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**Working Party on Pollution and Energy** 

**Seventy-fourth session** 

Geneva, 10-13 January 2017

# Report of the Working Party on Pollution and Energy (GRPE) on its seventy-fourth session

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### I. Attendance and opening statements

- The Working Party on Pollution and Energy (GRPE) held its seventy-fourth session from 10 to 13 January 2017, with Mr. A. Rijnders (Netherlands) as Chair. Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690, as amended): Austria; Belgium; Canada; China; Czech Republic; Egypt; France; Germany; Hungary; India; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea (Korea); Russian Federation; Spain; Sweden; Switzerland; United Kingdom of Great Britain and Northern Ireland (UK) and the United States of America. Experts from the European Commission (EC) also participated. Experts from the following non-governmental organizations took part in the session: Association for Emissions Control European (AECC); Association of Automobile (CLEPA/MEMA/JAPIA); European Federation for Transport and Environment (T&E); European Garage Equipment Association (EGEA); European Liquefied Petroleum Gas Association (AEGPL); European Tyre & Rubber Manufacturers Association (ETRMA); International Council on Clean Transportation (ICCT); International Motor Vehicle Inspection Committee (CITA); International Motorcycle Manufacturers Association (IMMA); International Organization of Motor Vehicle Manufacturers (OICA) and The European Association of Internal Combustion Engine Manufacturers (EUROMOT).
- 2. The Secretary recalled that the election of officers for the year 2017 did not take place at the last GRPE session in June 2016 due to the absence of candidates for the chairmanship. Thus, the Secretary started the session by agenda item fifteen so that the new officers could act as such already in this session.

### II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRPE/2017/1 and Add.1

Informal documents GRPE-74-01, GRPE-74-06 and

GRPE-74-21-Rev.1

- 3. GRPE adopted the provisional agenda of its seventy-fourth session (ECE/TRANS/WP.29/GRPE/2017/1 and Add.1), as updated and consolidated in GRPE-74-21-Rev.1, including the informal documents tabled for the session. GRPE took note of GRPE-74-01 on the organization of GRPE Informal Working Group (IWG) meetings held during the week.
- 4. The informal documents distributed during the GRPE session are listed in Annex I. Annex II contains a list of the informal meetings held in conjunction with the GRPE session. Annex III lists GRPE IWGs, task forces and subgroups, giving details on their Chairs, Secretaries and the end of mandates.
- 5. The secretariat introduced GRPE-74-06, announcing that the next GRPE session would take place on 6-9 June 2017 and recalling the corresponding deadline (13 March 2017) for the submission of official documents. The Chairs and Secretaries of IWGs were invited to approach the secretariat to define the calendar of meetings of IWGs for the June 2017 GRPE session.

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

Documentation: ECE/TRANS/WP.29/1123 and ECE/TRANS/WP.29/1126

Informal document GRPE-74-07

6. The secretariat introduced GRPE-74-07 and reported on relevant GRPE items discussed during the 169th and 170th sessions of the World Forum. For more details, see ECE/TRANS/WP.29/1123 and ECE/TRANS/WP.29/1126.

### IV. Light vehicles (agenda item 3)

A. Regulations Nos. 68 (Measurement of the maximum speed, including electric vehicles), 83 (Emissions of  $M_1$  and  $N_1$  vehicles), 101 (CO<sub>2</sub> emissions/fuel consumption) and 103 (Replacement pollution control devices)

Documentation: ECE/TRANS/WP.29/GRPE/2017/2

ECE/TRANS/WP.29/GRPE/2017/5 ECE/TRANS/WP.29/2017/42 ECE/TRANS/WP.29/2017/43 ECE/TRANS/WP.29/2017/44

Informal documents GRPE-74-16 and GRPE-74-22

- 7. The expert from the Russian Federation presented ECE/TRANS/WP.29/GRPE/2017/2 on amendments to the scope of Regulation No. 83. He explained that the proposal was aimed at allowing extensions of type approvals granted under Regulation No. 83 to special purpose vehicles.
- 8. The experts from CLEPA and OICA expressed some concerns on the limitation of 2,610 kg reference mass introduced by the definition of special purpose vehicle in ECE/TRANS/WP.29/GRPE/2017/2. The expert from Hungary suggested the use of existing definitions in the Consolidated Resolution on the Construction of Vehicles (R.E.3). Following the discussion, the experts from Hungary and the Russian Federation presented GRPE-74-22 to amend ECE/TRANS/WP.29/GRPE/2017/2 by deleting the definitions of special purpose vehicle and armoured vehicle and referring to R.E.3 instead.
- 9. GRPE adopted ECE/TRANS/WP.29/GRPE/2017/2 amended by GRPE-74-22 as reproduced in Annex IV and requested the secretariat to submit it to WP.29 and the Administrative Committee of the 1958 Agreement (AC.1) for consideration and vote at their June 2017 sessions as draft Supplement 10 to the 06 series of amendments and draft Supplement 6 to the 07 series of amendments to Regulation No. 83.
- 10. The expert from OICA withdrew ECE/TRANS/WP.29/GRPE/2017/5 on amendments to Regulation No. 83 to adapt the provisions on selective catalytic reduction warning and inducement systems to current vehicles, emissions requirements and reagent infrastructure. He mentioned that this is an urgent topic and that differences between European legislation and UN Regulations should be minimized. He announced his intention to address this topic first at the European level, and he invited all stakeholders to contribute to the discussion since the beginning.
- 11. The Secretary of GRPE presented ECE/TRANS/WP.29/2017/42, ECE/TRANS/WP.29/2017/43 and ECE/TRANS/WP.29/2017/44 on transitional provisions to be introduced in Regulations Nos. 83 and 101 as an interim solution while the Worldwide harmonized Light vehicles Test Procedure (WLTP) is transposed into the 1958 Agreement. He explained that these documents were prepared by the Secretariat as agreed by WP.29 at its June 2016 session. Following the request of WP.29 and taking into account

the urgency of the topic, he explained that the three proposals were already submitted to WP.29 and AC.1 for consideration and vote at their March 2017 sessions, but subject to the endorsement of GRPE at this session.

- 12. The expert from OICA presented GRPE-74-16 on some modifications to the wording of ECE/TRANS/WP.29/2017/42, ECE/TRANS/WP.29/2017/43 and ECE/TRANS/WP.29/2017/44. The expert from EC stated that he was not in the position to accept the changes introduced by GRPE-74-16.
- 13. Following the discussion, GRPE endorsed ECE/TRANS/WP.29/2017/42, ECE/TRANS/WP.29/2017/43 and ECE/TRANS/WP.29/2017/44 to be further considered by WP.29 and AC.1 at their March 2017 sessions.

### B. Global Technical Regulation No. 15 on Worldwide harmonized Light vehicles Test Procedure (WLTP)

Documentation: ECE/TRANS/WP.29/GRPE/2017/3

ECE/TRANS/WP.29/GRPE/2017/7

Informal documents GRPE-74-02-Rev.1, GRPE-74-03-Rev.1, GRPE-74-04, GRPE-74-05, GRPE-74-10, GRPE-74-11 and

GRPE-74-20

- 14. The Vice-Chair of the IWG on WLTP reported on the progress made by the group on each of the tasks of the Phase 2 activities (GRPE-74-11).
- 15. The drafting coordinator of the IWG on WLTP presented ECE/TRANS/WP.29/GRPE/2017/7 on amendments to UN global technical regulation (GTR) No. 15 on WLTP. He also presented GRPE-74-02-Rev.1 introducing some changes to ECE/TRANS/WP.29/GRPE/2017/7 and he referred to GRPE-74-03-Rev.1 as a consolidated version of both documents. He introduced the technical report on the further development of WLTP (GRPE-74-05). He clarified that the technical report was a consolidated version combining all phases of the development of GTR No. 15 up to now.
- 16. GRPE adopted ECE/TRANS/WP.29/GRPE/2017/7 as amended by Annex V to this report and requested the secretariat to submit it to WP.29 and the Executive Committee of the 1998 Agreement (AC.3) for consideration and vote at their June 2017 sessions as draft Amendment 2 to GTR No. 15 on WLTP. GRPE also adopted the technical report (GRPE-74-05) as reproduced in Addendum 1 to this report and requested the secretariat to submit it to WP.29 and AC.3 for consideration and vote at their June 2017 sessions.
- 17. The expert from EC presented ECE/TRANS/WP.29/GRPE/2017/3 on a draft new GTR on evaporative emission test procedure for WLTP (WLTP EVAP). He clarified that the current proposal focuses on the evaporative emissions that can occur during parking events, so running losses and refuelling emissions are out of the scope for the time being. He explained that the test procedure for sealed fuel tank systems will be introduced at a later stage. He introduced the technical report on the development of the draft new GTR (GRPE-74-04).
- 18. The expert from ETRMA presented GRPE-74-10 to highlight that emissions from tyres should be excluded from the test procedure in the draft new GTR on WLTP EVAP. He explained that tyres should be removed at the stage of vehicle preparation, since they are not part of the fuel storing system and they may add some uncertainty to the test.
- 19. GRPE adopted ECE/TRANS/WP.29/GRPE/2017/3 and requested the secretariat to submit it to WP.29 and AC.3 for consideration and vote at their June 2017 sessions as a new draft GTR on evaporative emission test procedure for WLTP (WLTP EVAP). GRPE also adopted the technical report (GRPE-74-04) as reproduced in Addendum 2 to this report

and requested the secretariat to submit it to WP.29 and AC.3 for consideration and vote at their June 2017 sessions.

- 20. The expert from EC presented a status report on the WLTP Task Force dealing with the transposition of WLTP into the 1958 Agreement (GRPE-74-20). He informed that the Task Force had not met yet, but the first meeting would take place in February 2017. For the adaption of the 1958 Agreement to include WLTP, he explained the intention was to follow a two-step approach: first, introduction of transitional provisions in Regulations Nos. 83 and 101 (see paras. 11-13 above); second, full transposition of GTR No. 15 into new Regulations under the 1958 Agreement. He recalled previous presentations by EC and the Secretariat on possible ways to structure these new Regulations (GRPE-72-18 and GRPE-73-26).
- 21. GRPE agreed to further discuss the transposition of WLTP into the 1958 Agreement at the next GRPE session on the basis of the work carried out by the WLTP Task Force dealing with this topic.
- 22. GRPE acknowledged the progress made by the IWG on WLTP and noted the request for a meeting room for one day during the GRPE week in June 2017.

### V. Heavy duty vehicles (agenda item 4)

# A. 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/2017/6

Informal documents GRPE-74-08, GRPE-74-09 and GRPE-74-23

- 23. The expert from OICA introduced GRPE-74-08 on amendments to Regulation No. 49 aimed at correcting editorial errors. He presented ECE/TRANS/WP.29/GRPE/2017/6 on a proposal to align Regulation No. 49 with the current state of the legislation of the European Union (EU). He highlighted the need to align the UN Regulations with the European legislation and he stressed the urgency of this specific topic. He explained that ECE/TRANS/WP.29/GRPE/2017/6 was submitted when some issues were still open and, thus, GRPE-74-09 was submitted afterwards to complete it.
- 24. The expert from EC mentioned that ECE/TRANS/WP.29/GRPE/2017/6 had not yet been scrutinized and, thus, he was not in a position to adopt the proposal.
- 25. The Chair of GRPE invited the experts from EC and OICA to bring forward a common official proposal for consideration at the next GRPE session, combining the content in GRPE-74-08, GRPE-74-09 and ECE/TRANS/WP.29/GRPE/2017/6.
- 26. The expert from CLEPA presented GRPE-74-23 on the approval of replacement pollution control devices as a separate technical unit according to Regulation No. 49. He highlighted the need to introduce provisions to allow such approvals in the 05 and 06 series of amendments to Regulation No. 49. He mentioned the intention to develop a new proposal and he invited all stakeholders to participate.
- 27. The Chair of GRPE encouraged all stakeholders to cooperate together for that purpose.

- B. 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))
  - 28. GRPE did not receive any new proposal to amend GTRs Nos. 4, 5 and 10.

# VI. Regulations Nos. 85 (Measurement of the net power), 115 (LPG and CNG retrofit systems) and 133 (Recyclability of motor vehicles) (agenda item 5)

29. GRPE did not receive any new proposal to amend Regulations Nos. 85, 115 and 133.

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

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

Documentation: Informal documents GRPE-74-13 and GRPE-74-14

- 30. The expert from EC informed GRPE about the new EU Regulation (2016/1628) on Non-Road Mobile Machinery (NRMM) engines (GRPE-74-13). He explained that Regulation No. 96 should be aligned accordingly and, thus, he expressed the intention to present a first draft of amendments (05 series of amendments) to Regulation No. 96 at the next GRPE session. He mentioned that Regulation No. 120 will have to be slightly amended as well. The experts from Italy and EUROPMOT expressed their continued support to these activities.
- 31. The expert from EUROMOT recalled that NRMM was also part of the scope of Regulation No. 132 on retrofit emission control devices. He explained that Regulation No. 132 should be updated in parallel with Regulations Nos. 96 and 120 (GRPE-74-14). He expressed that EUROMOT was ready to assist in this activity.
- 32. The expert from EC agreed on the need to update Regulation No. 132. He mentioned that EC may sponsor this activity, subject to confirmation at the next GRPE session in June 2017.
- 33. GRPE noted the need to align Regulations Nos. 96, 120 and 132 with the new EU Regulation on NRMM and agreed to resume discussion at the next GRPE session on the basis of forthcoming proposals.

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

34. GRPE did not receive any new proposal to amend GTR No. 11.

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

Documentation: Informal document GRPE-74-17

35. The Chair of the IWG on Particle Measurement Programme (PMP) presented a status report on the activities of the group on exhaust and non-exhaust particle emissions (GRPE-74-17). He explained the scope and the objectives of the Round Robin test that would be performed to assess differences and uncertainties in the measurement of exhaust particles with a size below 23 nanometre. Regarding the assessment of brake wear particles, he reported on the ongoing work on the development of a braking test cycle and on the selection of the most suitable sampling method.

36. GRPE acknowledged the work progress of the IWG on PMP and noted no request for a meeting room during the GRPE week in June 2017.

# IX. Regulation No. 143 (Heavy Duty Dual-Fuel Engine Retrofit Systems (HDDF-ERS))

Documentation: ECE/TRANS/WP.29/GRPE/2017/4

Informal document GRPE-74-25

- 37. The expert from the Netherlands presented ECE/TRANS/WP.29/GRPE/2017/4 on amendments to the original version of Regulation No. 143. He explained that the proposal addressed the concerns raised in June 2016 at the GRPE session on the back-to-back approach for the simplified test of retrofitted dual-fuel engines by using a CO<sub>2</sub> specific emissions approach.
- 38. The expert from OICA presented GRPE-74-25, a proposal prepared by OICA and AEGPL to restrict the CO<sub>2</sub> specific emissions approach to NMHC and CO emissions only and to keep the back-to-back approach for NOx and PM emissions.
- 39. GRPE adopted ECE/TRANS/WP.29/GRPE/2017/4 amended by GRPE-74-25 as reproduced in Annex VI and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their June 2017 sessions as draft Supplement 1 to the original version of Regulation No. 143.

### X. Motorcycles and mopeds (agenda item 9)

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

40. GRPE did not receive any new proposal to amend Regulations Nos. 40 and 47.

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

Documentation: Informal document GRPE-74-12

41. The Chair of the IWG on Environmental and Propulsion Performance Requirements for L-category vehicles (EPPR) presented a status report (GRPE-74-12) on the activities of the group. He explained that the first priority was the development of amendments to GTR No. 2. He expressed the intention to submit a first draft at the next GRPE session in June 2017. He mentioned that the work on On-Board Diagnostic systems (OBD) Stage II will begin in year 2018 after the completion of amendments to GTR No. 2.

42. GRPE acknowledged the progress made by the IWG on EPPR and noted the request for a meeting room for one day during the GRPE week in June 2017.

### C. Global Technical Regulation No. 2 (World-wide Motorcycle emissions Test Cycle (WMTC))

43. GRPE did not receive any new proposal to amend GTR No. 2.

## XI. Electric Vehicles and the Environment (EVE) (agenda item 10)

Documentation: Informal document GRPE-74-15

- 44. The Chair of the IWG on Electric Vehicles and the Environment (EVE) presented a status report on the ongoing activities of the group (GRPE-74-15). He explained that part B of the mandate was adopted by AC.3 at its November 2016 session and included the following areas of work: (a) develop an amendment to GTR No. 15 to establish a procedure for determining the powertrain performance of electrified vehicles; (b) continue research on the topic of battery performance and durability; (c) approach the Group of Experts on Energy Efficiency (GEEE) and possibly the Executive Secretary of UNECE to request that they continue work on the method of stating energy consumption with the support of the IWG on EVE. He mentioned that the recyclability topic was removed from the mandate.
- 45. GRPE acknowledged the progress made by the IWG on EVE and noted the request for a meeting room for half a day during the GRPE week in June 2017.

### XII. Mutual Resolution No. 2 (M.R.2) (agenda item 11)

46. GRPE did not receive any new proposal to amend M.R.2.

# XIII. International Whole Vehicle Type Approval (IWVTA) (agenda item 12)

Documentation: ECE/TRANS/WP.29/1126

ECE/TRANS/WP.29/2017/53 ECE/TRANS/WP.29/2017/54 ECE/TRANS/WP.29/2017/55 Informal document GRPE-74-24

- 47. The GRPE Ambassador presented GRPE-74-24 on the timing and activities of the IWG on IWVTA.
- 48. GRPE noted that draft Revision 3 of the 1958 Agreement was in the process of ratification (ECE/TRANS/WP.29/1126, paras. 64 and 65) and that, in absence of any objection by Contracting Parties, the date of entry into force of Revision 3 would be scheduled for mid of September 2017. GRPE also noted that, at the March 2017 session of WP.29, delegates would consider the following documents on IWVTA: (a) revised general guidelines for UN Regulatory Procedures and Transitional Provisions in UN Regulations (ECE/TRANS/WP.29/2017/53), (b) an explanatory document on UN Regulation No. 0 (ECE/TRANS/WP.29/2017/54), and (c) a question and answer document on Revision 3 of the 1958 Agreement (ECE/TRANS/WP.29/2017/55).

### XIV. Vehicles Interior Air Quality (VIAQ) (agenda item 13)

Documentation: Informal documents GRPE-74-18 and GRPE-74-19

- 49. The Chair of the IWG on Vehicles Interior Air Quality (VIAQ) presented a status report on the ongoing activities of the group (GRPE-74-18). He introduced a first draft of a new Mutual Resolution on recommendations to harmonize test procedures of interior air emissions generated from interior materials (GRPE-74-19). He expressed the intention to submit the proposal as an official document for consideration at the next GRPE session in June 2017. He explained the ongoing discussions on the possibility to request a second mandate to include the outside air pollutants as a source of emissions to the interior of vehicles in the scope of the work of the IWG on VIAQ.
- 50. GRPE acknowledged the progress made by the IWG on VIAQ.

# XV. Exchange of information on emission requirements (agenda item 14)

51. GRPE did not receive any information for this item.

### XVI. Election of officers (agenda item 15)

52. In compliance with Rule 37 of the Rules of Procedures (TRANS/WP.29/690, Amends. 1 and 2) GRPE unanimously elected Mr. A. Rijnders (Netherlands) as Chair of GRPE for the sessions in the year 2017. No new Vice-Chair was elected in the absence of candidates. GRPE acknowledged the outstanding contributions of Mr. C. Albus and Ms. R. Urdhwareshe as former Chair and Vice-Chair to the fruitful work of GRPE.

### XVII. Any other business (agenda item 16)

53. GRPE did not receive any information for this item.

#### XVIII. Provisional agenda for the next session

#### A. Next GRPE session

54. The next GRPE session, including the IWG meetings, is scheduled to be held in Geneva, Palais des Nations, starting on Tuesday, 6 June 2017, from 9.30 a.m. until Friday, 9 June 2017, at 12.30 p.m., subject to confirmation by the secretariat (see GRPE-75-01, forthcoming). Interpretation would be provided from 6 June (2.30 p.m.) to 9 June (12.30 p.m.) 2017.

#### B. Provisional agenda for the next proper GRPE session

- 55. GRPE agreed on the following provisional agenda for its next session:
- 1. Adoption of the agenda.
- Report on the last session of the World Forum for Harmonization of Vehicle Regulations (WP.29).

- 3. Light vehicles:
  - (a) Regulations Nos. 68 (Measurement of the maximum speed, including electric vehicles), 83 (Emissions of M<sub>1</sub> and N<sub>1</sub> vehicles), 101 (CO<sub>2</sub> emissions/fuel consumption) and 103 (Replacement pollution control devices);
  - (b) Global technical regulation No. 15 on Worldwide harmonized Light vehicles Test Procedures (WLTP).
- 4. Heavy duty vehicles:
  - (a) Regulations Nos. 49 (Emissions of compression ignition and positive ignition (LPG and CNG) engines) and 132 (Retrofit Emissions Control devices (REC));
  - (b) 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)).
- 5. Regulations Nos. 85 (Measurement of the net power), 115 (LPG and CNG retrofit systems), 133 (Recyclability of motor vehicles) and 134 (Heavy Duty Dual-Fuel Engine Retrofit Systems (HDDF-ERS)).
- 6. Agricultural and forestry tractors, non-road mobile machinery:
  - (a) Regulations Nos. 96 (Diesel emission (agricultural tractors)) and 120 (Net power of tractors and non-road mobile machinery);
  - (b) Global technical regulation No. 11 (Non-road mobile machinery engines).
- 7. Particle Measurement Programme (PMP).
- 8. Motorcycles and mopeds:
  - (a) Regulations Nos. 40 (Emission of gaseous pollutants by motor cycles) and 47 (Emission of gaseous pollutants of mopeds);
  - (b) Environmental and Propulsion Performance Requirements (EPPR) for L-category vehicles;
  - (c) Global technical regulation No. 2 (World-wide Motorcycle emissions Test Cycle (WMTC)).
- 9. Electric Vehicles and the Environment (EVE).
- 10. Mutual Resolution No. 2 (M.R.2).
- 11. International Whole Vehicle Type Approval (IWVTA).
- 12. Vehicles Interior Air Quality (VIAQ).
- 13. Exchange of information on emission requirements.
- 14. Election of officers.
- 15. Any other business.

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

56. The informal meetings were scheduled to be held as follows, subject to confirmation:

Date	Group	Acronym	Time
Tuesday, 6	Worldwide harmonized Light vehicles Test	WLTP	9.30 a.m. – 12.30 p.m.
June 2017	Procedure		2.30 p.m. – 5.30 p.m.
Wednesday, 7	Environmental and Propulsion Performance	EPPR	9.30 a.m. – 12.30 p.m.
June 2017	Requirements of L-category vehicles		2.30 p.m. – 5.30 p.m.
	Electric Vehicles and the Environment	EVE	9.30 p.m. – 12.30 p.m.

<sup>57.</sup> The agendas of these meetings will be prepared by the respective Secretaries and distributed to the members of each group prior to each meeting.

GRPE- 74-	Transmitted by	Title	Follow- up
1	Secretariat	Informal meetings in conjunction with the GRPE (proper) session: schedule and rooms	A
2- Rev.1	WLTP	Proposal for amendments to ECE/TRANS/WP.29/GRPE/2017/7 on Amendment 2 to GTR No. 15	В
3- Rev.1	WLTP	Proposal for amendments to ECE/TRANS/WP.29/GRPE/2017/7 on Amendment 2 to GTR No. 15 (Consolidated version)	A
4	WLTP	Technical report on the development of a new global technical regulation on Evaporative emission test procedure for the Worldwide harmonized Light vehicles Test Procedure (WLTP EVAP)	В
5	WLTP	Technical report on the development of GTR No. 15 on WLTP including Amendment 2	В
6	Secretariat	General information	A
7	Secretariat	Highlights of the last WP.29 sessions (June and November 2016)	A
8	OICA	Proposal for a new Supplement to the 05 and 06 series of amendments to Regulation No. 49 (Compression ignition and positive ignition (LPG and CNG) engines)	A
9	OICA	Proposal for amendments to ECE/TRANS/WP.29/GRPE/2017/6 on a new Supplement to the 06 series of amendments to Regulation No. 49 (Compression ignition and positive ignition (LPG and CNG) engines)	A
10	ETRMA	Highlights related to ECE/TRANS/WP.29/GRPE/2017/3 on WLTP EVAP	A
11	WLTP	Status report	A
12	EPPR	Status report	A
13	EC	Alignment of Regulation No. 96 to EU Stage V	A
14	EUROMOT	Update of Regulation No. 132 for EU Stage V	A
15	EVE	Status report	A
16	OICA	Proposal for amendments to ECE/TRANS/WP.29/2017/42, ECE/TRANS/WP.29/2017/43 and ECE/TRANS/WP.29/2017/44	A
17	PMP	Status report	A
18	VIAQ	Status report	A
19	VIAQ	Proposal for a new Mutual Resolution on Vehicle Interior Air Quality	A
20	EC	Transposition of GTR No. 15 on WLTP into UN Regulations under the 1958 Agreement	A
21- Rev.1	Secretariat	Updated provisional agenda (including all informal documents)	A
22	Russian Federation / Hungary	Proposal for amendments to ECE/TRANS/WP.29/GRPE/2017/2 on amendments to Regulation No. 83	В
23	CLEPA	Approval of replacement pollution devices within Regulation No. 49	A
24	GRPE Ambassador	Report by the GRPE Ambassador on IWTA	A
25	OICA/AEGPL	Proposal for amendments to ECE/TRANS/WP.29/GRPE/2017/4 on Heavy Duty Dual-Fuel Engine Retrofit Systems (HDDF-ERS)	В

### Notes:

A Consideration by GRPE completed or to be superseded.

B Adopted and submitted to WP.29.

### **Annex II**

### Informal meetings held in conjunction with the GRPE session

Date	Time	Group	Acronym
9 January 2017	9:30 a.m 12:30 p.m.	Environmental and Propulsion Performance Requirements of L-category vehicles	EPPR
	2:30 p.m 5:30 p.m.	Environmental and Propulsion Performance Requirements of L-category vehicles	EPPR
10 January 2017	9:30 a.m 12:30 p.m.	Worldwide harmonized Light vehicles Test Procedure	WLTP
	2:30 p.m 5:30 p.m.	Worldwide harmonized Light vehicles Test Procedure	WLTP
11 January 2017	9:30 a.m 12:30 p.m.	Vehicle Interior Air Quality	VIAQ
	2:30 p.m 5:30 p.m.	Particle Measurement Programme	PMP
	2:30 p.m 5:30 p.m.	Electric Vehicles and the Environment	EVE

### **Annex III**

### List of GRPE informal working groups, task forces and subgroups

Name (Acronym) (Status)	Chair or Co-chairs	Secretaries	End of mandate
Environmental and Propulsion Performance Requirements of L- category vehicles (EPPR) (group)	Adolfo Perujo, Adolfo.PERUJO@ec.europa.eu	Daniela Leveratto, d.leveratto@immamotorcycles.org Hardik Makhija, hardik@siam.in	December 2020
Electric Vehicles and the Environment (EVE) (group)	Michael Olechiw, Olechiw.Michael@epamail.epa.gov Chen Chunmei (vice-Chair), chencm@miit.gov.cn Kazuyuki Narusawa (vice-Chair), narusawa@ntsel.go.jp	Andrew Giallonardo, Andrew.Giallonardo@ec.gc.ca	November 2018
Particle Measurement Programme (PMP) (group)	Giorgio Martini, giorgio.martini@jrc.ec.europa.eu	Caroline Hosier, chosier@ford.com	June 2019
Vehicle Interior Air Quality (VIAQ) (group)	Jong Soon Lim, jongsoon@ts2020.kr Yunshan GE (vice-Chair), geyunshan@163.com	Andreas Wehrmeier, andreas.wehrmeier@bmw.de	November 2017
Worldwide harmonized Light vehicles Test Procedure (WLTP) – Phase 2 (group)	Daisuke Kawano (vice-Chair), kawano@ntsel.go.jp	Noriyuki Ichikawa (co-Technical Secretary), noriyuki_ichikawa@mail.toyota.co.jp Markus Bergmann (co-Technical Secretary), markus.bergmann@audi.de	December 2019

#### **Annex IV**

Amendments to Regulation No. 83 (Emissions of M<sub>1</sub> and N<sub>1</sub> vehicles)

Adopted on the basis of ECE/TRANS/WP.29/GRPE/2017/2 and GRPE-74-22 (see para. 9)

A new Supplement to the 06 and 07 series of amendments to Regulation No. 83

Paragraph 1.1., amend to read:

"1.1. This Regulation...

. . .

At the manufacturer's request, type approval granted under this Regulation may be extended from vehicles mentioned above to special purpose vehicles of categories  $M_1$ ,  $M_2$ ,  $N_1$  and  $N_2$  regardless of their reference mass. The manufacturer shall demonstrate to the Type Approval Authority which granted the type approval that the vehicle in question is a special purpose vehicle.<sup>111</sup>

<sup>&</sup>lt;sup>1</sup> As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.4, para. 2. -

#### Annex V

#### Amendments to ECE/TRANS/WP.29/GRPE/2017/7

#### Adopted on the basis of GRPE-72-02-Rev.1 (see para. 16)

In ECE/TRANS/WP.29/GRPE/2017/7,

Part II, Text of the global technical regulation,

Paragraph 3.4.1., amend to read:

"3.4.1. "Powertrain" means the total combination in a vehicle, of propulsion energy storage system(s), propulsion energy converter(s) and the drivetrain(s) providing the mechanical energy at the wheels for the purpose of vehicle propulsion, plus peripheral devices."

Annex 2, paragraph 3.4., amend to read:

"3.4. ...

ASM is an additional exponential power safety margin which may be applied at the request of the manufacturer.

..."

Annex 3, Table A3/10, amend to read:

Characteristics	Units	Limits		Test method
		Minimum	Maximum	
	•••		•••	
				KS M ISO 6974, ASTM
Inert gas (CO <sub>2</sub> , N <sub>2</sub> , etc.)	vol %	-	4.5	D1946, ASTM D1945-81,
				JIS K 0114

Annex 4, paragraph 2.4., amend to read:

"2.4.  $f_0$ ,  $f_1$ ,  $f_2$  are the road load coefficients of the road load equation  $F = f_0 + f_1 \times v + f_2 \times v^2$ , determined according to this annex.

..."

Annex 4, paragraph 3.2.9., amend to read:

"3.2.9. ...

 $\delta_{99}$  is the distance perpendicular to the road, where 99 per cent of free stream velocity is reached (boundary layer thickness)."

Annex 4, paragraph 4.1.1.1.1., amend to read:

"4.1.1.1. Permissible wind conditions when using stationary anemometry

Stationary anemometry shall be used only when wind speeds over a period of 5 seconds averages less than 5 m/s and peak wind speeds are less than 8 m/s for less than 2 seconds. In addition, the vector component of the wind speed across the test road shall be less than 2 m/s. Any wind correction shall be

calculated as given in paragraph 4.5.3. of this annex. Wind correction may be waived when the lowest arithmetic average wind speed is 2 m/s or less."

Annex 4, paragraph 8.1.3.1., amend to read:

"8.1.3.1. ...

 $A_t$ ,  $B_t$  and  $C_t$  are the target road load parameters  $f_0$ ,  $f_1$  and  $f_2$  respectively;

Annex 4, paragraph 8.1.3.4.1.2., amend to read:

"8.1.3.4.1.2. ...

 $A_t,\,B_t$  and  $C_t$  — are the target road load parameters  $\mathbf{f}_0,\,\mathbf{f}_1$  and  $\mathbf{f}_2$  respectively; "

Annex 4, insert a new paragraph 8.1.5., to read:

- "8.1.5.  $A_t$ ,  $B_t$  and  $C_t$  shall be used as the final values of  $f_0$ ,  $f_1$  and  $f_2$ , and shall be used for the following purposes:
  - (a) Determination of downscaling, paragraph 8. of Annex 1;
  - (b) Determination of gearshift points, Annex 2;
  - (c) Interpolation of  $CO_2$  and fuel consumption, paragraph 3.2.3. of Annex 7;
  - (d) Calculation of results of electrified vehicles, paragraph 4. of Annex 8."

Annex 7, paragraph 8., amend to read:

"8. ..

$$U_{\rm dyn} = 3.05 \times \left(2\left(\frac{H/W}{W \times 100}\right) \times W + (R \times 25.4)\right)$$

. . . . "

Annex 8, Table A8/5, amend to read:

Source	Input	Process	Output	Step No.
Annex 6	Raw test results	Charge-sustaining mass emissions  Annex 7, paragraphs 3. to 3.2.2. inclusive  Paragraphs 3. to 3.2.2. inclusive of Annex 7.	M <sub>i,CS,p,1</sub> , g/km; M <sub>CO2,CS,p,1</sub> , g/km.	1
• • •				•••
Output from steps Nos. 1 and 2 of this table.	M <sub>CO2,CS,p,1</sub> , g/km; M <sub>CO2,CS,c,2</sub> , g/km.	REESS electric energy change correction  Annex 8, paragraph 4.1.1.2. to 4.1.1.5. inclusive  Paragraphs 4.1.1.2. to 4.1.1.5. inclusive of Annex 8.	M <sub>CO2,CS,p,3</sub> , g/km; M <sub>CO2,CS,c,3</sub> , g/km.	3

Source	Input	Process	Output	Step No.
Output from step No. 6 of this table.	M <sub>CO2,CS,c,6</sub> , g/km; M <sub>CO2,CS,p,6</sub> , g/km; M <sub>CO2,CS,c,declared</sub> , g/km.	Alignment of phase values.  Annex 6, paragraph 1.2.4.  Paragraph 1.2.4. of Annex 6,  and:  M <sub>CO2,CS,c,7</sub> = M <sub>CO2,CS,c,declared</sub>	M <sub>CO2,CS,c,7</sub> , g/km; M <sub>CO2,CS,p,7</sub> , g/km.	7 "M <sub>CO2,CS</sub> results of a Type 1 test for a test vehicle"

#### Annex 8, Table A8/7, amend to read:

Source Input Process Output Step No.  $FC_{CS,p,1}, \overline{kg/100 \text{ km}};$ REESS electric energy change Output from step FC<sub>CS,p,2</sub>, kg/100 km; 2 No. 1 of this table. correction FC<sub>CS,c,2</sub>, kg/100 km. FC<sub>CS,c,1</sub>, kg/100 km. Annex 8, pParagraphs 4.2.1.2.2. to 4.2.1.2.5. inclusive of this annex FC<sub>CS,p,4</sub>, kg/100 km; Alignment of phase values. FC<sub>CS,p,5</sub>, kg/100 km; 5 Output from step FC<sub>CS,c,4</sub>, kg/100 km; No. 4 of this table. Annex 6, pParagraph 1.2.4. of FC<sub>CS,c,5</sub>, kg/100 km. "FC<sub>CS</sub> results of Annex 6, FC<sub>CS,c,declared</sub>, kg/100 a Type 1 test km. Aand: for a test  $FC_{CS,c,5} = FC_{CS,c,declared}$ vehicle"

#### Annex 8, Table A8/8, amend to read:

Source Input Process Output Step no. Output step 3 In the case that the interpolation 4 n<sub>veh</sub>;  $n_{\text{veh},L};$ shall be used, the transition cycle has n<sub>veh,H</sub>; to shall be determined for vehicle H, L and, if applicable, M. if applicable Check whether the interpolation  $n_{\text{veh},M.}$ criterion acc. to paragraph 5.6.2. (d) of this UN GTR is fulfilled or not. ... ... ... ...

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Annex 8, Appendix 1, Figure A8.App1/4., amend to read:

"Figure A8.App1/4 OVC-HEVs, charge-depleting sustaining Type 1 test with subsequent charge-sustaining depleting Type 1 test ..."

#### Annex VI

### Amendments to Regulation No. 143 (HDDF-ERS)

Adopted on the basis of ECE/TRANS/WP.29/GRPE/2017/4 and GRPE-74-25 (see para. 39)

#### A new Supplement to the original version of Regulation No. 143

Annex 6, paragraph 10.1., amend to read:

"10.1. Tests and requirements

An engine representative of the desired extension of the application range shall be tested in accordance with the provisions set out in paragraph 5.2.2. or 10.1.1. at the choice of the dual-fuel engine retrofit system manufacturer. Engine tests in accordance with paragraph 5.2.2. are always required for the extension of an application range with an engine family equipped with EGR.

The tests in accordance with paragraph 10.1.1. shall be carried out on a representative engine equipped with a member of the dual-fuel engine retrofit system family.

The same tests shall be performed in diesel mode and in dual-fuel mode in such a way that the operating points and conditions are as similar as possible.

The  $NO_X$ , Non-Methane Hydrocarbons (NMHC), CO and PM emission test results in dual-fuel mode shall be lower than or equal to the results in diesel mode.

Alternatively, at the request of the engine retrofit system manufacturer, the following provisions apply:

(a) As for Non-Methane Hydrocarbons (NMHC) and CO emissions only, the CO<sub>2</sub> specific emission results of the test in accordance with paragraph 10.1.1.1. in dual-fuel mode shall not exceed the applicable Regulation No. 49 original emission limits transposed into CO<sub>2</sub> specific emission limits with the following equation:

 $CO_2$  specific emission limit = 1.6  $\times$  1.5  $\times$  brake specific emission limit Where:

CO<sub>2</sub> specific emission limit is the equivalent limit expressed in

[g/kgCO<sub>2</sub>]

1.6 is the conversion factor from brake

specific to CO<sub>2</sub> specific emissions

1.5 is the Conformity Factor

brake specific emission limit is the applicable Regulation No. 49

original emission limit expressed in

[g/kWh]

(b) The NOx and PM emission test results in dual-fuel mode shall be lower than or equal to the results in diesel mode."

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