

Agenda WLTP Sub Group EV	
Date	13 th of April 2015
Time	10:00 to 18:00 CET
Location	Swedish Transport Agency (Målargatan No. 7, Stockholm, Sweden)
Title	WLTP Sub Group EV Meeting — Minutes
Working Paper Number	WLTP-SG-EV-08-12

Agenda

	OIL		
1		Welcome and adaption of agenda	WLTP-SG-EV-08-01
Agenda is adopted.			
2	#50,	RCB correction	WLTP-SG-EV-08-02 WLTP-SG-EV-08-03
<p>Presentation from VW on simulation results based on the methodology proposed in WLTP IWG #8 The result justify the approach and confirms the simulation results by BMW and the measured results from Japan. Shows good linearity for whole cycle values and for phase specific values.</p> <p>T&E comments that all cases have negative delta SOC. One answer is that the simulation is to confirm the RCB correction methodology. And in the presentation only one example is shown. The simulation is done with different start SOC.</p> <p>SG EV agrees on the proposed RCB correction methodology.</p> <p>Next steps.</p> <ul style="list-style-type: none"> - Ask the WLTP IWG for adoption - Start drafting of the proposed methodology. (BMW up to next web/phone conference 28 of May) 			
3	#02, #56, #55	Interpolation(CO2) family, Combined approach, Phase specific calculation	WLTP-SG-EV-08-04 WLTP-SG-EV-08-05 WLTP-SG-EV-08-03
<p>OIL #2 (N)OVC-HEV</p> <p>Presentation of WLTP-SG-EV-08-04 based on the family criteria for interpolation family proposed by Japan.</p> <p>For OVC-HEV and NOVC-HEV VW proposes a change regarding number of powered axels. Includes permanently powered axels.</p> <p>Also regarding electric machine should introduce the wording “permanently used” electric machine. T&E comment regarding the use of permanently, not clear that need user action to press button. Maybe should be with a reference to predominant mode.</p> <p>The intention is to handle vehicles with electric machines for off-road or torque vectoring in the family. These electric machines do not have an influence on cycle result.</p> <p>EC (European Commission) of the opinion that influence on the cycle is the important issue to consider.</p> <p>The proposal will be developed to reflect this.</p> <p>CO2 requirement is for CS test and should be clarified in the proposal.</p> <p>JP comment that special cases can be discussed with Type approval authority, a simple and clear text in the GTR is better and proposes to delete “permanently”.</p>			

A proposal from BMW is that this part should be described in the section for conventional vehicles otherwise this will not apply for other than EV.

OIL #2 PEV

For PEV a developed proposal is presented. Based on JP proposal. Same comment regarding the use of “permanently” as above. Should reflect on influence from the test cycle. T&E proposes reference to cycle energy.

Regarding n/v ratio this needs tolerance otherwise different tire will require new type. Question regarding gear shift strategy. Proposal that should be requirement regarding transmission ratio instead. And delete sentence regarding gear shift strategy in point f since it is already covered by operational strategy.

The proposal will be developed further to reflect these comments.

Operation strategy is difficult to check. The same is valid for conventional vehicles.

In order to make progress needs position from EC and JP.

OIL #56

Presentation of WLTP-SG-EV-08-05. Proposal is to replace criterion for Rcdc with new criterion and introduce the confirmation cycle for TMH vehicle which is a CS condition cycle. Confirmation cycle values have to be RCB corrected before using them for the calculations.

EC concern regarding use for all vehicles, manufacturer needs to declare that this has to be applied for all vehicles in between TML and TMH.

JP of the opinion that the proposal is reasonable but need to scrutinize internally.

OIL #55 PSV calculation

Japan developed the proposal to improve accuracy from number of cycle and regarding vehicle that start with transition cycle. Also improvement regarding calculation of PSV. Which include the transition cycle in the calculation of PSV. To include or exclude transition cycle in the calculation will introduce an error in both cases. ACEA proposes to not include phases in CS mode and this phase can be detected for example with a four percent limit. JP has proposed another way to detect this by comparing with CO₂ in CD phase with CO₂ in CS phase and a factor of 80 percent.

JP and ACEA will continue the discussion regarding this issue. One key issue is which phases should be included in the calculation.

VW is investigating the possibility to calculate AER_{city} cycle values. If this is possible it will mean that there is no need to run the city test.

EC of the opinion that EAER is needed for the city test. Need to see results that this is possible to determine with calculation.

Conclusion

ACEA still working on definition of family based on comments from this meeting and JP proposal, JP will confirm but in principle ok.

New proposal from ACEA regarding criterion to replace Rcdc criterion to give better linearity for the combined approach. And the introduction of a confirmation cycle when TML vehicle and TMH vehicle does not have the same number of CD cycles. JP of the opinion that the proposal is reasonable but need to scrutinize the proposal.

Regarding PSV the proposal has been developed by JP and ACEA. Continue discussion regarding use of CS condition phases from CD test or not in the calculation to improve accuracy.

4	#51	Mode selectable switch	WLTP-SG-EV-08-06
---	-----	------------------------	------------------

Presentation of WLTP-SG-EV-08-06.

With mode the meaning is driver selectable switch. Technically the vehicle can have different strategies or modes depending on condition but still there is one predominant mode.

T&E comment for OVC-HEV in CD test, if there is no mode that can follow the drive cycle only one can have highest cycle energy.

What happens in the case when TML vehicle can follow the cycle and TMH vehicle cannot follow the cycle? They should drive the test with the same mode.
 Proposal regarding CS test is similar to JP proposal.

Conclusion

ACEA will amend the proposal regarding vehicles possibility to follow the cycle and that only one mode can have the highest cycle energy. ACEA will also provide draft text.
 JP and EC will consider this draft text of the proposal.
 EC propose to report the situation in WLTP IWG and seek political guidance on which element is the most important regarding choice of mode for EV.

5	#52	End of range criteria for PEV	WLTP-SG-EV-08-03 WLTP-SG-EV-08-08
---	-----	-------------------------------	--------------------------------------

Presentation of WLTP-SG-EV-08-08. For downscale the peak power of electric motor according to R85 should be used. First part (A) regarding vehicles that use the downscale method is already agreed on last meeting. Downscaled cycle is the reference cycle for the range test. 4s criterion has to be applied on this reference cycle.

For vehicle with maximum speed lower than cycle maximum speed (capped speed, part B) proposal is presented on how to handle this. There is a risk that this will result in vehicle individual cycles. This makes it difficult to compare vehicles.

Artificial capped speed could increase the range used for example in tax incentives. There is a risk that the cap can be removed by third party. Then this is the customer responsibility.

Maximum speed needs to be defined and there is a regulation for this.

The principle of point A (vehicle with low power that need to use downscale method) is agreed. Regarding point B (vehicle with capped Speed) needs to discuss in EU WLTP but no strong objection against the proposal. Key issue is that range in urban conditions is not comparable between vehicles with and without capped speed.

Conclusion

The discussion will continue regarding method with capped speed.
 Agree on the use of downscale method with the downscale cycle as a reference cycle where the four second criteria will apply.

6	# 58	PEV shorten test procedure	WLTP-SG-EV-08-03 WLTP-SG-EV-08-09
---	------	----------------------------	--------------------------------------

Presentation of WLTP-SG-EV-08-09. Simulation performed to determine the impact of constant speed cycle.

VW is conducting tests on vehicle that will be presented on coming meeting.

Agree to use the methodology of shorten test procedure. Still needs to discuss regarding boundary condition.

Need an overlap if worst and best vehicle are on each side of the limit. This issue is handled by using TMH vehicle as proposed on last meeting.

VW still scrutinize proposal for limit values on speed to mandatory use STP.

Agrees on the principles for constant speed distance.

Principle from JP proposal is agreed by SG EV. VW needs to scrutinize and wait on results from test. Will present this first week of may.

Need also to consider what values that is available to, for example, calculate phase specific values.

Conclusion

The method for shorten test procedure is agreed and should be used but still needs to decide on boundary condition, constant speed and distance for constant speed phases.

7	# 53	FCV test procedure	WLTP-SG-EV-08-10
<p>Presentation of WLTP-SG-EV-08-10 regarding range extender OVC-FCV. Vehicles do not exist in the market yet but test procedure needs to be developed. Maybe not for phase 1b. Proposal does not reflect confirmed ACEA position yet.</p> <p>Test procedure for FCV has been provided by JP and referring to meeting minutes from meeting in Brussels in March (WLTP-SG-EV-07-14), SG EV agrees on the method. This will be included in phase 1b. T&E comment regarding gravimetric and pressure method as reference method. Should be one method as reference method. Supported by DE. At this moment there is no clear answer on what method should be reference limited experience regarding both gravimetric and pressure from Jama and ACEA. Therefore proposes that these methods can be used and if can show equivalency with flow method this also can be used. Also based from ISO/SAE.</p> <p>After discussion SG EV agrees to use gravimetric method as reference method.</p> <p>Conclusion</p> <p>OVC-FCHV will not be included in phase 1b.</p> <p>Agree to use gravimetric method as reference method and include possibility to use pressure and flow method as candidate method in phase 1b.</p> <p>Possible to adopt the proposal for FCV in phase 1b.</p>			
8		Drafting (reviewing items pointed by T&E and drafting coordinator)	WLTP-SG-EV-08-03
<p>JP has reviewed the proposal by ACEA drafting group. Comments on CO2 calculation, consider previous agreement from SG EV and regarding OVC-FCHV to short time to be possible to include in phase 1b.</p> <p>Propose to discuss the drafting issues as soon as possible.</p>			
9		AOB	
<p>The question is raised how voltage and current data shall be provided which are the basis for all calculations done in context of phase specific values and shorten test procedure. There is nothing described in the GTR draft yet. Question has to be solved and solution has to be agreed on for applying PSV and STP.</p> <p>Next meeting, the week of 22 June was proposed at the last phone conference.</p> <p>Proposal to be confirmed,</p> <p>22 June (10:00 – 18:00) and</p> <p>23 June (09:00 – 18:00) for SG EV and</p> <p>24 June (09:00 – 18:00) for drafting SG (annex 8) in Brussels.</p> <p>The possibility for a half day drafting the 25 of June will be investigated by EC.</p> <p>Propose phone conference 28 May (09:00 – 11:00), to be confirmed.</p>			