

<b>WLTP Sub Group EV Phase 2</b>	
<b>Date</b>	Tuesday, October 4 <sup>th</sup> 2016
<b>Time</b>	11:00 to 17:30 CET
<b>Location</b>	Hotel Carlton Beach, HZ Scheveningen/ The Hague (see invitation for address and registration, WLTP-SG-EV-13-01)
<b>Title</b>	WLTP Sub Group EV, 13 <sup>th</sup> meeting minutes

### Agenda

1	Report from IWG EVE	
	- Status: System Power Determination	Report by: Matthias Nägeli
	<p>Report from EVE: System power</p> <p>Since last meeting, there had been no further meeting on EVE level. EVE group prepared during its last season in June a document for WP29 meeting in November which is asking for approval how to proceed with the topics discussed within the mandate of part A.</p> <p>EVE gives in this document a recommendation how the work to develop a procedure should be proceed and proposes work plan prepared from the TF regarding system power.</p> <p>JP asked question regarding timeline as EVE proposes finishing draft GTR in 2018 and how this is reflected in WLTP timeline. Request to follow the timeline without delay.</p> <p>Industry important with lead time.</p> <p>T&amp;E stated that from their point of view it appears unrealistic that developing a methodology for determining system power of electrified vehicles may take such a long time.</p> <p>Answer on the T&amp;E statement is that this timeline is the result of long discussions within the IWG EVE and is caused by the lack of standardized methods at this point in time as it is the intention to reference to global standards, ISO and SAE.</p> <p>Currently EVE has no mandate and are waiting for WP29 to give prolonged. ISO meeting in October can give some clarity.</p>	
	- Status: Battery performance and durability	
	<p>Report from EVE: Battery durability.</p> <p>EVE recommendation to seek approval from WP29 to continue research on the area.</p> <p>JP stated that this work should be separated from TF durability and proposes that EVE continues research and development on this topic..</p> <p>EC has a large interest in a regulation regarding battery durability. From their point of view, it is important to see how the performance is evolving during the vehicle use. EC is respecting the expert recommendation and ECE is accepting the time line.</p> <p>Will still work on requirement for manufacturer to take into count the current technology to protect customer expectations.</p> <p>JP agrees with the recommendations and proposed time line.</p> <p>In general, it was stated, that the durability with respect to range is nowadays a topic which is best regulated and controlled by the market itself (customer demand, competitor performance) as a manufacturer with a bad performance in-use will have a very bad reputation and not sell many of these vehicles.</p> <p>EC made the statement that, if EVE does not take appropriate actions WLTP needs to do that.</p> <p>SG EV needs to continue the close collaboration with EVE and support in developing proposals and discuss further proceeding which is appropriate for the WLTP purposes.</p>	

2	Report from IWG WLTP task forces	
	- TF EVAP	Report by Task Force leader if available. Otherwise, brief report by Task Force member with information of the latest development
	Meeting last Friday (30 <sup>th</sup> September). EVAP GTR draft will be submitted to GRPE if approved in WLTP IWG. GTR includes no description for sealed tank which is important with respect to the OVC-HEVs. Plan to continue the work and present update at GRPE in June 2017. Need to discuss together the next six months.	
	- TF OBD	
	A questionnaire has been sent to the members. TF is still at the beginning of its work and the process of developing proposals.  Will be discussed in WLTP IWG to clarify the discussion points for the TF. From comments received, the work will on UN-ECE R 83. Kick off will be after that. EC will join the TF.	
	- TF In-Service	
	Last WLTP IWG presented ToR. This topic hasn't had the highest priority in EC in the latest time. Intention the restart now on WLTP IWG level.	
	- TF Gearshift/Cycle	
	Update on preparatory web meeting last week. Will be a comprehensive report on WLTP IWG. For SG EV important to reflect in respect with system power.	
	- TF Normalization	
	JP provided study on EV. Decision not use normalization for EV. JP is studying appropriate drive trace index. For both EV and conventional vehicles.  A proposal will be presented beginning of 2017.	
	- TF Durability	
	EC will present update on WLTP IWG. Intention to split not wait for battery durability procedure. Focus on other areas. For SG EV the Kick of meeting is important.	
	- TF Low and Realistic Winter Temperature (Supplemental Test)	
	Report from kick of meeting the 12 to 13 <sup>th</sup> of September. ToR has been revised during that meeting. TF propose to split the task in two subgroups. One for regulated pollutants from combustion engine and another task regarding the range from EV. The initial work will be in one group. There is a connection to SG EV which needs to be clarified what will be the input from SG EV. For example regarding effect on range at lower temperature. Need to think of not increasing the test burden, for example by running CD test in lower temperature in addition to type 1. Range for EV is an issue that has to be discussed under responsibility of the SG EV. Question if with the range of electrified vehicle is only meant range of PEVs or of both OVC-HEV and PEV.  In TF, input from CP required and necessary regarding what should be the scope of work, e.g. what temperatures shall be considered, which emissions and ranges etc. shall be included.  JP introduced their position that there should be one temperature in addition to the Type 1 test condition which shall cover all emissions and also ranges. Do not propose a temperature at the moment, a study is performed now. In TF, it first needs to be lead a discussion regarding temperature and number of tests. Need also to keep in mind the EU ATCT. Should be a harmonized temperature. Feedback from SG EV to TF	
3	Status and Update on SG EV topics	
	- Normalization	
	- Durability	
	- Low and realistic winter temperature (Supplemental Test)	
	- OVC-FCHVs – Test Procedure	

	<p>JP has no principal objection on OVC-FCHV test procedure and calculation scheme proposal, which was presented by ACEA WLTP EV group in Geneva. There can be a practical issue depending on which method may be used for flow measurement.</p> <p>JP will formulate questions regarding the ACEA WLTP EV proposal (created and developed by Renault).</p> <p>As this topic was originally intended to be finished during Phase 2a, the question was raised if there is a need to address this delay to the IWG WLTP group.</p> <p>Conclusion that this topic has to be shifted to phase 2b and the need to report this to WLTP IWG.</p>	
	<p>- Conformity of Production</p>	
	<p>Proposal from EU implementation of the WLTP concerning CoP already introduced on last meeting. (WLTP-SG-EV-xx)</p> <p>The range driven during the CoP test procedure with the vehicle is an issue as it is not possible to sell vehicle with to high mileage to the customer.</p> <p>EU proposal is taking care of this issue.</p> <p>EU proposal for PEV is calculating a specific CoP electric energy consumption at type approval (determined during the normal type 1 test procedure), to be used later at COP.</p> <p>Similar approach for OVC-HEV (for electric energy consumption and CO<sub>2</sub> mass emission).</p> <p>JP stated that it is depending on what TF decides on, if range should be included or not.</p> <p>Or what performance that should be reflected in COP.</p> <p>There can be an interest to introduce the TF COP at the request from CP.</p>	
4	<p>Drafting Issues</p>	
	<p>- Amendments to Phase 1b</p> <p>- Phase 2 topics</p>	
	<p>Issues from the drafting coordinator (WLTP-16-04e-rev1).</p> <p>Amendments to phase 1b.</p> <p>Point 1.5 in annex 8: “and” or “or”.</p> <p>Since there is no system power, the only option is gear shift instrument, according to T&amp;E.</p> <p>JP proposes to add if equipped with gear shift instrument.</p> <p>Also T&amp;E proposes to shift position between gear shift instrument and manufacturers instruction. Should also be indicator instead of instrument.</p> <p>Conclusion of the discussion is to go in the direction “or” but rework the text. Text proposal was developed together with drafting coordinator and will be introduced in the GTR at the drafting meeting the 7<sup>th</sup> of October.</p> <p>Table A8/4 in point 3.4.4.2.1.3.:</p> <p>Question raised what “distance driven” is referring to: Distance driven in test or expected range for the vehicle? BMW of the opinion that should refer to the distance driven in the constant speed segment between Segment 1 and Segment 2 of the shortened test procedure.</p> <p>This specification of the distance driven makes a change in section 3.4.4.1.1. necessary. In the break requirements for consecutive cycle, the reference to Table A8/4 has to be deleted and inserted that the break is limited to maximum of 10 minutes break in section 3.4.4.1.1.</p> <p>Point 4.2.2. and 4.2.3 in annex 8: Amendment of GTR necessary regarding fuel consumption correction factor for HEV as this is mentioned and referred to in Annex 8 Point 4.2.2./Point 4.2.3 but does not exist in Annex 8 Appendix 2.</p> <p>Remark concerning wording: According to T&amp;E in appendix 2 the factor is CO<sub>2</sub> mass correction coefficient...please use same description also in these paragraphs.</p> <p>Point 4.3.1 and 4.3.2 in annex 8:</p>	

<p>Rewording necessary as the 4.3.1. and 4.3.2. have also to be applied in case the interpolation approach is not applied...and in this case, there is no vehicle L as in the current version.</p> <p>In 4.3.1 there is the word “vehicle” missing in the text.</p> <p>Point 4.4.1.2.2 in annex 8: Inconsistency between description of <math>UBE_{city}</math> in the text and in the formula below the text regarding the number of phases considered (including/excluding the phase when the combustion engine starts to consume fuel). Conclusion that the phase when the combustion engine starts to consume fuel shall not be included. Measurement of an uncomplete phase only possible if consecutive measurement is available.</p> <p>JP proposes to keep the definition and change the text in order to be consistent.</p> <p>Matthias will prepare a proposal for the next drafting meeting – consistency of text and formula.</p> <p>Point 4.6 and 4.7 in annex 8: Introduction to what has been introduced in GTR regarding post processing (WLTP-SG-EV-xxx).</p> <p>Appendix 1. Figures have been modified. The changes are adopted by SG EV.</p>	
<p>5   AOB</p>	
<p><u>Charging:</u> Question raised if the GTR should be more specific regarding method of charging or if the current text is sufficient. Could be a discussion for a coming meeting.</p> <p><u>Speed Cap as Interpolation Family Criteria:</u> Should speed cap be a criteria for the interpolation family? Also regarding conventional vehicles. A discussion for WLTP IWG.</p> <p>Next meeting. Organization depending on outcome from other TF meetings, a web/audio could be organized in advance of Geneva. Proposed to have a face-2-face-meeting in Geneva. Per will check room availability for meeting in Geneva in January either at the UN or the EC.</p>	

The items may be changed depending on the progress.

Topics that occur in agenda point 2 as well as agenda point 3 will be discussed together and not separately (e.g. low and realistic winter temperature).