WLTP UNR Development (based on WLTP-28-09e)

Agreed proposals within WLTP Sub Group EV – Revision 5

Agreed in TelCo on 16.10.2019

Proposals for amendment

Update/amendment of Annex 8, Appendix 4, Paragraph 2.2.3. (Charging)

Intention of the proposal:

- The end-of charge-criterion has currently no reference to the soaking time
- Proposal is adding this reference

Feedback during meeting on October 16th :

- EC supports the proposal
- JPN supports the proposal
- Drafting Coordinator: remove “either” in paragraph 2.2.3.1. (editorial) – agreed by the group that this word not belongs there

Updated version in: 190926_Drafting Input for SG EV_1443.docx (please also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets (“[…]”)
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove “[…]”
- [ ] Not supported at the current stage, put on hold for a later stage

Agreed in TelCo on 16.10.2019

Proposals for amendment

Update/amendment of Annex 8, Appendix 4, Paragraph 2.2.3. (Charging)

Annex 8, Appendix 4 (Charging)	
Current text:	Proposal:
2.2.3. Application of a normal charge	2.2.3. Application of a normal charge
Normal charging is the transfer of electricity to an electrified vehicle with a power of less than or equal to 22 kW.	Normal charging is the transfer of electricity to an electrified vehicle with a power of less than or equal to 22 kW.
Where there are several possible methods to perform a normal AC charge (e.g. cable, induction, etc.), the charging procedure via cable shall be used.	Where there are several possible methods to perform a normal AC charge (e.g. cable, induction, etc.), the charging procedure via cable shall be used.
Where there are several AC charging power levels available, the highest normal charging power shall be used. An AC charging power lower than the highest normal AC charging power may be selected if recommended by the manufacturer.	Where there are several AC charging power levels available, the highest normal charging power shall be used. An AC charging power lower than the highest normal AC charging power may be selected if recommended by the manufacturer and by approval of the responsible authority.
2.2.3.1. The REESS shall be charged at an ambient temperature as specified in paragraph 2.2.2.2. of Annex 6 either with the on-board charger if fitted.	2.2.3.1. The REESS shall be charged at an ambient temperature as specified in paragraph 2.2.2.2. of Annex 6 ~~either~~ with the on-board charger if fitted.
In the following cases, a charger recommended by the manufacturer and using the charging pattern prescribed for normal charging shall be used if:	In the following cases, a charger recommended by the manufacturer and using the charging pattern prescribed for normal charging shall be used if:
(a) No on-board charger is fitted, or	(a) No on-board charger is fitted, or
(b) The charging time exceeds the soaking time defined in paragraph 2.7. of Annex 6.	(b) The charging time exceeds the soaking time defined in paragraph 2.7. of Annex 6.
The procedures in this paragraph exclude all types of special charges that could be automatically or manually initiated, e.g. equalization charges or servicing charges. The manufacturer shall declare that, during the test, a special charge procedure has not occurred.	The procedures in this paragraph exclude all types of special charges that could be automatically or manually initiated, e.g. equalization charges or servicing charges. The manufacturer shall declare that, during the test, a special charge procedure has not occurred.
2.2.3.2. End-of-charge criterion	2.2.3.2. End-of-charge criterion
The end-of-charge criterion is reached when the on-board or external instruments indicate that the REESS is fully charged.	The end-of-charge criterion is reached when the on-board or external instruments indicate that the REESS is fully charged. If the charging is performed during soaking and finished before the minimum required soaking time as defined in paragraph 2.7. of Annex 6, the vehicle shall stay connected to the grid at least until the minimum required soaking time is reached. ~~The end-of-charge criteria corresponds to a charging time of 6 hours except if a clear indication is given to the driver by the on-board or external instruments that the battery is not yet fully charged.~~ ~~The charging time shall not exceed the soaking time defined in paragraph 2.7. of Annex 6.~~

Agreed in TelCo on 16.10.2019

Proposals for amendment

Update/amendment of OVC-HEV and PEV family (on charge electric energy converter)

Intention of the proposal:

- The interpolation family criteria are including the electric energy converter between recharge-plug-in and REESS
- A vehicle, which is identical in all interpolation family criteria except of the onboard-charger, would need to be split into two separate families which means to separate measurements
- These two separate measurements are caused by a component which has only influence on the recharged energy E_{AC} (DC energy consumption, fuel consumption, CO_2 are identical), so you are doing the same measurement procedure twice just to measure the recharged energy with a different device
- Proposal describes that the measurements with the less efficient charger can cover the measurements with the more efficient charger(s) as less efficient charger is the "worst case" in case of the recharged energy E_{AC}

Feedback during meeting on October 16th:

- Proposal can be supported by EC
- Proposal can be supported by JPN

Updated version: 191016_WLTP-GTR-Proposals_EV_family criteria vehicle charger_update.pdf

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Agreed in TelCo on 16.10.2019

Proposals for amendment

Update/amendment of OVC-HEV and PEV family (on charge electric energy converter)

FAMILY CRITERIA ELECTRIC ENERGY CONVERTER FOR OVC-HEV AND PEV

5.6. Interpolation family

5.6.2. Interpolation family for NOVC-HEVs and OVC-HEVs

In addition to the requirements of paragraph 5.6.1. of this UN GTR, only OVC-HEVs and NOVC-HEVs that are identical with respect to the following characteristics may be part of the same interpolation family:

(a) Type and number of electric machines: construction type (asynchronous/ synchronous, etc.), type of coolant (air, liquid) and any other characteristics having a non-negligible influence on CO_2 mass emission and electric energy consumption under WLTP conditions;

(b) Type of traction REESS (model, capacity, nominal voltage, nominal power, type of coolant (air, liquid));

(c) Type of electric energy converter between the electric machine and traction REESS, between the traction REESS and low voltage power supply and between the recharge-plug-in and traction REESS, and any other characteristics having a non-negligible influence on CO_2 mass emission and electric energy consumption under WLTP conditions. At the request of the manufacturer and with the approval of the approval authority, electric energy converters between recharge-plug-in and traction REESS with lower recharge losses may be included in the family.

5.6.3. Interpolation family for PEVs

Only PEVs that are identical with respect to the following electric powertrain/transmission characteristics may be part of the same interpolation family:

(a) Type and number of electric machines: construction type (asynchronous/ synchronous, etc.), type of coolant (air, liquid) and any other characteristics having a non-negligible influence on electric energy consumption and range under WLTP conditions;

(b) Type of traction REESS (model, capacity, nominal voltage, nominal power, type of coolant (air, liquid));

(c) Transmission type (e.g. manual, automatic, CVT) and transmission model (e.g. torque rating, number of gears, numbers of clutches, etc.);

(d) Number of powered axles;

(e) Type of electric energy converter between the electric machine and traction REESS, between the traction REESS and low voltage power supply and between the recharge-plug-in and traction REESS, and any other characteristics having a non-negligible influence on electric energy consumption and range under WLTP conditions. At the request of the manufacturer and with the approval of the approval authority, electric energy converters between recharge-plug-in and traction REESS with lower recharge losses may be included in the family.

Agreed in TelCo on 16.10.2019

Proposals for amendment

Update/amendment of OVC-HEV and PEV family (on charge electric energy converter)

Example from Road Load Family as basis for the proposal

5.7. **Road load family**

Only vehicles that are identical with respect to the following characteristics may be part of the same road load family:

(a) Transmission type (e.g. manual, automatic, CVT) and transmission model (e.g. torque rating, number of gears, number of clutches, etc.). At the request of the manufacturer and with approval of the approval authority, a transmission with lower power losses may be included in the family;

Wording agreed in TelCo on 09.10.2019

Proposals for amendment

Amendment of wording to clarify the application of the CO_2 correction factor

Intention of the proposal:

- Text in Annex 8 Appendix 2 not straight forward written, hard to follow the meaning
- Clearer and straight forward wording, no content change

Feedback during meeting on October 9th 2019:

- JPN supports the updated proposal
- EC supports the updated proposal
- Final check and amendment of wording done in web-audio on 09.10.2019

Latest version: 191009_based on Amendment 5_REESS energy change-based correction procedure.docx

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Agreed in TelCo on 09.10.2019

Proposals for amendment

Amendment of Annex 8, Paragraph 4.4.4.2. (Determination of phase-specific EAER)

Intention of the proposal:

- In paragraph 4.4.4.2., the text box at the very end is a bit misleading as it writes "(...) considered phase values" and then talks about phase and cycle in the second part of the sentence
- Proposal removes "values" at the beginning and just says: the considered phase shall be the low phase, medium phase, high phase, extra-high phase and the city driving cycle

Feedback during meeting on October 9th 2019:

- JPN supports the proposal
- EC supports the proposal

Latest version: 190927_Amendment 5_EAER_city_improvement.docx

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Agreed in TelCo on 09.10.2019

Proposals for amendment

Adding a paragraph 4.5.8. in Annex 8 (allowing to voluntarily decrease individual $EAER_{(p)}$)

Intention of the proposal:

- It is allowed to voluntarily lower the CO_2 value of pure ICE vehicles
- Proposals adds this option for $EAER_{(p)}$ to write a voluntarily lowered EAER value into the CoC

Feedback during meeting on October 9th 2019:

- JPN supports the proposal
- EC supports the proposal

Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Agreed in TelCo on 09.10.2019

Proposals for amendment

Adding a paragraph 4.5.8. in Annex 8 (allowing to voluntarily decrease individual $EAER_{(p)}$)

Annex 8, Adding a paragraph 4.5.7.4. (to allow to decrease EAER as it is no declared value)	
Situation: Currently, manufacturer is not allowed to write a lower EAER range value in the test report and CoC then the measured one. Maybe, Annex 7, paragraph 3.2.3.2.6. can be a solution, just amended in the direction of EAER 3.2.3.2.6. The individual CO_2 value determined in paragraph 3.2.3.2.4. of this annex may be increased by the original equipment manufacturer (OEM). In such cases: (a) The CO_2 phase values shall be increased by the ratio of the increased CO_2 value divided by the calculated CO_2 value; (b) The fuel consumption values shall be increased by the ratio of the increased CO_2 value divided by the calculated CO_2 value. This shall not compensate for technical elements that would effectively require a vehicle to be excluded from the interpolation family.	Proposal to add a new paragraph in Annex 8, chapter 4: 4.5.8. Adjustment of values The individual EAER value determined in accordance with paragraph 4.5.7.3. of this Annex may be decreased by the OEM. In such cases: The EAER phase values shall be decreased by the ratio of the decreased EAER value divided by the calculated EAER value. This shall not compensate for technical elements that would effectively require a vehicle to be excluded from the interpolation family.

Proposals for amendment

Update/amendment of Annex 8, Paragraph 3.4.4.2.1.2. (constant speed segment)

Intention of the proposal:

- In the referred paragraph, it is only described how to accelerate to reach the speed in the constant speed segment but it is not described how to decelerate
- Proposal adds a sentence which also describes how to decelerate from constant speed to stand still

Feedback:

- JPN supports the proposal
- EC supports the proposal

Conclusion in IWG WLTP in Bern:

- Including into UNR WLTP

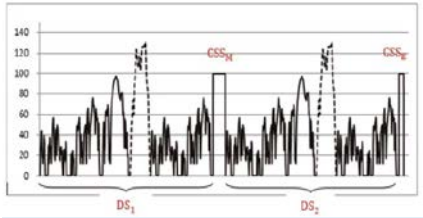
Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of Annex 8, Paragraph 3.4.4.2.1.2. (constant speed segment)

Annex 8, Chapter 3	
3.4.4.2.1.1. Dynamic segments Each dynamic segment DS1 and DS2 consists of an applicable WLTP test cycle according to paragraph 1.4.2.1. of this annex followed by an applicable WLTP city test cycle according to paragraph 1.4.2.2. of this annex. 3.4.4.2.1.2. Constant speed segment The constant speeds during segments CSS M and CSS E shall be identical. If the interpolation approach is applied, the same constant speed shall be applied within the interpolation family. (a) Speed specification The minimum speed of the constant speed segments shall be 100 km/h. At the request of manufacturer and with approval of the approval authority, a higher constant speed in the constant speed segments may be selected. The acceleration to the constant speed level shall be smooth and accomplished within 1 minute after completion of the dynamic segments and, in the case of a break according to Table A8/4, after initiating the powertrain start procedure. If the maximum speed of the vehicle is lower than the required minimum speed for the constant speed segments according to the speed specification of this paragraph, the required speed in the constant speed segments shall be equal to the maximum speed of the vehicle. *Figure A8/2* Shortened Type 1 test procedure speed trace  	3.4.4.2.1.1. Dynamic segments Each dynamic segment DS1 and DS2 consists of an applicable WLTP test cycle according to paragraph 1.4.2.1. this annex followed by an applicable WLTP city test cycle according to paragraph 1.4.2.2. of this annex. 3.4.4.2.1.2. Constant speed segment The constant speeds during segments CSS M and CSS E shall be identical. If the interpolation approach is applied, the same constant speed shall be applied within the interpolation family. (a) Speed specification The minimum speed of the constant speed segments shall be 100 km/h. At the request of manufacturer an with approval of the approval authority, a higher constant speed in the constant speed segments may be selected. The acceleration to the constant speed level shall be smooth and accomplished within 1 minute after completion of the dynamic segments and, in the case of a break according to Table A8/4, after initiating th powertrain start procedure. **The deceleration from the constant speed level shall be smooth and accomplished within 1 minute after completion of the constant speed segments.** If the maximum speed of the vehicle is lower than the required minimum speed for the constant speed segments according to the speed specification of this paragraph, the required speed in the constant speed segments shall be equal to the maximum speed of the vehicle.

Proposals for amendment

Update/amendment of table A8/9 (adding $M_{CO2,CS,p}$ as input/output to step 1 and step 3)

Intention of the proposal:

- In the post processing table A8/9, the input parameter $M_{CO2,CS,p}$ for the EAER calculation is not listed
- Proposal adds this missing input parameter, no content change

Feedback:

- JPN supports the proposal however will not apply UNR Level 1b
- EC supports the proposal

Conclusion in IWG WLTP in Bern:

- Including into UNR WLTP

Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of table A8/9 (adding $M_{CO2,CS,p}$ as input/output to step 1 and step 3)

Table A8/9: For the EAERp calculation, the phase specific CS CO2 values is required (M_CO2_CS_P) but not stated in table A8/9

Current text in Step 3:

Output step 1,	$M_{CO2,CD,j}$, g/km; $\Delta E_{REESS,j}$, Wh; d_j, km; n_{veh}; R_{CDC}, km $M_{CO2,CS}$, g/km;	Calculation of equivalent all-electric range according to paragraphs 4.4.4.1. and 4.4.4.2. of this annex, and actual charge-depleting range according to paragraph 4.4.5. of this annex. Output is available for each CD test. RCDA shall be rounded according to paragraph 7. of this UN GTR to the nearest whole number. In the case that the interpolation method is applied, the output is available for each vehicle L, H and, if applicable, M.	EAER, km; $EAER_p$, km; RCDA, km.	3

Proposal:

In step 1 of Table A8/9: Add in the Step No. 1 the input:

"

(...) **Output step 7, Table A8/5**	(...) **$M_{CO2,CS,p}$**	(...)	(...) **$M_{CO2,CS,p}$**	1

(...)

Output step 1,	$M_{CO2,CD,j}$, g/km; $\Delta E_{REESS,j}$, Wh; d_j, km; n_{veh}; R_{CDC}, km $M_{CO2,CS}$, g/km; **$M_{CO2,CS,p}$**	Calculation of equivalent all-electric range according to paragraphs 4.4.4.1. and 4.4.4.2. of this annex, and actual charge-depleting range according to paragraph 4.4.5. of this annex. Output is available for each CD test. RCDA shall be rounded according to paragraph 7. of this UN GTR to the nearest whole number. In the case that the interpolation method is applied, the output is available for each vehicle L, H and, if applicable, M.	EAER, km; $EAER_p$, km; RCDA, km.	3

Proposals for amendment

Update/amendment of Annex 8, Paragraph 4.4.1.2.1. (AER_{city})

Intention of the proposal:

- Text in Annex 8, Paragraph 4.4.1.2.1 is referencing to the CD-test procedure (but total cycle needs to be replaced by the city cycle); but reference includes also the reference to the break-off-criterion
- Only AER_{city} is determined so test does not need to run until the CD-test break-off-criterion; furthermore, this criterion is based on the complete cycle and not on the city cycle

Feedback:

- JPN supports the proposal
- EC supports the proposal

Conclusion in IWG WLTP in Bern:

- Including into UNR WLTP

Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of Annex 8, Paragraph 4.4.1.2.1. (AER_{city})

4.4.1.2.	All-electric range city AER_{city}	4.4.1.2.	All-electric range city AER_{city}
4.4.1.2.1.	The all-electric range city AER_{city} for OVC-HEVs shall be determined from the charge-depleting Type 1 test described in paragraph 3.2.4.3. of this annex as part of the Option 1 test sequence and is referenced in paragraph 3.2.6.1. of this annex as part of the Option 3 test sequence by driving the applicable WLTP city test cycle according to paragraph 1.4.2.2. of this annex. The AER_{city} is defined as the distance driven from the beginning of the charge-depleting Type 1 test to the point in time where the combustion engine starts consuming fuel.	4.4.1.2.1.	The all-electric range city AER_{city} for OVC-HEVs shall be determined from the charge-depleting Type 1 test described in paragraph 3.2.4.1., 3.2.4.2. and 3.2.4.3. of this annex as part of the Option 1 test sequence ~~and is referenced in paragraph 3.2.6.1. of this annex as part of the Option 3 test sequence~~ by driving the applicable WLTP city test cycle according to paragraph 1.4.2.2. of this annex. The AER_{city} is defined as the distance driven from the beginning of the charge-depleting Type 1 test to the point in time where the combustion engine starts consuming fuel. The point in time where the combustion engine starts consuming fuel shall be considered as the break-off criterion and shall replace the break-off criterion ~~end of charge depleting Type 1 test criterion according to~~ described in paragraph 3.2.4.4.

Proposals for amendment

Update/amendment of Annex 1, Paragraph 9.1.

Intention of the proposal:

- Reference was on the wrong place
- Proposal moves reference to the right place as it is the class 3b cycle which is defined in paragraph 3.3.2

Feedback:

- JPN supports the proposal
- EC supports the proposal

Conclusion in IWG WLTP in Bern:

- Including into UNR WLTP

Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of Annex 1, Paragraph 9.1.

Annex 1	
9.1. General remarks This paragraph applies, if required by regional legislation, to vehicles that are technically able to follow the speed trace of the applicable cycle specified in paragraph 1. of this annex (base cycle) at speeds lower than its maximum speed, but whose maximum speed is limited to a value lower than the maximum speed of the base cycle for other reasons. For the purposes of this paragraph, this applicable cycle shall be referred to as the "base cycle" and is used to determine the capped speed cycle. In the cases where downscaling according to paragraph 8.2. of this annex is applied, the downscaled cycle shall be used as the base cycle. The maximum speed of the base cycle shall be referred to as $v_{max,cycle}$. The maximum speed of the vehicle shall be referred to as its capped speed v_{cap}. If v_{cap} is applied to a Class 3b vehicle as defined in paragraph 3.3.2. of this annex, the Class 3b cycle shall be used as the base cycle. This shall apply even if vcap is lower than 120 km/h. In the cases where v_{cap} is applied, the base cycle shall be modified as described in paragraph 9.2. of this annex in order to achieve the same cycle distance for the capped speed cycle as for the base cycle.	9.1. General remarks This paragraph applies, if required by regional legislation, to vehicles that are technically able to follow the speed trace of the applicable cycle specified in paragraph 1. of this annex (base cycle) at speeds lower than its maximum speed, but whose maximum speed is limited to a value lower than the maximum speed of the base cycle for other reasons. For the purposes of this paragraph, **the** applicable cycle **specified in paragraph 1** shall be referred to as the "base cycle" and is used to determine the capped speed cycle. In the cases where downscaling according to paragraph 8.2. of this Annex is applied, the downscaled cycle shall be used as the base cycle. The maximum speed of the base cycle shall be referred to as $v_{max,cycle}$. The maximum speed of the vehicle shall be referred to as its capped speed v_{cap}. If v_{cap} is applied to a Class 3b vehicle ~~as defined in paragraph 3.3.2. of this annex~~, the Class 3b cycle **as defined in paragraph 3.3.2. of this annex** shall be used as the base cycle. This shall apply even if v_{cap} is lower than 120 km/h. In the cases where v_{cap} is applied, the base cycle shall be modified as described in paragraph 9.2. of this annex in order to achieve the same cycle distance for the capped speed cycle as for the base cycle.

Proposals for amendment

Update/amendment of PEV and OVC-HEV mode selection description

Intention of the proposal:

- Proposal extends the mode chapter regarding the aspects of configurable vehicle start modes
- Proposal discussed together with proposal for pure ICE vehicles (as following the same concept)

Feedback:

- JPN supports the proposal with updated wording which was discussed during the IWG WLTP meeting
- EC supports the proposal with updated wording which has been discussed during the IWG WLTP meeting

Conclusion in IWG WLTP in Bern:

- Including into UNR WLTP

Latest version:

20190927_BEV_modes_v4.docx; 20190927_PHEV_modes_v6.docx; 190827_Annex 8 Appendix 6_flowcharts.pptx

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of Annex 8, Appendix 4 (PEV soak time)

Intention of the proposal:

- PEV soak time is not defined in current GTR text
- Proposal is adding the missing text, describing the current praxis and bringing the PEV text in line with text for OVC-HEVs and NOVC-HEVs

Feedback:

- JPN supports the proposal
- EC supports the proposal

Latest version: topic described in 190926_Drafting Input for SG EV_1443 (but also see next slide)

Conclusion with WLTP SG EV after web-audio on October 16th, 2019:

- [X] Supported and shall go into UNR WLTP first edition
- [ ] Shall go into UNR WLTP first edition, but in square brackets ("[...]")
- [ ] For the moment, proposal in Square brackets; active feedback until October 21st required to remove "[...]"
- [ ] Not supported at the current stage, put on hold for a later stage

Proposals for amendment

Update/amendment of Annex 8, Appendix 4 (PEV soak time)

Current text:	Proposal:
3. PEV preconditioning	3. PEV preconditioning **and soaking**
3.1 Initial charging of the REESS	3.1 Initial charging of the REESS
Initial charging of the REESS consists of discharging the REESS and applying a normal charge.	Initial charging of the REESS consists of discharging the REESS and applying a normal charge.
3.1.1. Discharging the REESS	3.1.1. Discharging the REESS
The discharge procedure shall be performed according to the manufacturer's recommendation. The manufacturer shall guarantee that the REESS is as fully depleted as is possible by the discharge procedure.	The discharge procedure shall be performed according to the manufacturer's recommendation. The manufacturer shall guarantee that the REESS is as fully depleted as is possible by the discharge procedure.
3.1.2. Application of a normal charge	3.1.2. Soaking and application of a normal charge
The REESS shall be charged according to paragraph 2.2.3.1. of this Appendix.	Soaking of the vehicle shall be performed in accordance with paragraph 2.7. of Annex 6. During soak, the REESS shall be charged using the normal charging procedure as defined in paragraph 2.2.3. of this Appendix.