the United States of America expressed the intention to inform GRPE on the developments concerning this subject in their countries.

79. The expert from the European Commission welcomed the proposal by France and recalled that the Auto-Oil II Programme foresaw studies on durability and regeneration of post-treatment devices.

80. The expert from the United Kingdom supported in principle the French proposal but considered it premature since, in his opinion, the technology was not yet available. However, taking into account that several post-treatment devices might appear very soon on the market, it was agreed that the type approval procedure for these devices should be precised according to the French proposal.

81. GRPE agreed to resume consideration of this matter at its next session and requested the expert from France to present a proposal to amend Regulations Nos. 83 and 101.

(g) AGENDA FOR THE NEXT SESSION

82 For its fortieth session, GRPE agreed to continue with the scheme of two separate informal meetings incorporated in the agenda:

(a) Informal meeting on particulate emissions

To be held at Geneva, on Monday 22 May 2000 (9.30 h to 17.30 h, without interpretation), with the discussion focusing on:

1. The exchange of information in the field of particulate matter emissions;
2. Health risk assessments;
3. Emission control technologies;

4. Progress in legislative measures;
5. Particulate measurement methodology and instrumentation;

(b) Informal meeting of the working group  
on the world-wide heavy-duty certification procedure (WHDC)

To be held at Geneva, on Tuesday 23 May 2000 (9.30 h to 17.30 h, morning without interpretation). The agenda of the session will be prepared and distributed to the WHDC members prior to the meeting.

(c) Fortieth session of GRPE proper

To be held at Geneva, from Wednesday 24 May (9.30 h) to Friday 26 May (12.30 h) 2000. 2/ The following agenda was agreed:

1. Regulation No. 49 (Emissions of C.I., NG, and P.I.(LPG) engines)
  - 1.1. Development of the emission testing procedure
  - 1.2. Alignment of Regulation No. 49 to the corresponding (draft) EC Directive
2. Regulation No. 83 (Emissions of M1 and N1 categories of vehicles)
3. ECE Regulations concerning the LPG- and NG-fuelled vehicles/engines
  - 3.1. Draft Regulation concerning the specific equipment of motor vehicles fuelled by compressed natural gas (CNG)
  - 3.2. Proposal for a draft Regulation concerning retrofit systems for LPG and CNG
  - 3.3. Regulation No. 67 (Equipment for liquefied petroleum gas)
4. Regulation No. 96 (Emissions of agricultural and forestry tractors)
5. Regulation No. 100 (Battery electric vehicles)
  - 6.1. Technical requirements on vehicles after the year 2000
  - 6.2. Reduction of carbon dioxide emissions and fuel consumption

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2/ As part of the secretariat's efforts to reduce expenditure, all the official documents distributed prior to the session by mail 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. 6. Perspectives in transport and the environment

7. Exchange of information on national and international requirements on emissions 3/
8. Other business
  - 8.1 Replacement catalytic converters for vehicles with OBD
  - 8.2. Particulate emissions
  - 8.3. Evolution of fuel quality
  - 8.4. Development of a world-wide motorcycle emission test cycle (WMTC)
  - 8.5. Type-approval of post-treatment devices with discontinued regeneration.

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

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Annex 1

LIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL DURING THE SESSION

No.	Transmitted by	Agenda item	Language	Title
1.	OICA	1.1.	E	Development of a World-wide Heavy-Duty Certification Procedure - Investigation Program: Partial Flow Dilution Systems Used during Transient Test Cycles
2.	European Commission	1.2, 6.1, 7.	E	Future European Community Emission Requirements
3.	CONCAWE	8.3.	E	Report 99/55 on Fuel Quality, Vehicle Technology and their Interactions
4.	France, Italy, Poland, Netherlands, United Kingdom	3.2.	E	Proposal of Additional Draft Amendments to the Draft Regulation Concerning Retrofit Systems for LPG and CNG (document TRANS/WP.29/GRPE/1999/11)
5.	OICA	2.	F	Projet de Serie 05 d'Amendments au Reglement No. 83
6.	United Kingdom	2.	E	Draft Regulation 83/05 - Proposal for Corrections (doc. TRANS/WP.29/GRPE/2000/4)
7.	European Commission	1.2, 6.1, 7.	E	Future European Community Emission Requirements (additional information)
8.	Japan	7.	E	Procedures for Approval of Low Emission Vehicles (draft)
9.	OICA	1.2.	E	Fuel Quality According to Regulatory Requirements
10.	OICA	8.5.	E	Proposal for Amendments to Regulation No. 24

<u>No.</u>	<u>Transmitted by</u>	<u>Agenda item</u>	<u>Language</u>	<u>Title</u>
11.	United States of America	7.	E	United States Environmental Protection Agency-Mobile Sources Regulatory Agenda for Fiscal Year 2000
12.	United States of America	1.1.	E	Heavy Duty Engine - "Not to Exceed" Program Concept - Discussion Document
13.	France	5.	F	Proposition de Projet d'Amendements au Reglement No. 100
14.	ISO	3.1. 3.2.	E	ISO Standards Concerning NGV System Components
15.	France	8.6.	F	Proposition d'une Procedure d'Homologation des Vehicules Equipes de Dispositifs de Post-Traitement avec Regeneration Discontinue
16.	AEGPL	3.3.	E	CEN Draft prEN 13760-1 - Automotive LPG Filling System - Part 1: Dimensions and Test Requirements for the Connector
17.	AEGPL	3.3.	E	CEN Draft prEN 13760-2 - Automotive LPG Filling System - Part 2: Test Requirements and Critical Dimensions for the Nozzle
18.	Netherlands	8.4.	E	Proposal for a Working Group: "World-wide Motorcycle Certification Procedure (WMTC)" Terms of Reference

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Annex 2PROPOSAL FOR A WORKING GROUP "WORLDWIDE MOTORCYCLE  
CERTIFICATION PROCEDURE (WMTC)"Terms of ReferenceObjective of the project

The New World Harmonised Motorcycle Approval Test Cycle should:

- (a) Be applicable to state-of-art and future technology
- (b) Give highest efficiency to control real-life emissions
- (c) Match emissions in relative terms for honest ranking of different engines/technologies
- (d) Match emissions in absolute terms for assessment of emission factors (Artemis 5th framework R&D Programmes)

Test cycle has to be representative for world-wide real-life motorcycle operation

Time schedule:

- Upgrading data collection
  - statistical information
  - driving pattern data

July 2000
- Creating and processing of data base
 

December 2000
- Presentation candidate harmonized test cycle
 

May 2001
- Validation candidate test cycle:
  - STEP 1 (feasibility)
 

October 2001
  - STEP 2 (round robin)
 

May 2002
- Finalization Test Procedure
 

July 2002
- Review of specifications for technical test conditions (ISO)
  - cooling, road-load setting
 

September 2002
  - sampling and analysis (methods and equipment)
 

September 2002

- Final presentation harmonized certification procedure

January 2003

Institutes involved:

- TNO Automotive
  - TÜV Automotive
  - JARI
  - other interested parties
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