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Report of the Working Party on Pollution and Energy (GRPE) on its eighty-second session

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I. Attendance

1. The Working Party on Pollution and Energy (GRPE) held its eighty-second session from 12 to 15 January 2021, with André Rijnders (Netherlands) as Chair and Duncan Kay (United Kingdom of Great Britain and Northern Ireland) as Vice-Chair. Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690, as amended): Australia, Austria, Canada, China, Czech Republic, France, Germany, Hungary, India, Israel, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Romania, Russian Federation, San Marino, South Africa, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland (UK), United States of America and Viet Nam. Experts from the European Commission (EC) also participated. Experts from the following non-governmental organizations (NGOs) took part in the session: American Automotive Policy Council (AAPC), Association for Emissions Control by Catalyst (AECC), European Association of Automobile Suppliers (CLEPA/MEMA/JAPIA), European Association of Internal Combustion Engine Manufacturers (EUROMOT), European Garage Equipment Association (EGEA), Fahrzeugsystemdaten GmbH (FSD), Fédération Internationale de l'Automobile (FIA), Federation of European Manufacturers of Friction Materials (FEMFM), International Association for Natural Gas Vehicles (NGV Global), International Motorcycle Manufacturers Association (IMMA), International Motor Vehicle Inspection Committee (CITA), International Organization of Motor Vehicle Manufacturers (OICA), International Road Transport Union (IRU), and Liquid Gas Europe.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRPE/2021/1
Informal documents GRPE-82-01-Rev.1, GRPE-82-02-Rev.3,
GRPE-82-03-Rev.2 and GRPE-82-05

2. Mr. Rijnders, Chair of GRPE, opened the meeting, held as hybrid session, with all participants attending virtually because of the sanitary situation, and welcomed the participants. GRPE adopted the provisional agenda of the eighty-second session (ECE/TRANS/WP.29/GRPE/2021/1), as updated and consolidated in GRPE-82-02-Rev.3, and GRPE-82-03-Rev.2 as a tentative running order. GRPE took note of GRPE-82-01-Rev.1 on the organization of GRPE Informal Working Group (IWG) meetings held during the weeks prior to this meeting.

3. The informal documents distributed before and during the GRPE session are listed in Annex I. Annex II lists the informal meetings held in conjunction with this GRPE session. Annex III lists IWGs of GRPE, task forces and subgroups, giving details on their Chairs, Secretaries and the end of their mandates.

4. The secretariat introduced GRPE-82-05, announcing that the next GRPE session would tentatively take place on from 1 to 4 June 2021 and recalling the corresponding deadline (9 March 2021) for the submission of official documents. The Chairs and Secretaries of IWGs were invited to approach the secretariat to define the calendar of IWGs meetings in conjunction with the June 2021 GRPE session.

III. Report on the last session of the World Forum for Harmonization of Vehicle Regulations (WP.29) (agenda item 2)

Documentation: ECE/TRANS/WP.29/1153 and ECE/TRANS/WP.29/1155, as amended
Informal documents GRPE-82-04

5. The secretariat introduced GRPE-82-04 and reported on relevant items discussed during the 181st and 182nd sessions of the World Forum for Harmonization of Vehicle

Regulations (WP.29). He referred to ECE/TRANS/WP.29/1153 and ECE/TRANS/WP.29/1155, as amended, for further details.

IV. Light vehicles (agenda item 3)

A. UN Regulations Nos. 68 (Measurement of the maximum speed, including electric vehicles), 83 (Emissions of M₁ and N₁ vehicles), 101 (CO₂ emissions/fuel consumption), 103 (Replacement pollution control devices) and [154] (Worldwide Light duty Test Procedure (WLTP))

Documentation: ECE/TRANS/WP.29/GRPE/2021/2,
ECE/TRANS/WP.29/GRPE/2021/3,
ECE/TRANS/WP.29/GRPE/2021/4,
ECE/TRANS/WP.29/GRPE/2021/5,
(ECE/TRANS/WP.29/2021/56),
(ECE/TRANS/WP.29/2021/57),
Informal documents GRPE-82-07, GRPE-82-08, GRPE-82-10,
GRPE-82-11, GRPE-82-17, GRPE-82-18, GRPE-82-19, GRPE-82-20, GRPE-82-21, GRPE-82-37 and GRPE-82-38

6. The representative from OICA introduced ECE/TRANS/WP.29/GRPE/2021/2 extending the existing option included in the 06 and 07 into the 05 series of amendments to UN Regulation No. 83 allowing the calculation of road load values from those determined according to UN GTR No.15 (WLTP). The representative from Australia raised the point that the modifications made in the 06 and 07 series referred to UN Regulation No. 154 without specifying the level nor the series of amendments that apply, potentially risking the ability to approve vehicles that have a maximum speed below 130 km/h. GRPE noted that when NEDC road loads are calculated from WLTP road loads for use in UN Regulations Nos. 83 or 101, the maximum speed of the derivation tests must be sufficient for both the NEDC and for the specific vehicle.

7. The representatives from the Netherlands and CITA supported the proposal. GRPE endorsed the proposal to amend the 05 series of amendments to UN Regulation No. 83.

8. GRPE requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/2 to WP.29 and AC.1 for consideration and vote at their June 2021 sessions as draft Supplement 14 to the 05 series of amendments to UN Regulation No. 83.

9. The representative from OICA introduced ECE/TRANS/WP.29/GRPE/2021/3 and ECE/TRANS/WP.29/GRPE/2021/5 correcting errors in the 06 and 07 series of amendments to UN Regulation No. 83. GRPE endorsed the proposals to amend the 06 and 07 series of amendments to UN Regulation No. 83.

10. GRPE requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/3 to WP.29 and AC.1 for consideration and vote at their June 2021 sessions as draft Supplement 16 to the 06 series of amendments to UN Regulation No. 83.

11. GRPE requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/3 and ECE/TRANS/WP.29/GRPE/2021/5 to WP.29 and AC.1 for consideration and vote at their June 2021 sessions as draft Supplement 13 to the 07 series of amendments to UN Regulation No. 83.

12. The representative from OICA introduced ECE/TRANS/WP.29/GRPE/2021/4 as amended by GRPE-82-17 proposing to correct errors in the 01 series of amendments to UN Regulation No. 101.

13. The representative from the European Commission (EC) requested a clarification about the possibility to submit those proposals as corrigendum instead of supplements. The secretariat clarified that a corrigendum is a document issued to correct an error or errors in a document or publication that has already been issued. He further added that the errors to be corrected were present in the documents issued and can therefore not be considered as corrigendum.

14. GRPE endorsed the proposals to amend the 01 series of amendments to UN Regulation No. 101 and requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/4 and GRPE-82-17, as amended by Annex IV to WP.29 and AC.1 for consideration and vote at their June 2021 sessions as draft Supplement 10 to the 01 series of amendments to UN Regulation No. 101.

15. The representative from OICA introduced GRPE-82-07 proposing to amend the 06 and 07 series of amendments to UN Regulation No. 83 regarding equivalencies with respect to road load coefficients determination. The representative from Spain asked whether the sub paragraph (2) could be rephrased and clarified. The representative from OICA agreed and intended to prepare a working document for the next session of GRPE in June 2021.

16. The representative from OICA introduced GRPE-82-08 proposing to amend the 05 and 06 series of amendments to UN Regulation No. 83 with respect to fuel specification alternatives for Type IV tests. The Chair of the IWG on Particle Measurement Programme (PMP) supported the proposal and agreed that testing with E10 fuel indeed represented a worst case scenario. The representative from OICA agreed and intended to prepare a working document for the next session of GRPE.

17. The representative from EC briefly introduced ECE/TRANS/WP.29/2021/56 and ECE/TRANS/WP.29/2021/57 (together with GRPE-82-10 and GRPE-82-11 as track changes version respectively) that were submitted to the March 2021 session of WP.29 from the representatives from EU and Japan as amendments to UN Regulation No. 154. Both documents proposed changes to correct some mistakes found during the development of Amendment 6 to UN GTR No. 15. GRPE noted the amendments proposals and thanked the Contracting Parties (CPs) involved in the preparation of these documents.

18. The representative from OICA introduced GRPE-82-19 and GRPE-82-37 as a document for reference only and to clarify some provisions in UN Regulation No. 154. The representative from the EC introduced GRPE-82-38 proposing amendments to GRPE-82-37. The representatives from France, Germany, the Netherlands and Sweden supported the proposal from the EC. The representative from Japan supported the proposal and highlighted that some more discussions would be needed to include those clarifications in UN Regulation No. 154 at forthcoming sessions of GRPE. The Chair and the representative from Japan regretted that the IWG on WLTP was no longer operating to facilitate amendment proposals to regulatory texts related to WLTP. The Chair expressed his willingness to re-open activities for the IWG on WLTP as soon as resources become available.

19. GRPE endorsed GRPE-82-38 and requested the secretariat to upload a clean version of GRPE-82-38 under "Documents for reference only" on the GRPE website.

20. The representative from OICA introduced GRPE-82-20 and GRPE-82-21 proposing to amend UN Regulation No. 101 to include a Shortened Test Procedure NEDC for PEVs. The representative from the EC required more time for internal discussions before expressing a position on this proposal. The representative from OICA expected to introduce this proposal as a working document in the next session of GRPE in June 2021.

B. UN Global Technical Regulations Nos. 15 on Worldwide harmonized Light vehicles Test Procedures (WLTP) and 19 (Evaporative emission test procedure for the Worldwide harmonized Light vehicle Test Procedures (WLTP EVAP))

21. GRPE had not received any new proposals for discussion under this agenda item.

C. Worldwide harmonized Real Driving Emissions (RDE) test procedure

Documentation: Informal documents GRPE-82-14 and GRPE-82-15

22. The Chair of the IWG on RDE introduced the status report of the IWG (GRPE-82-14), informing GRPE on the latest activities from the IWG. She informed that the expected vote from WP.29/AC.1 on a proposal for a new UN Regulation on RDE as adopted by GRPE during its June 2020 session (ECE/TRANS/WP.29/GRPE/81, para. 20.) could not be held

because of remaining square brackets that could not be removed due to on-going discussions in the European Union. She did not expect the situation to be solved for the next session of WP.29 in March 2021.

23. She highlighted that the IWG on RDE was considering focussing on the development of the phase 2 of the UN GTR with an improved methodology to represent as much as possible wider conditions of use. She confirmed the interest of the representatives from the United States of America, EU, Japan, China, Canada, India, Republic of Korea and possibly Australia in this development.

24. The representative from the UK and the United States of America supported the approach and agreed with the way forward. The representative from Australia also wished to confirm his interest in participating to the future development steps for the UN GTR.

25. The Chair requested further clarifications about a revision of the authorization to develop the UN GTR on RDE as the IWG now seemed to be considered a new direction for the work. The Chair of the IWG on RDE underlined further discussions would be needed to formalize a revision to the authorization to develop a new UN GTR on RDE and was expecting to update GRPE at its next session in June 2021.

V. Heavy duty vehicles (agenda item 4)

A. UN Regulations Nos. 49 (Emissions of compression ignition and positive ignition (LPG and CNG) engines) and 132 (Retrofit Emissions Control devices (REC))

Documentation: ECE/TRANS/WP.29/GRPE/2021/6
Informal documents GRPE-82-22, GRPE-82-23 and GRPE-82-24

26. The representative from EC introduced ECE/TRANS/WP.29/GRPE/2021/6 as amended by GRPE-82-22 proposing a new 07 series of amendments to UN Regulation No. 49. The representative from FSD requested clarifications on the proposal to remove provisions related to On-Board Diagnosis (OBD) from the text. The representative from EC said that there have been considerations to remove OBD provisions from UN Regulation No. 49 to align with existing legislation in the EU, but that they were finally kept in. He suggested to look at the opportunity to include such provisions for the whole vehicle, not only for emission related purposes, possibly in UN Regulation No. 0.

27. The Chair asked whether this topic was being discussed at the IWG on International Whole Vehicle Type Approval (IWVTA). The representative from EC stated that this issue had now been identified and needed to be considered by the IWG on IWVTA. The GRPE Ambassador to the IWG on IWVTA agreed to initiate a discussion on the potential to include OBD and Repair and Maintenance Information (RMI) into UN Regulation No. 0.

28. GRPE endorsed the proposals for a new 07 series of amendments to UN Regulation No. 49 and requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/6 and GRPE-82-22, as amended by Addendum 1 to WP.29 and AC.1 for consideration and vote at their June 2021 sessions as draft 07 series of amendments to UN Regulation No. 49.

29. The representative from OICA introduced GRPE-82-23 and GRPE-82-24 proposing some corrections to the 06 and 05 series of amendments to UN Regulation No. 49 respectively. The representative from the EC required further clarifications on the proposal to amend Table 7 that would imply a misalignment with other existing national legislations. GRPE agreed to consider those proposals after further justifications are elaborated by interested stakeholders.

B. UN Global Technical Regulations Nos. 4 (World-wide harmonized Heavy Duty Certification procedure (WHDC)), 5 (World-Wide harmonized Heavy duty On-Board Diagnostic systems (WWH-OBD)) and 10 (Off-Cycle Emissions (OCE))

Documentation: ECE/TRANS/WP.29/GRPE/2021/7
Informal document GRPE-82-09-Rev.1

30. The representative from Japan introduced ECE/TRANS/WP.29/GRPE/2021/7, as amended by GRPE-82-09-Rev.1. The representative from EC highlighted an error that had been omitted, and a correction had been introduced during the meeting in GRPE-82-09-Rev.1.

31. GRPE adopted ECE/TRANS/WP.29/GRPE/2021/7 and GRPE-82-09-Rev.1 as amended by Addendum 2 to this report. GRPE also adopted the technical report (based on extracts from ECE/TRANS/WP.29/GRPE/2021/7) as reproduced in Annex V. GRPE requested the secretariat to submit Addendum 2 and Annex V to WP.29 and Executive Committee of the 1998 Agreement (AC.3) for consideration and vote at their June 2021 sessions as draft Amendment 4 to UN GTR No. 4.

C. Worldwide provisions for Heavy Duty vehicles Fuel Economy

32. The representative from OICA stated that activities on this topic remained a priority for the industry and sought guidance from GRPE on how to proceed to initiate activities. The Chair opened the floor for CPs to contribute.

33. The representative from EC stipulated that the position from the EU had not changed since the last time the issue was tackled (ECE/TRANS/WP.29/GRPE/80, paras. 36 and 37). The representative from the US asked whether the intent of this work was to work on CO₂ emissions or fuel economy, as opportunities might emerge in the near future about CO₂ standards heavy duty vehicles in the region. The Chair also highlighted that other regulatory needs were expected to be needed in the near future regarding alternative powertrain for heavy-duty vehicles. He quoted heavy duty hybrids and range determination of electric trucks as examples where harmonized regulatory provisions are becoming urgently needed. He expected GRPE to play an important role in that in the very near future.

VI. UN Regulations Nos. 24 (Visible pollutants, measurement of power of C.I. engines (Diesel smoke)), 85 (Measurement of the net power), 115 (LPG and CNG retrofit systems), 133 (Recyclability of motor vehicles) and 143 (Heavy Duty Dual-Fuel Engine Retrofit Systems (HDDF-ERS)) (agenda item 5)

Documentation: ECE/TRANS/WP.29/GRPE/2021/8,
Informal document GRPE-82-25

34. The expert from OICA introduced ECE/TRANS/WP.29/GRPE/2021/8, as amended by GRPE-82-25, proposing to amend the 03 series of amendments to UN Regulation No. 24. The representative from EC, after checking with other services from the EC in charge of road worthiness tests, supported the proposal also underlining that a deeper review of the test method would be needed, also for light duty vehicles. The representative from the Netherlands supported the proposal and volunteered to be involved in any follow-up activities that might arise. The representative from OICA confirmed that OICA was looking at similar proposals for light duty vehicles that would be submitted for consideration to GRPE in the next sessions.

35. GRPE endorsed the proposal to amend the 03 series of amendments to UN Regulation No. 24 and requested the secretariat to submit ECE/TRANS/WP.29/GRPE/2021/8 and GRPE-82-25, as amended by Annex VI to WP.29 and AC.1 for consideration and vote at

their June 2021 sessions as draft Supplement 6 to the 03 series of amendments to UN Regulation No. 24.

VII. Agricultural and forestry tractors, non-road mobile machinery (agenda item 6)

A. UN Regulations Nos. 96 (Diesel emission (agricultural tractors)) and 120 (Net power of tractors and non-road mobile machinery)

36. GRPE had not received any new proposals for discussion under this agenda item.

B. UN Global Technical Regulation No. 11 (Non-road mobile machinery engines)

37. GRPE had not received any new proposals for discussion under this agenda item.

VIII. Particle Measurement Programme (PMP) (agenda item 7)

Documentation: Informal documents GRPE-82-29-Rev.1, GRPE-82-30 and GRPE-82-35

38. The representative from the EC, Chair of the IWG on PMP, introduced GRPE-82-29-Rev.1 and GRPE-82-30, presenting a draft proposal for sub-23nm measurement procedure for heavy duty engines in the laboratory. He mentioned the intention of the IWG on PMP was to finalize the procedure and submit a document that could be used as a reference document for future use in regulatory texts. After considering different document types during the session, he declared this document would be proposed as a draft consolidated resolution in forthcoming sessions of GRPE.

39. The Chair of the IWG on PMP introduced GRPE-82-35 giving a status report of the activities of the IWG on PMP. On the topic of non-exhaust emissions, he highlighted the main outcomes from the workshop on brake wear emissions that was held in conjunction with the proper session of GRPE. The representative from the EC agreed that, as outlined during the workshop, a holistic vision to non-exhaust emissions from all sources would be the best solution, and that they were backing the first step to develop a methodology concerning specifically brake emissions test. The representative from the UK stated that they were contemplating such holistic vision to non-exhaust emissions with dedicated research projects on-going.

40. The representative from the Netherlands requested further information about timeline of research projects on brake emission measurement and how the outcomes of such projects would be included in the work of the IWG on PMP. The representative from the UK mentioned that on-going research for on-road measurement of brake emissions were expecting to provide results early in 2022, with further results in 2023. The Chair highlighted the importance of considering real-world patterns to ensure high representativity of the test methodology. The Chair of the IWG on PMP explained that the simplified test in the lab contemplated by the IWG on PMP would deliver quicker results, and that further results from other testing approaches could be included at a later stage, with a possibility to alter the methodology and timeline.

41. The Chair asked further information about the inclusion of heavy duty vehicles braking system into the methodology. The Chair of the IWG on PMP confirmed the intention to consider heavy duty braking systems, probably with a priority on urban applications initially. He noted that the methodology for heavy duty vehicles braking systems is likely to be significantly altered compared with light duty applications given the different technologies used in heavy duty braking systems compared with light duty applications.

42. The Chair informed GRPE about discussions that happened during the last WP.29/AC.2 session with respect to the management of intellectual property rights in IWGs.

He informed further discussions are expected that might lead to some specific provisions to be included in the Terms of References of IWGs.

43. Finally, the Chair of the IWG on PMP announced that he will hand over the Chair position for the IWG on PMP at the next GRPE session and requested GRPE to approach the IWG on PMP leadership team for any potential candidate for the position. He underlined that a new Chair would be introduced to GRPE at its next session in June 2021.

IX. Motorcycles and mopeds (agenda item 8)

A. UN Regulations Nos. 40 (Emission of gaseous pollutants by motorcycles) and 47 (Emission of gaseous pollutants of mopeds)

44. GRPE had not received any new proposals for discussion under this agenda item.

B. UN Global Technical Regulations Nos. 2 (World-wide Motorcycle emissions Test Cycle (WMTC)), 17 (Crankcase and evaporative emissions of L-category vehicles) and 18 (On-Board Diagnostic (OBD) systems for L-category vehicles)

45. GRPE had not received any new proposals for discussion under this agenda item.

C. Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles

Documentation: Informal documents GRPE-82-26-Rev.1 and GRPE-82-34

46. The Chair of IWG on EPPR presented a status report (GRPE-82-34). He detailed a draft request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three- wheeled motor vehicles (GRPE-82-26-Rev.1). He also stated that this new UN GTR, once finalized, would also potentially be transposed into a UN Regulation. The secretariat asked whether this transposition would likely amend UN Regulation No. 40 or be included into a new UN Regulation. The Chair of the IWG on EPPR said this point was still being considered.

47. GRPE adopted GRPE-82-26-Rev.1, as amended by Annex VII, and requested the secretariat to submit it to WP.29 and Executive Committee of the 1998 Agreement (AC.3) for consideration and vote at their June 2021 sessions as draft request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three- wheeled motor vehicles.

X. Electric Vehicles and the Environment (EVE) (agenda item 9)

A. UN GTR on the Determination of Electrified Vehicle Power (DEVP)

48. GRPE had not received any new proposals for discussion under this agenda item.

B. UN GTR on In-vehicle Battery Durability

49. GRPE decided this agenda item will be merged with agenda item 9.(a) from the next session of GRPE.

C. Other activities of IWG on EVE

Documentation: Informal documents GRPE-82-27, GRPE-82-33, and GRPE-82-36

50. The Chair of IWG on EVE presented the status report introducing the latest activities of the group (GRPE-82-36). He detailed the latest activities with respect to in-vehicle battery durability and introduced the latest draft of the UN GTR (GRPE-82-27).
51. The Chair congratulated the work accomplished so far and appreciated the ambition and innovative nature of the work done. The representatives from France, Germany, and Sweden supported the work and the status as presented by the Chair of the IWG on EVE and acknowledged the initial timing forecasted might be difficult to meet.
52. The representative from OICA introduced GRPE-82-33 on their position about the current status of the work. The representative from EC congratulated all the parties involved and the big progress made in a very limited time, recalling the common position reached by the Canadian, US and EU delegations. She also recalled the importance of a timely introduction of the draft UN GTR for several stakeholders and thanked the Chair of the IWG on EVE for the accurate presentation of the current status during its status report.
53. The Chair of the IWG on EVE concluded by mentioning the interest from sub-national stakeholders such as the California Air Resources Board (CARB) in such piece of legislation, and the highest priority of the IWG remained to deliver a procedure which is right and timely.

XI. Mutual Resolution No. 2 (M.R.2) (agenda item 10)

Documentation: Informal document GRPE-82-28

54. The representative from OICA introduced GRPE-82-28 presenting differences in definitions between the latest amendment to UN GTR No. 15 and M.R.2. He further outlined different options to solve the issues raised: (a) delete M.R.2 if not maintained; (b) automatically update M.R2 when updating UN Regulations; (c) review and correct inconsistencies on a regular basis; (d) expand to other vehicle categories.
55. The representative from Germany supported the continuous development and maintenance of M.R.2. The Chair recalled M.R.2 was a key issue for the former Chair and he agreed that M.R.2 needed to be kept up-to-date. The representative from EC reminded a decision from the seventy seventh session of GRPE which was left incomplete (ECE/TRANS/WP.29/GRPE/77, para. 55.)
56. GRPE requested the secretariat to submit GRPE-82-28 as a working document including a draft proposal to amend M.R.2 during the next session of GRPE in June 2021.

XII. International Whole Vehicle Type Approval (IWVTA) (agenda item 11)

Documentation: Informal document GRPE-82-12

57. The GRPE ambassador to the IWG on IWVTA introduced GRPE-82-12 on the inclusion of GRPE-related UN Regulations into IWVTA. He reminded that the 01 series of amendments to UN Regulation No. 154 was expected to enter into force during the summer and could therefore be included into UN Regulation No. 0 at its next update during the November 2021 session of WP.29, and that actions would be required by GRPE if this process was to be stopped.
58. The representative from EC sought clarifications about the inclusion and timing of the candidate UN Regulations into UN Regulation No. 0. The GRPE ambassador to the IWG on IWVTA clarified how the process developed and required information on the applicability of the 01 series of amendments to UN Regulation No. 154 in the EU

once entered into force. The representative from EC recalled the specific provisions included into UN Regulation No. 154 to avoid misapplication of UN Regulation No. 154 and requested GRPE to postpone the inclusion of UN Regulation No. 154 into UN Regulation No. 0. The representative from Switzerland supported this request.

59. GRPE requested the GRPE ambassador to the IWG on IWVTA to ask for removal of UN Regulation No.154 and forthcoming UN Regulation No. [XXX] on RDE from the list of candidates for IWVTA Phase 2. GRPE also required the ambassador to seek guidance from the IWG on IWVTA on how to include provision related to Repair and Maintenance Information and On-Board Diagnosis into UN Regulation No. 0. (see para. 0).

XIII. Vehicles Interior Air Quality (VIAQ) (agenda item 12)

Documentation: Informal document GRPE-82-32

60. The Chair of IWG on Vehicles Interior Air Quality (VIAQ) presented a status report on the ongoing activities of the group (GRPE-82-32). He informed GRPE about the latest progress and the items agreed during the last IWG meetings.
61. GRPE acknowledged the progress made by IWG on VIAQ.

XIV. Lifetime compliance (agenda item 13)

62. The representative from the Netherlands informed GRPE about their intention to initiate a discussion at GRPE in forthcoming sessions about lifetime compliance as done at the European level as part of the Euro 7/VII discussions.

XV. Priority topics for GRPE activities (agenda item 14)

Documentation: Informal documents GRPE-82-06-Rev.1 and GRPE-82-16

63. The Chair introduced GRPE-82-06-Rev.1 as the revised GRPE priority list including the latest progress made during this session. In particular, the Chair congratulated GRPE and all the stakeholders involved for the early delivery of the 07 series of amendments to UN Regulation No. 49. GRPE agreed to provide a clean version of GRPE-82-06-Rev.1 to WP.29/AC.2, when requested.
64. The representative from OICA wondered if hydrogen propulsion for heavy duty applications (whether using fuel cells or internal combustion engines) was to be included in the list of priorities with hydrogen likely to play a role in the future of transportation energy supply. He added a performance standard might be needed soon.
65. The Chair agreed that there are numerous white spots in heavy duty alternative powertrain types legislation on topics related to energy consumption and emissions. The representative from the Netherlands for example raised the quickly-emerging need for a procedure to determine range of battery electric heavy duty vehicles for eligibility criteria for financial subsidies decided by some governments. The representative from OICA also highlighted power determination procedures could be needed as powertrain concepts often differs from the existing ones.
66. The representative from EC proposed to organize a dedicated workshop on upcoming legislative needs for future heavy duty powertrains. The representative from OICA supported the idea and stood ready to co-organize such workshop with the assistance and support from the secretariat.
67. GRPE welcomed the initiative and agreed to organize such workshop as part of the next GRPE session in June 2021.

68. The representative from OICA introduced GRPE-82-16 on potential issues that might arise on the applicability and interlinkages between UN Regulations Nos. 83, 154 and [XXX] on RDE. The representative from EC thanked OICA for raising the issue and reiterated their intention to address the issues and how to deal with in-service conformity test in the various documents. She welcomed and encouraged the implication and assistance from all stakeholders to find a clever way to propose a solution to GRPE by the next session of GRPE.

XVI. Any other business (agenda item 15)

Documentation: Informal documents GRPE-82-13 and GRPE-82-31-Rev.1

69. The representative from Australia introduced GRPE-82-13 on the consultation process on-going in the country for the future emission legislation for light and heavy vehicles. The representative from EC required some information about the consideration to propose the latest 07 series of amendment to UN Regulation No. 49 (instead of the 06) for the future heavy vehicles' legislation. The representative from Australia clarifies the 06 series of amendment to UN Regulation No. 49 was the latest available when the proposal was drafted and amending this (upon decision from transport minister) would require starting a whole new process.
70. The representative from EC asked whether feedback to the consultation was expected from GRPE and its stakeholders. The representative from Australia said the consultation was primarily aimed at domestic stakeholders, and the he would be thankful to receive feedback from international stakeholders too.
71. The representative from OICA recalled that Australia was not a contracting party to UN Regulation No. 83 and asked if this was expected to change if Australia was to adopt UN Regulation No. 83 as part of its emission legislation. The representative from Australia said that Australia would in principle become a contracting party to UN Regulation No. 83 if adopted as part of this legislative process.
72. The representative from UTAC/CERAM introduced GRPE-82-31-Rev-1 on the European Green NCAP and associated Green Vehicle Index (GVI) programs. The Chair requested the consortium to come back to GRPE when more results would be available. The representative from UTAC/CERAM confirmed more results would available in the coming months and another update could be envisaged when GRPE wishes to do so.

XVII. Provisional agenda for the next session

A. Next GRPE session

73. The next GRPE session, including IWG meetings, is scheduled to be held as a hybrid meeting, with physical and remote participation, starting on Monday, 31 May 2021, from 9.30 a.m. until Friday, 4 June 2021, at 16.30 p.m. Interpretation services would be provided on 3 June 2021; to be confirmed.

B. Provisional agenda for the next proper GRPE session

74. GRPE agreed on the following provisional agenda for its next session:
1. Adoption of the agenda.
 2. Report on the last sessions of the World Forum for Harmonization of Vehicle Regulations (WP.29).
 3. Light vehicles:

- (a) UN Regulations Nos. 68 (Measurement of the maximum speed, including electric vehicles), 83 (Emissions of M₁ and N₁ vehicles), 101 (CO₂ emissions/fuel consumption), 103 (Replacement pollution control devices) and 154 (WLTP);
 - (b) UN Global Technical Regulations Nos. 15 (Worldwide harmonized Light vehicles Test Procedures (WLTP)) and 19 (Evaporative emission test procedure for the Worldwide harmonized Light vehicle Test Procedure (WLTP EVAP));
 - (c) Worldwide harmonized Real Driving Emissions test procedure.
4. Heavy duty vehicles:
 - (a) UN Regulations Nos. 49 (Emissions of compression ignition and positive ignition (LPG and CNG) engines) and 132 (Retrofit Emissions Control devices (REC));
 - (b) UN Global Technical Regulations Nos. 4 (World-wide harmonized Heavy Duty Certification procedure (WHDC)), 5 (World-Wide harmonized Heavy Duty On-Board Diagnostic systems (WWH-OBD)) and 10 (Off-Cycle Emissions (OCE));
 - (c) Worldwide provisions for Heavy Duty vehicles Fuel Economy.
5. UN Regulations Nos. 24 (Visible pollutants, measurement of power of C.I. engines (Diesel smoke)), 85 (Measurement of the net power), 115 (LPG and CNG retrofit systems), 133 (Recyclability of motor vehicles) and 143 (Heavy Duty Dual-Fuel Engine Retrofit Systems (HDDF-ERS)).
6. Agricultural and forestry tractors, non-road mobile machinery:
 - (a) UN Regulations Nos. 96 (Diesel emission (agricultural tractors)) and 120 (Net power of tractors and non-road mobile machinery);
 - (b) UN Global Technical Regulation No. 11 (Non-road mobile machinery engines).
7. Particle Measurement Programme (PMP).
8. Motorcycles and mopeds:
 - (a) UN Regulations Nos. 40 (Emission of gaseous pollutants by motor cycles) and 47 (Emission of gaseous pollutants of mopeds);
 - (b) UN Global Technical Regulations Nos. 2 (World-wide Motorcycle emissions Test Cycle (WMTC)), 17 (Crankcase and evaporative emissions of L-category vehicles), 18 (On-Board Diagnostic (OBD) systems for L-category vehicles) and [XX] (Durability);
 - (c) Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles.
9. Electric Vehicles and the Environment (EVE);
 - (a) UN GTR No. 21 (DEVP) and [XX] on in-vehicle battery durability;
 - (b) other activities of IWG on EVE.
10. Mutual Resolution No. 2 (M.R.2).
11. International Whole Vehicle Type Approval (IWVTA).
12. Vehicles Interior Air Quality (VIAQ).
13. Lifetime Compliance.
14. Priority topics for GRPE activities.
15. Election of Officers
16. Any other business.

C. Informal meetings scheduled to be held in conjunction with the next GRPE session

75. The informal meetings in conjunction with the next GRPE sessions are expected to be virtual and held in the days prior to GRPE.
76. The agendas of these meetings will be prepared by the respective Technical Secretaries and distributed to the members of each group prior to each meeting.

Annex I

List of informal documents (GRPE-82-) distributed without an official symbol before and during the session

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1r1	(Secretariat) Informal meetings in conjunction with the GRPE (proper) session: schedule and links to virtual meetings	B
2r2	(Secretariat) Provisional annotated agenda	B
3r2	(Secretariat) Draft running order	B
4	(Secretariat) Highlights of the WP.29 Sessions of June and November 2020	A
5	(Secretariat) General Information, 83rd session of GRPE	A
6r1	(Chair) Updated GRPE priority list for 82nd session	A
7	(OICA) Proposal for a new Supplement to 06 and 07 series of amendments to UN Regulation No. 83	C
8	(OICA) Proposal for a new Supplement to 05 and 06 series of amendments to UN Regulation No. 83	C
9r1	(Japan) Proposal for amendments to ECE/TRANS/WP.29/GRPE/2021/7	B
10	(EC) Details of amendments proposed in ECE/TRANS/WP.29/GRPE/2021/56	A
11	(EC) Details of amendments proposed in ECE/TRANS/WP.29/GRPE/2021/57	A
12	(IWVTA) Update from GRPE Ambassador to IWVTA	A
13	(Australia) Light and Heavy Vehicle Emission Standards for Cleaner Air	A
14	(RDE) IWG on RDE status report	A
15	(RDE) latest draft of UN GTR on RDE	C
16	(OICA) Response to GRPE-82-06-Rev.1	A
17	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRPE/2021/4	B
18	(OICA) Justification for GRPE-82-17	A
19	(OICA) Response to GRPE-82-10 and GRPE-82-11	A
20	(OICA) Proposal for a Shortened Test Procedure NEDC for PEV in UN Regulation No. 101	C
21	(OICA) Presentation for GRPE-82-20	A
22	(EC) Proposal for amendments to ECE/TRANS/WP.29/GRPE/2021/6	B
23	(OICA) Proposal for a new Supplement to 06 series of amendments to UN Regulation No. 49	C
24	(OICA) Proposal for a new Supplement to 05 series of amendments to UN Regulation No. 49	C
25	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRPE/2021/8	B
26r1	(EPPR) Request for authorization to develop a new UN GTR on durability	B
27	(EVE) latest draft of UN GTR on in-vehicle battery durability	C
28	(OICA) Comparison between M.R.2 and UN GTR No. 15	D
29r1	(PMP) Sub-23nm particle measurement procedure for HD Engines	C
30	(PMP) Explanatory Note for Sub-23nm particle measurement procedure for HD Engines	A
31r1	(UTAC/CERAM) Introduction to Green NCAP	A
32	(VIAQ) IWG on VIAQ status report	A
33	(OICA) Comments on development of GTR In-vehicle battery durability	A
34	(EPPR) IWG on EPPR status report	A
35	(PMP) IWG on PMP status report	A

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
36	(EVE) IWG on EVE status report	A
37	(OICA) Draft GRPE reference document to clarify two concerns in UN Regulation No. 154	A
38	(EC) EC response to GRPE-82-37	B

Notes:

- A Consideration by GRPE completed or to be superseded;
- B Adopted;
- C Further consideration on the basis of a revised proposal;
- D Distribute at the June 2021 session with an official symbol.

Annex II

Informal meetings held in conjunction with the GRPE session

Virtual meetings had been held in the weeks prior to GRPE in order to accommodate the different time zones. The planning can be shown below:

<i>Date</i>	<i>Time</i>	<i>Group</i>	<i>Acronym</i>
7 January 2021	12.00 a.m. – 1.00 p.m.	Global Real Driving Emissions	RDE
8 January 2021	11.30 – 2.30 p.m.	Electric Vehicles and the Environment	EVE
8 January 2021	12.00 a.m. – 3.00 p.m.	Environmental and Propulsion Performance Requirements of L-category vehicles	EPPR
11 January 2021	10.30 a.m. – 12.00 a.m.	Ad-hoc expert group on WLTP	-
11 January 2021	1.00 p.m. – 4.00 p.m.	Vehicle Interior Air Quality	VIAQ
13 January 2021	12.00 a.m. – 4.00 p.m.	Brake emissions workshop	PMP

Annex III

List of GRPE informal working groups, task forces and subgroups

<i>Name (Acronym) (Status)</i>	<i>Chair or Co-chairs</i>	<i>Secretaries</i>	<i>End of mandate</i>
Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR) (group)	Adolfo Perujo, Adolfo.PERUJO@ec.europa.eu Shinya Yamamura yamamura-s2zh@mlit.go.jp	Daniela Leveratto, d.leveratto@immamotorcycles.org	December 2025
Electric Vehicles and the Environment (EVE) (group)	Michael Olechwi, Olechwi.Michael@epamail.epa.gov Chen Chunmei (Vice-Chair), chencm@miit.gov.cn Hajime Ishii (Vice-Chair), ishii@ntsel.go.jp	Andrew Giallonardo, Andrew.Giallonardo@canada.ca	June 2021
Particle Measurement Programme (PMP) (group)	Giorgio Martini, giorgio.martini@ec.europa.eu	Rainer Vogt rvogt@ford.com	June 2021
Vehicle Interior Air Quality (VIAQ) (group)	Andrey Kozlov, a.kozlov@nami.ru Jong Soon Lim (Vice-Chair), jongsoon@ts2020.kr	Andreas Wehrmeier Andreas.Wehrmeier@bmw.de	November 2025
Global Real Driving Emissions (RDE) (group)	Panagiota Dilara, Panagiota.DILARA@ec.europa.eu Shinya Yamamura (Vice-Chair), yamamura-s2zh@mlit.go.jp Junhong Park (Vice-Chair) pjhy98@korea.kr	Noriyuki Ichikawa (co-Technical Secretary), noriyuki_ichikawa@mail.toyota.co.jp Giustino Manzo (co-Technical Secretary), giustino.manzo@cnhind.com	January 2021

Annex IV

Adopted amendments to ECE/TRANS/WP.29/GRPE/2021/4

Adopted on the basis of GRPE-82-17 (see para. 14)

A new Supplement to the 01 series of amendments to UN Regulation No. 101

Annex 7 – Appendix 2 paragraph 1., amend to read:

"1. Introduction

The purpose of this appendix is to provide the road load power calculation method that may be used, at the choice of manufacturer, ~~when vehicle's emissions are approved using UN GTR No. 15 procedure.~~ **when the vehicle road load has been determined according to WLTP procedures as defined in UN GTR No. 15."**

Annex 7~~b~~ – Appendix 2 paragraph 2.1., amend to read:

"2.1. WLTP Road Load calculation of the vehicle

The WLTP Road Load of the vehicle shall be determined according to UN GTR No. 15 Annex 4 or in case the vehicle is part of an interpolation family, according to Annex 7 point 3.2.3.2.2. "Road Load calculation for an individual vehicle" considering as input parameters of the individual vehicle:

- (a) The Test Mass of the vehicle¹, fitted with its standard equipment¹;
- (b) The RRC value of the applicable tyre energy class according to Table A4/2 of UN GTR No. 15 Annex 4 or, if the tyres on the front and rear axles belong to different energy efficiency classes, the weighted mean using the equation in paragraph 3.2.3.2.2.3. of **Annex 7 to UN GTR No. 15** ~~Annex 47~~;
- (c) The aerodynamic drag of the vehicle fitted with its standard equipment¹."

Annex 7 – Appendix 2 paragraph 2.2.4.(a) (iv), amend to read:

"(iv) Effect of different tyre tread depth:

$$F_{0n} = F_{0n}^3 \cdot TTD$$

Where the factors *TTD* in the formula are as defined in point 2.2.2."

II. Justification

1. Harmonization of UN Regulation No. 83 (Annex 4a, Appendix 7b, paragraph 1.) and UN Regulation No. 101 (Annex 7, Appendix 2, paragraph 1.); in Annex 7, Appendix 2, paragraph 1. Vehicles in general are not approved according to UN GTR No. 15, therefore the text phrase of UN Regulation No. 83 is recommended.
2. Correction of wrong reference to Annex 4 instead of Annex 7 of UN GTR No.15; in Annex 7, Appendix 2, paragraph 2.1.(b).
3. When copying the methodology from EU regulation, a ‘.’ was wrongly introduced instead of a ‘-’ in the formula.
4. This correction has been review by EU Joint Research Center which is at the origin of the methodology.

¹ As defined in UN GTR No. 15

Annex V

Technical Report to Amendment 4 to UN GTR No. 4

Adopted on the basis of ECE/TRANS/WP.29/GRPE/2021/7 (see para. 31)

Technical report on the development of Amendment 4 to UN GTR No. 4 on World-wide harmonized Heavy Duty Certification procedure (WHDC)

I. Mandate

1. Amendment 4 to global technical regulation (GTR) No. 4 was developed by the representative from Japan to correct errors found in several formulas. The Executive Committee (AC.3) of the 1998 Agreement adopted the authorisation to develop GTR No. 4 at its November 2007 session (ECE/TRANS/WP.29/AC.3/20).

II. Objectives

2. Paragraph 7.8.8. Table 4

Each condition in Table 4 is not determined based on all the conditions, but needs to be determined based on individual conditions. In other words, it is necessary to modify it to “or” instead of “and” that connects the conditions.

3. Paragraph 8.1.1.

In equations (15) and (16), the coefficient to be referenced is incorrect. That is, the volume of exhaust gas added by combustion in a wet state needs to be expressed not by k_f but by $k_{f,w}$.

4. Paragraph 8.4.2.3. and 8.4.2.4.

In equations (35) and (36), all the calculation equations after Sigma need to be performed in Sigma. Therefore, parentheses are added to calculations after sigma.

5. Paragraph 8.5.1.4.

In the dimension of the volume flow equation, the coefficient A_0 must be divided by 60. Similarly, the coefficient A_0 must be 0.005692 in the standard conditions (273K, 101.3kPa). In addition, the unit of the SSV throat diameter d_V must be (mm).

6. Paragraph 8.5.2.3.1.

Equation (59) needs to be multiplied by 1/1000 to adjust the number of digits. The number of digits is correctly adjusted in the equations (40) and (41), and the number of digits is similarly adjusted in the equation (59).

7. Paragraph 8.6.1.

In the text, the equation to be referenced is incorrect. It is equation (60) that needs to be referenced.

8. Paragraph 9.5.4.1.

The discharge coefficient of the SSV needs to be correlated with the SSV mass flow rate calculation formula. Therefore, the coefficient A_0 divided by 60 is added. In addition, the unit of the SSV throat diameter d_V must be (mm).

Reynolds number must be multiplied by 60. The coefficient A_I must be 27.43831 in the standard state (273K, 101.3kPa). In addition, the coefficient A_I needs (kg) when converted to SI units.

9. Annex 3, paragraph 1.3.

In Figure 9, raw exhaust gas sampling probe is represented by “SP1”, whereas “SP” is indicated in the text. Therefore, it is necessary correctly set “SP1” in the text.

10. Annex 3, paragraph 2.1.

In the text, the flow controller is represented by “FC1”, whereas in Figure 12, it is “FC2”. Therefore, it is necessary to correctly set “FC1” in Figure 12.

11. Annex 3, paragraph 2.5.

In Figure 16 and Figure 17, the sample flow controller is represented as “FC2”, whereas in the text, it is “FC3”. Therefore, it is necessary correctly set “FC2” in the text.

12. Annex 4.2.

In equation (100), it is correct that the square root of the standard error is included up to the denominator. It was corrected in UN GTR No.4 Amendment 1 – Corrigendum 1, but was not reflected when UN GTR No. 4 Amendment 3 was issued. Therefore, it is necessary to reflect correctly.

Annex VI

Adopted amendments to ECE/TRANS/WP.29/GRPE/2021/8

Adopted on the basis of GRPE-82-25 (see para. 35)

A new Supplement to the 03 series of amendments to UN Regulation No. 24

I. Proposal

Add a new paragraph 1.1.4., to read:

“1.1.4. Equivalent approvals

An approval to the 06 and above series of amendments to UN Regulation No. 49 is considered to demonstrate compliance to this Regulation for approval with regard to the emission of visible pollutants. ~~In this case no additional approval to this Regulation is necessary~~ C.I. engines and motor vehicles with C.I. engines type approved to this series of amendments to UN Regulation No. 49 have no visible pollutant emissions according to the specifications defined in in paragraph 6.

1.1.4.1. Provisions specified in paragraphs 6.1. and 24.1. apply. Together with the provisions for the approval mark specified in UN Regulation No. 49 the provisions for expressing an adsorption coefficient in m^{-1} according to paragraphs 5.4.3., 5.4.4. and 23.4.3. also apply. The applicable adsorption coefficient is according to the provisions of Annex 5, paragraph 3. to this Regulation $XM + 0.5$, where XM is in this case zero.”

II. Justification

1. UN Regulation No. 24, to limit the visible smoke in order to avoid poor visibility situations on the road, has been successfully applied in type approval for years.
2. However, engines certified with UN Regulation 49-06 series (corresponding to Euro VI) have no smoke. They are either CI-engines with DPF or SI-engines which, by principle, have no smoke.
3. CI-engines with DPF, even with a broken filter and/or with a type A or B OBD fault code, have smoke emissions less than 0,5 m^{-1} during free acceleration test and almost zero at steady state test. Note that the permitted production variability together with measurement inaccuracy is 0,5 m^{-1} .
4. Thus, it is useful clarify that UN Regulation 49-06 series engine certification does not include the certification according to UN Regulation 24, therefore the scopes should be adjusted accordingly.
5. This amendment does not exclude applying UN Regulation No. 24 for road side inspection for vehicles type approved under UN Regulation 49-06 series.

Annex VII

Request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three-wheeled motor vehicles.

Adopted on the basis of GRPE-82-26-Rev.1 (see para. 47)

I. Mandate and Objectives

1. In the framework of the 1998 Agreement and under continued work by the informal working group (IWG) on Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR), the main objective of this proposal is to seek authorization for the EPPR IWG to develop a new UN GTR on the topic of *durability of after treatment devices for two- and three- wheeled motor vehicles*.

2. The IWG on EPPR will also consider aligning with the work done by the IWG on Worldwide harmonized Light Vehicles Test Procedure (WLTP) if so is considered advantageous, to ensure harmonization and to avoid any duplication of effort.

II. Introduction

3. The IWG on EPPR was endorsed by the WP.29 at its November 2012 session (ECE/TRANS/WP.29/1099). The Executive Committee of the 1998 Agreement (AC.3) on its forty-fifth session (10-13 November 2015) adopted ECE/TRANS/WP.29/2015/113 (ECE/TRANS/WP.29/AC.3/36/Rev.1) whereby the European Union proposed changes to the proposal to develop amendments to UN Global Technical Regulation No. 2 and new regulations on environmental and propulsion performance requirements for light vehicles (ECE/TRANS/WP.29/AC.3/36). It was based on informal document WP.29-166-20, distributed at the 166th session (ECE/TRANS/WP.29/1116, para. 109). The mandate of the EPPR IWG was extended until December 2020.

4. The extension to a second working period (until December 2025) was requested by the EPPR IWG to the GRPE by asking for the endorsement of the Terms of Reference and rules of procedure for the informal working group on Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR) (GRPE-81-23-Rev.1). The GRPE endorsed the EPPR IWG ToR in its 81st session (ECE/TRANS/WP.29/GRPE/81).

5. During the first mandate of the IWG on EPPR, the IWG has successfully completed the following technical regulatory texts (UN GTRs):

- UN GTR No. 17: “Global technical regulation on the measurement procedure for two- or three- wheeled motor vehicles equipped with a combustion engine with regard to the crankcase and evaporative emissions”. Established in the Global Registry on 17 November 2016².
- UN GTR No. 18: “Global technical regulation on the measurement procedure for two- or three- wheeled motor vehicles with regard to on- board diagnostics”. Established in the Global Registry on 17 November 2016³.
- UN GTR No. 2: “Global technical regulation on the measurement procedure for two-wheeled motorcycles equipped with a positive or compression ignition engine with regard to the emissions of gaseous pollutants, CO2 emissions and

² <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a17e.pdf>

³ <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a18e.pdf>

fuel consumption - Amendment 4". Established in the Global Registry on 13 November 2019⁴

- Amendment 1 to UN GTR No. 18: "Global technical regulation on the measurement procedure for two- or three-wheeled motor vehicles with regard to on-board diagnostics". Introduction of OBD II⁵. It was adopted by WP.29 in its 182nd session (November 2020).

6. During the first mandate of the IWG on EPPR, the IWG also started to work on a new UN GTR on Durability testing of pollution control devices for two- and three- wheeled motor vehicles.

III. Areas of work

7. The EPPR IWG seeks from AC.3 the authorization to develop a new UN GTR on *durability of after treatment devices for two- and three- wheeled motor vehicles*. The IWG will use the initial work performed under the IWG first mandate.

8. The group shall focus its work in the following areas:

- (a) Create a first consolidated draft of the UN GTR on durability based upon the European Regulation (see below) and incorporating those clauses from other existing regulation to obtain a highly harmonised technical regulation.
- (b) The consolidated draft will be reviewed with the following objectives:
 - (i) Identify areas for further technical improvements;
 - (ii) Study the areas that need to be reviewed in order to adapt them to reflect regional needs.
- (c) Finalising the draft and subsequently to present it for endorsement to the GRPE.

9. The EPPR IWG will keep informed the GRPE on the status of the development of the new GTR, by periodical reports to the GRPE assembly.

IV. Existing regulations

10. The durability of after treatment devices for two- and three- wheeled motor vehicles is not currently regulated by any UN GTR or UN Regulation. It is known that the ability of components and systems to last is key to minimise the impact on the environment. Therefore, it is necessary to set up harmonised provisions for verifying that the durability requirements are met.

11. European Union regulations on environmental performance of two- or three-wheel vehicles and quadricycles (Reg. (EU) No. 168/2013 and its supplementing regulations⁶, the so-called Euro 5) provide test procedures and requirements for the durability of after treatment devices.

12. Japan addresses durability regulation in its "Enforcement procedure for motor vehicle type certification, Additional rule7: Durability driving enforcement procedure".

⁴ https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a2am4e_for_submission.pdf

⁵ ECE/TRANS/WP.29/2020/129 and ECE/TRANS/WP.29/2020/130: Amendment 1 to UN GTR No. 18 (On-Board Diagnostic (OBD) systems for L-category vehicles) and its Technical Report.

⁶ COMMISSION DELEGATED REGULATION (EU) No 134/2014 of 16 December 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to environmental and propulsion unit performance requirements and amending Annex V thereof.

13. The United States Environmental Protection Agency addresses durability on its regulations for On Highway Motorcycles and deterioration factor determination with real world drive and emission tests⁷. It also considers durability in the case of light duty vehicles⁸
14. The People’s Republic of China standards include Type V durability test addressing separately motorcycles and mopeds⁹.
15. The California Air Resources Board regulations on durability are contained in California Code of Regulations Title 13 Section 1958(c).
16. In the development of the UN GTR, the EPPR IWG will take into consideration the existing regulations to reach harmonized provisions for test procedures and requirements.

V. Timeline

17. The timelines proposed below for the new mandate are target timelines. The plan will be regularly reviewed and updated to reflect progress and feasibility of the timeline.
- (a) January 2021: EPPR IWG presents timeline and framework for mandate request in GRPE;
 - (b) June 2021: Request for authorization submitted to AC.3;
 - (c) January 2021 – June 2021: EPPR IWG continues formulating and drafting UN GTR with elements agreed upon;
 - (d) June 2021: EPPR IWG provides an update to the June 2021 meeting of GRPE with a first draft (informal document) of the UN GTR for further discussion and recommendations;
 - (e) June 2021 – October 2021: EPPR IWG conclude the GTR and prepares a formal (working) document of the GTR to be submitted to the GRPE;
 - (f) January 2022: EPPR IWG presents the UN GTR to GRPE and ask for endorsement for consideration by WP.29 and AC.3.

⁷ 40 CFR Part 86 (86.419, 86.426, 86.427, and 86.432).

⁸ Emission Durability Procedures for New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Vehicles”. January 17, 2006. 40 CFR Part 86, 71 FR 2809

⁹ GB 14622-2016 “Limits and measurement methods for emissions from motorcycles” and GB 18176-2016 “Limits and measurement methods for emissions from mopeds”