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Working Party on the Construction of Vehicles

Working Party on Pollution and Energy (GRPE)

REPORT OF THE WORKING PARTY ON POLLUTION AND ENERGY
ON ITS THIRTY-EIGHTH SESSION
(25 - 28 May 1999)

ATTENDANCE

1. GRPE held its thirty-eighth session from 25 May (afternoon) to 28 May (morning) 1999 1/ under the chairmanship of Mr. B. Gauvin (France). Experts from the following countries participated in the work: Czech Republic; Denmark; Finland; France; Germany; Greece; Hungary; Italy; Netherlands; Norway; Poland; Romania; Russian Federation; Slovenia; Spain; Sweden; Switzerland; 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); International Motor Vehicles Inspection Committee (CITA).

1/ Following the decision taken by GRPE at its thirty-seventh session (TRANS/WP.29/GRPE/37, para. 73.), two separate informal meetings, with interpretation services, were held prior to the thirty-eighth GRPE session proper.

2. The informal meeting on particulate emissions was held on 25 May 1999, 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: Czech Republic; Denmark; Finland; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Romania; Russian Federation; Slovenia; Spain; Sweden; Switzerland; United Kingdom; United States of America; European Community (EC); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); Automobile Emissions Control by Catalysts (AECC/CEFIC). A summary of the proceedings of this informal meeting is given below (paras. 52 to 55).

3. The seventh informal meeting of the GRPE working group on the world-wide heavy-duty certification procedure (WHDC) was held on 26 May 1999, under the chairmanship of Mr. C. Havenith (Netherlands). Experts from the following countries and organizations participated in the work: Czech Republic; Denmark; Finland; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Romania; Russian Federation; Slovenia; Spain; Sweden; Switzerland; United Kingdom; United States of America; European Community (EC); International Touring Alliance/International Automobile Federation (AIT/FIA); International Organization of Motor Vehicle Manufacturers (OICA); Automobile Emissions Control by Catalysts (AECC/CEFIC). A summary of the proceedings of this informal meeting is given below (paras. 4 to 13).

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

(a) Development of the emission testing procedure

4. The Chairman of the WHDC group informed GRPE that the minutes of the sixth WHDC meeting (Tokyo, 15 April 1999, TRANS/WP.29/GRPE/37, para. 7) had been approved by the WHDC group. After that he reported orally on the results of the seventh meeting of WHDC held on 26 May 1999.

5. The WHDC group Chairman thanked the Japanese Ministry of Transport (MOT) and the Japan Automobile Research Institute (JARI) for the fruitful cooperation and for the hospitality shown during the Tokyo meeting (see para. 4 above). He informed GRPE that JARI had presented an interim report on the "Development of Representative Driving Cycles for World-Wide Heavy-Duty Engine Test Cycle" which would allow the experts to compare the results with those achieved by research carried out by TNO and TÜV (see para. 6 below).

6. He said that an interim report on the "Development of a World-wide Heavy-duty Engine Test Cycle" had been presented by the experts from TNO (The Netherlands) and TÜV (Germany). In particular he pointed out that the collection of in-use driving data and of statistical information on heavy-duty vehicles had not been completed so far. He informed GRPE that at present no final decision had been taken about the choice of the cycle (mode, transient or perhaps a combination of both) and that a validation programme would be needed as a further step in WHDC work.

7. The WHDC Chairman noted that particular attention would be paid by the group to making the future test procedure safe against cycle by-passing. In this respect, he considered the document entitled "Cycle-by-Pass Prevention Approach", which had been presented by the expert from OICA, as a good basis for future developments of this subject. He also invited the experts from OICA who had experiences in cycle by-passing detection, to

cooperate with WHDC.

8. Recalling the political agreement reached in December 1998 in the EU Council on a draft proposal for a European Parliament and Council Directive on heavy-duty vehicle emissions, amending Directive 88/77/EEC, the Chairman of WHDC confirmed that WHDC should consider in its future work subjects concerning on board-diagnostics (OBD), durability and after-treatment systems and that the group should also aim towards environmental and economic benefits.

9. The proposal made by the expert from the United States of America to organize in the autumn in his country a workshop about WHDC was appreciated by WHDC members.

10. The Chairman of WHDC group concluded his introduction by saying that the group had made positive progress and that further efforts would be needed in order to complete the project in a timely way. He also said that a WHDC position paper would be sent to the experts by the middle of June 1999.

11. The WHDC group had also received the progress report by the Chairman of the "ISO Activities" sub-group, Mr. H.J. Stein (OICA). For both ISO Working Groups (ISO TC 22/SC5/WG2 on Exhaust Emission Measurement and ISO TC 22/SC5/WG9 on Engine Family), he had provided summaries of the meetings held so far and confirmed the wide international cooperation. He explained that, in WG 2, the first correlation study had started at EMPA (Switzerland) and that the first results concerning parameter study had been made available. It was agreed that beyond the European cycles ESC and ETC, the correlation exercise would include the United States transient cycle (FTP) and the Japanese 13-mode cycle (JAP) and would also be conducted with engines equipped with a particulate trap. In addition WHDC was informed that a correlation study would be conducted by EPA (United States of America) and that the ETC and ESC cycles would also be tested in order to ensure a better comparison of the test results of the different work programmes. With regard to WG9, the expert from OICA said that a new working draft had been established and should be submitted to TC22/SC5 for approval in June 1999.

12. The expert from the United States of America confirmed the active participation of his country in the ISO Activities subgroup whilst he acknowledged the opportunity to continue his participation in WHDC and the Fundamental Elements sub-group as an observer. He also said that in his view the technology for measuring particulate emissions would need to be reviewed and expressed the intention to report on possible progress in this field at the next meeting.

13. GRPE noted the progress report of the WHDC group and agreed that the next meeting of this group should be held on 12 January 1999, the second day of the thirty-ninth GRPE session (see para. 72 below).

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

14. The expert from the European Commission informed GRPE that on 24 April 1999, the EU Council had adopted its common position on the proposal to amend Directive 88/77/EEC, which had been submitted with some amendments by the European Commission to the Council and to the European Parliament (see Official Journal of the EC, No. C 43, of 17 February 1999).

15. He said that the original proposal had been amended by the Commission in order to introduce emission limits applicable to a class of vehicles known as "Enhanced Environmentally Friendly Vehicles" (EEV) as permissive emission target values. He also informed GRPE that the EEV approved engine would be identified by a label and that the amended proposal would contain prescriptions for alternative fuels (ethanol), in addition to those concerning LPG and CNG (TRANS/WP.29/GRPE/37, paras. 18 to 20.)

16. With regard to emission limits, to be applied from October 2005, the expert from the European Commission informed GRPE that the EU Council had agreed on a mandatory stage that sets stringent particulate limits of 0.02 g/kWh for engines tested under the ESC cycle and of 0.03 g/kWh for engines tested in the ETC cycle. From 2008, the NO_x limits should be lowered to 2 g/kWh.

17. In concluding his presentation, he estimated that the European Parliament could complete a second reading of the proposal by the end of September 1999 and that more stringent limit values for particulate and NO_x could be required by the EP. In this case a conciliation between the Council and the European Parliament might be necessary.

18. In view of the above information, GRPE agreed that Regulation No. 49 would need to be amended in line with the EC Directive (88/77/EEC) amendment proposal as soon as the latter was approved.

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

Documentation: informal document No. 11 of annex 1 to this report.

19. The expert from France gave a brief presentation of the proposal for the draft 05 series of amendments to Regulation No. 83 (informal document No. 11) which was aimed to align its prescriptions to those contained in the corresponding EC Directive 98/69/EC.

20. He said that the proposal had been drafted as a consolidated text including prescriptions applicable from the year 2000 (EURO 3) and from 2005 (EURO 4) and that transitional provisions had been introduced.

21. The Chairman of GRPE thanked the expert from France for preparing the proposal and invited the experts to forward any comments to the French expert as soon as possible in order to make the draft proposal available for the next session of GRPE.

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.

22. The secretariat informed GRPE that, during the one-hundred-and-seventeenth session of WP.29, the proposal for a draft Regulation could not be submitted to the vote of AC.1 because the EC representative had not yet received the authorization to vote (TRANS/WP.29/663, paras. 7 and 88). The Chairman expressed the wish that EC would be prepared to vote during the next

AC.1 session in June 1999.

23. 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 June 1999. 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.

24. The expert from Italy introduced his proposal and confirmed that it had been revised following the suggestions received during the previous session of GRPE (TRANS/WP.29/GRPE/37, paras. 29 to 33). He also said that the "engine family" definition had been aligned to that of the corresponding EC Directive so that type approvals of LPG and CNG retrofit systems could be granted.

25. The expert from France entered a reservation on the proposal since he believed that it should be completed with additional prescriptions which would ensure that a retrofitted vehicle would continue to be in conformity with the type-approved prototype with particular regard to power, emissions, fuel consumption and On Board-Diagnostic (OBD) requirements. Furthermore, he said that because of the the wide definition of "family" it would be difficult to determine some technical parameters which are necessary for fiscal reasons in his country.

26. The experts from the United Kingdom and Germany shared the position of the expert from France and suggested that some tests would be needed in order to verify the compliance of retrofitted vehicles to the Conformity of Production (COP) limit emissions, before adopting the proposal.

27. The experts from the Netherlands and Poland supported the proposal by Italy and noted that a large majority of vehicles fuelled with LPG or CNG are retrofitted vehicles which should not be discriminated with respect to those originally fitted with LPG or CNG equipment. A similar position was taken by the experts from AEGPL and ENGVA, who recalled that the proposal had been discussed for a long time and needed to be adopted as soon as possible.

28. The expert from Italy recalled that previous experiences had proved that LPG and CNG retrofitted vehicles had reduced emissions compared to those produced by the same type of vehicle fuelled with petrol or diesel, and said that in his view the OBD function (which would be required for LPG and CNG vehicles from 2003) would not be affected by the installation of the retrofit equipment. He pointed out that it was necessary to encourage the marketing of retrofitted vehicles since they represented more than 95 per cent of the entire LPG/CNG fleet and made therefore possible the development of a network of refilling stations, which should also serve future vehicles, originally built for LPG or CNG. He also regretted that his proposal could not be adopted although a basic technical agreement had been found during the previous GRPE session. However, he expressed the intention to present a new document at the next GRPE session which would take account also of some editorial comments raised by the expert from Poland.

29. The Chairman of GRPE noted the importance of the subject from the point of view of safety and gaseous emissions and said that a consensus within GRPE

should be sought. Therefore he invited the experts, who had raised objections, to cooperate with the experts from Italy, AEGPL and ENGVA in order to find an agreement as soon as possible.

30. GRPE agreed to resume consideration of the proposal at its next session.

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

Documentation: Informal documents Nos. 8 and 9 of annex 1 to this report.

31. The proposal for editorial corrections to Regulation No. 67, presented by the experts from France (informal document No. 8), Italy (informal document No. 12) and AEGPL (received during the session) was adopted by GRPE (see annex 2). The secretariat was requested to produce an official document to be submitted to the Working Party and to the Administrative Committee AC.1 for consideration at its thirteenth session (November 1999) as Corrigendum to the Regulation.

32. GRPE also agreed on the proposal made by the expert from the Netherlands to change the title of "Supplement 2 to 00 series of amendments" into the "01 series of amendments". In this respect, the Chairman suggested that a proposal for a Corrigendum to Regulation No. 67 should be submitted to the Working Party and to the Administrative Committee AC.1 for consideration at its twelfth session (June 1999). He also invited the expert from Italy, who suggested that transitional provisions would be needed, to submit them to WP.29.

33. The expert from France informed GRPE that in his country the explosion of a vehicle fuelled with LPG, as a consequence of fire, had caused serious injuries to some firemen who had not been informed about the presence of LPG, and raised concern about the safety of LPG equipment. In this respect, he said that some tests had been carried out on tanks equipped with several safety devices in order to assess their behaviour when on fire. He concluded by saying that he would present more information at the next session and suggested that GRPE should ask the advice of people concerned about safety (e.g. firemen) before taking further decisions.

34. The expert from AEGPL confirmed that 40 tests had been carried out in France (see para. 33 above) and that results had shown the need to install a temperature triggered pressure relief device, intended to avoid tank explosions in fires. She reminded GRPE that the use of such device had been proposed by the expert from Italy, following the results of fire tests carried out in his country in 1998 (TRANS/WP.29/GRPE/37, para. 23) and introduced in Regulation No. 67. She also expressed the intention to present an additional proposal at the next GRPE, on the basis of results of work within CEN TC 286.

REGULATION No. 103 (Replacement catalytic converters)

Documentation: TRANS/WP.29/GRPE/1999/10.

35. The expert from Poland recalled his proposal to amend Regulation No. 103, and explained that, as an alternative to the measurement of back-pressure, as specified in Regulation No. 59, the verification of the vehicle performance could be made by measuring on a chassis dynamometer at the maximum power. In such test, the value determined under reference atmospheric conditions with the replacement catalytic converter should not be lower by more than 3 per cent than that determined with the original equipment

catalytic converter. He said that this proposal would avoid time-consuming preparation of a vehicle for measurement of the back-pressure and would be useful for those vehicles which did not meet the requirements for the measurement point laid down in Regulation No. 59, Annex 4.

36. The expert from France supported the proposal but suggested to adopt a value of 5 per cent instead of 3 per cent (see para. 35 above).

37. GRPE adopted the proposal with the amendment proposed by the expert from France and asked the secretariat to produce an official document to be submitted to the Working Party and to the Administrative Committee AC.1 for consideration at its thirteenth session (November 1999) as a Supplement 1 to the Regulation.

PERSPECTIVES IN TRANSPORT AND THE ENVIRONMENT

(a) Technical requirements on vehicles after the year 2000

38. The expert from the European Commission briefly recalled that for passenger cars and light duty vehicles new emission limits and technical requirements had been set for the years 2000 and 2005 by Directive 98/69/EC, published in the Official Journal of the EC, No. L 350, of 28 December 1998 (TRANS/WP.29/GRPE/37, paras. 34 to 41). He also said that the Commission would, in the framework of the Auto-Oil II programme, address some technical issues and make specific proposals, by the end of 1999, concerning the extension of the cold start test to vehicles of classes II and III, and the OBD to vehicles not yet covered by those prescriptions. He also added that an improvement of roadworthiness testing, durability testing and fuel quality standards would be sought.

39. With regard to heavy-duty vehicles, the expert from the European Commission informed GRPE that a proposal concerning the introduction of OBD and durability requirements would be put forward at the end of 1999, based on the results of its Auto-Oil II programme, and taking into account progress in the discussions towards a world harmonized test cycle.

40. The expert from the European Commission 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.

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

(b) Reduction of carbon dioxide emissions and fuel consumption

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

42. The expert from OICA presented a report on the "Reduction of Carbon Dioxide Emissions and Fuel Consumption", which had been transmitted by the European Conference of Ministers of Transport (ECMT) to the Council of Ministers for their approval during the Warsaw Session.

43. He explained that the aim of the document was to request Ministers to agree to continue monitoring CO₂ emissions of new passenger cars under the Joint Declaration with Industry (signed in 1995) and to report in 2000, and if

necessary in 2001, on some of the policy issues arising from the monitoring of new passenger vehicles and on issues related to emissions of vehicle in use. He also drew the attention of GRPE to the recent trends, which had shown that the average fuel consumption of new cars in the 15 European markets had been reduced from 187 g/km in 1995 to 183 g/km in 1997 and that the recent agreement between the European Commission and the European Manufacturers Association (ACEA) would permit to achieve further CO₂ reduction emission for all new cars sold in EU (see para. 44 below).

44. The expert from the EC confirmed that an agreement to reduce the average CO₂ emission value to 140 g/km by 2008, representing a 25 per cent CO₂ emission reduction with respect to the 1995 level, had been reached between the EC and ACEA and that a further reduction to 120 g/km should be achieved by 2012 (see Commission Recommendation of 5 February 1999 on the reduction of CO₂ emissions from passenger cars, published in the Official Journal of the EC, No. L 40 of 13 February 1999). He noted that a negotiation between EU and Japan was under way, in order to achieve the same target values.

45. The expert from the United States of America reported that in his country, large vehicles (trucks, vans etc.) would be particularly addressed by CO₂ emission reduction. He also mentioned the Corporate Average Fuel Economy (CAFE) programme which established fuel economy values required by law and was used to determine whether manufacturers meet fuel economy standards. He expressed the intention to present further information at the next session of GRPE.

46. Recalling the presentation given during the previous session (TRANS/WP.29/GRPE/37, para. 45), concerning actions taken by his country in order to improve automobile energy consumption efficiency, the expert from Japan said that some of the target values proposed had been revised.

EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS ON EMISSIONS

Documentation: Informal documents Nos. 6 and 7 of the annex 1 to this report.

47. The expert from the European Commission gave some updated information regarding his presentation given during the previous GRPE session (TRANS/WP.29/GRPE/37, para. 46), concerning emissions of passenger cars and light duty vehicles, the political agreement reached within the Council on the heavy-duty vehicle draft Directive and fuel quality.

48. The expert from the United States of America gave a presentation of the actions taken in his country to reduce emissions (informal document No. 6). He said that the Environmental Protection Agency (EPA) was proposing a program 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 77 per cent cleaner than those produced today, since they should not emit more than 0.07 g/miles of NO_x. He added that a low-sulphur petrol was needed to effectively reduce pollution and that, with regard to heavy duty vehicles, a reduction of 60 per cent of emissions would also be required.

49. The expert from the United States of America also informed GRPE that EPA was considering setting new quality requirements for diesel fuel to enable the use of a new generation of emission control technologies for diesel engines (informal document No. 7). He pointed out that the new requirements would

provide large reductions in the emissions of pollutants that contributed to the harmful effects of ozone and particulate matter.

OTHER BUSINESS

(a) Replacement catalytic converters for vehicles with OBD

50. The expert from the European Commission said 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 an ad hoc working group had been organized, with the aim of preparing a draft proposal, which should require replacement parts (including catalytic converters) to work properly with OBD.

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

(b) Particulate emissions

52. The Chairman of the informal meeting on particulate emissions (see para. 2. above) informed GRPE that, during the meeting, a number of presentations and reports on developments in the field of particulate emissions from road vehicles were made. In particular, he mentioned a presentation concerning the development of an SCR deNO_x system based upon a urea/ammonia reductant, which had demonstrated the practical issues to be overcome with such systems including future developments and discussions on the experiences from field trials with several heavy-duty vehicles.

53. He also informed GRPE that a deNO_x-SCR system using ammonium carbonate had also been explored in a further presentation and that an overview of particulate traps and other currently available technologies had been given. He said that development work on combining the SCR system with a CRT particulate trap (the so-called SCRT system) was under way and that the group was particularly interested in this aspect given the recent agreements in the European Union for very low NO_x emissions from 2008.

54. With regard to particulate emissions, a presentation of results of a European Commission DG XI funded research project was given, and updated on progress with national (United Kingdom and United States of America) research programmes. Further information concerning the health effects risk assessment was given by the expert from Germany. In conclusion, the Chairman of the informal group indicated that the group had a very productive session and had identified a full agenda for its next meeting in January 2000.

55. The Chairman of GRPE judged positively the results of the discussion and said that when final research results would be available, GRPE would consider possible proposals to regulate this matter. GRPE agreed that the informal discussion of particulate emissions should be resumed during the thirty-ninth session.

(c) Evolution of fuel quality

Documentation: Informal documents Nos. 3 and 4 of annex 1 to this report.

56. The expert from the OICA introduced the "World-Wide Fuel Charter" (informal document No. 3), which had been established by automobile and engine

manufacturers in Europe, United States of America and Japan, with the support of automobile manufacturers associations in Canada, China, Korea and South Africa. He said that the purpose of this charter was to develop world-wide harmonized recommendations for fuel quality and that the following three categories were proposed for unleaded petrol as well as for diesel fuel:

- (i) Category I, concerning fuels available on the markets without or with minimal requirements for emission controls;
- (ii) Category II, concerning fuels available on the markets with stringent requirements for emission controls (e.g. US Tiers 0 or Tiers 1, EURO 1 and 2);
- (iii) Category 3 corresponding to fuels available on the markets with advanced requirements for emission controls (e.g. EURO 3/4, US California LEV).

He said that, due to the advanced technologies explored worldwide, the first step document would be revised to reflect future development of engine and emission control technologies and evolution within the oil refining industry.

57. The expert from OICA also pointed out that the use of good quality fuels was essential for engines designed according to the latest technology development and recommended GRPE and WP.29 to consider the possibility that fuel requirements could be covered by the 1958 Agreement (informal document No. 4).

58. The expert from the United States of America informed GRPE about two initiatives undertaken in his country to improve fuel quality. He said that EPA had proposed an average sulfur level for petrol of 30 ppm by 2004 (see para. 48 above) and that a better diesel quality would be required (see para. 49 above).

59. The Chairman of GRPE thanked the experts from OICA and the United States of America for their presentations and noted that GRPE had no mandate to regulate fuel quality and that, in addition, no experts from the fuel industry participated in the work. However, given the importance of the subject, GRPE agreed to resume consideration of this matter at its next session.

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

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

60. The expert from the Netherlands introduced informal document No. 1 concerning a proposal to develop a world-wide motorcycle emission test cycle (WMTC). He said that the present cycles had been developed many years ago and changes in the pattern of current traffic, as well as a necessity of air quality improvement, made it necessary to examine whether or not these cycles were still appropriate. He added that any review of the test cycles should aim at global harmonization and suggested that GRPE should include this subject in its future working programme. Finally, he concluded by explaining the proposed approach and its main stages.

61. The expert from Germany informed GRPE that research was being carried out in his country, by TUV, in order to develop in the short-term a revision of the existing test cycle (ECE Regulations Nos. 40 and 47), which should in principle address extra-urban driving behaviour. He added that the results should be presented at the EC Motor Vehicle Emission Group (MVEG) and made

available for the next GRPE session.

62 The proposal made by the expert from the Netherlands was supported by the expert from Italy who deemed it wise, after the adoption of the 1998 Agreement (Global Agreement), to begin with a world-wide approach of the subject.

63. The expert from the United Kingdom said that, in his view, the subject should not be given a high priority and expressed some doubts about the non-representativeness of the present test cycle. The expert from the United States of America said that in his country there was no need to revise the present regulation (LA4 test cycle). However, the expert from Japan informed GRPE that his administration was considering the definition of a new test cycle.

64. 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 a research which was currently being carried out, should be presented soon by the Commission, and submitted to the European Parliament and to the Council.

65. The Chairman noted the different approaches suggested by the experts from the Netherlands and Germany to deal with the subject and suggested, in the absence of clear support by a majority towards any proposal, to await the decision that the European Commission would take with regard to the choice of either a world-wide approach or the revision of the existing EC cycle, before asking WP.29 for an official mandate for GRPE to consider the matter at future meetings.

(e) Regulation No. 96 (Emissions of agricultural and forestry tractors)

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

66. The expert from OICA, speaking on behalf of 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.

67. The expert from the European Commission noted 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 should be adopted by the EU Council by the end of the year.

68. GRPE noted that WP.29 should have the competence to decide whether the scope of Regulation No. 96 could be extended to non-road machinery engines. In this respect, the expert from the United States of America recalled that the ECE Inland Transport Committee had agreed at its sixtieth session (12 to 16 January 1998) for the purpose of the 1998 Agreement to extend the mandate of WP.29 to consider the non-road applications of engines and components.

69. Subject to the decision taken by WP.29 at its coming session (June 1999), GRPE agreed to consider in detail the proposal by EUROMOT at its next meeting and requested the expert from EUROMOT to provide the Secretariat with a detailed proposal, including transitional provisions which would take into account the decision adopted by the European Union (see para. 67 above).
Note by the secretariat : During its one-hundred-and-eighteenth session, WP.29 supported the intention to extend the scope of Regulation No. 96 to engines used in non-road machinery and requested GRPE to propose a suitable solution.

(f) Regulation No. 100 (Approval of battery electric vehicles)

Documentation: Informal document No. 9 of the annex 1 to this report.

70. The expert from France introduced 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. 9). She pointed out 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. In addition, a maximum recharge time with a recharger showing a failure had been required in the proposal. She concluded the presentation by inviting all the experts to provide her with comments and, if necessary, to meet together in order to agree on an official proposal for consideration at the next GRPE session.

71. GRPE agreed to resume consideration of this matter at its next session.

AGENDA FOR THE NEXT SESSION

72. For the thirty-ninth session, planned to be held at Geneva from Tuesday 11 January (14.30 h) to Friday 14 January (12.30 h) 2000, GRPE agreed to continue with the scheme of two separate informal meetings incorporated in the agenda which would be provided with interpretation services:

(a) Informal meeting on particulate emissions

To be held at Geneva, on Tuesday 11 January 2000 (14.30 h to 17.30 h), with the discussion focusing on:

1. The exchange of information in the field of particulate matter emissions
2. Preparation of the seminar (see para. 66. above).

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

To be held at Geneva, on Wednesday 12 January 2000 (9.30 h to 12.30 h). The agenda of the session will be prepared and distributed to the WHDC members prior to the meeting.

(c) Thirty-ninth session of GRPE proper

To be held at Geneva, from Wednesday 12 January (14.30 h) to Friday 14 January (12.30 h) 2000. 2/ The following agenda was agreed:

1. Regulation No. 49 (Emissions of C.I., N.G., 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

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.

- 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. Perspectives in transport and the environment
 - 6.1. Technical requirements on vehicles after the year 2000
 - 6.2. Reduction of carbon dioxide emissions and fuel consumption
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 test cycle (WMTC)

3/ Delegations are invited to submit brief 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.	Netherlands	7.4	E	Development of a World-Wide Motorcycle Test Cycle (WMTC)
2.	Euromot	7.5.	E	Proposal for Draft Amendments to Regulation No. 96
3.	OICA	7.3.	E	Evolution of Fuel Quality: World-Wide Fuel Charter
4.	OICA	7.3.	E	Necessary World-Wide Improvement in Fuel Quality
5.	OICA	5.2.	E	Reduction of Carbon Dioxide Emissions and Fuel Consumption
6.	United States of America	6.	E	Regulatory Announcement - Proposed "Tier 2" Emission Standards for Vehicles and Gasoline Sulphur Standards for Refineries
7.	United States of America	6.	E	Regulatory Announcement - Diesel Fuel Quality : Advance Notice of Proposed Rulemaking
8.	Italy	7.6.	E	Proposal for Corrigendum to Regulation No. 67/01
9.	France	7.7.	F	Proposal for Draft Amendments to Regulation No. 100
10.	ISO	3.1.	E	ISO Standards Concerning NGV System Components
11.	France United Kingdom	2.	E	Proposal for Draft 05 Series of Amendments to Regulation No. 83
12.	France	7.6.	E	Proposal for Draft Supplement 2 to Regulation No. 67

Annex 2

DRAFT CORRIGENDUM 2 TO SUPPLEMENT 2 TO REGULATION No. 67
(Equipment for liquefied petroleum gas)

Paragraph 2.2., add a new item to read:

"..... ,
(q) pressure relief device; "

Paragraph 6.3.7., amend to read:

"6.3.7. The accessories mentioned in paragraphs 6.3.1 to 6.3.6. above shall be type-approved pursuant to the provisions laid down in :

- Annex 3 to this Regulation for accessories mentioned in paragraphs 6.3.1., 6.3.2., 6.3.3. and 6.3.6.,
- Annex 4 to this Regulation for accessories mentioned in paragraph 6.3.4.,
- Annex 7 to this Regulation for accessories mentioned in paragraphs in 6.3.5."

Paragraphs 6.4.- 6.13., amend to read:

"6.14 - 6.14.

6.14.	Pressure relief device	3
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..... . "

Paragraph 6.14., (former) renumber as paragraph 6.15.

Paragraph 6.15.8.3., amend to read:

".....
..... $Q \geq 10.66 \cdot A^{0.82}$
..... air pressure of 100 kPa and at temperature.....
..... ."

Paragraph 6.15.8.4., amend to read:

"..... 2,600 kPa."

Paragraph 6.15.8.6., amend to read:

" $Q \geq 2.73 \cdot A$
.....

The flow test must be carried out at an upstream air pressure of 200 kPa absolute, and at temperature of 15°C .

The flow test results must be corrected to standard conditions:
air pressure of 100 kPa absolute, and at temperature of 15 °C."

Annex 11, paragraph 2.3., (French text only), delete the figure "3000 kPa".

Annex 15, paragraph 10.5.1., amend read:

".....
.....at a rate exceeding 0.5 l/min.
..... ."

General amendment (French text only):

Replace throughout the text the temperature symbol "C" with "°C".
