(Draft agenda) WLTP Sub Group EV Web meeting	
Date	28th of May 2015
Time	9:00 to 12:00 CET 16:00 to 19:00 Japan time
Location	Web meeting
Title	WLTP Sub Group EV Meeting — Minutes
Working Paper Number	WLTP-SG-EV-web(28th May)-11

Agenda

Open issues				Tasks ACEA	Tasks Japan
1		Welcome and adaption of agenda			
Agenda is adopted.					
2	#02, #56, #55	Interpolation(CO2) family, Combined approach, Phase specific calculation		OVC-HEV phase specific calculation: Presentation handling "including/excluding the transition cycle" Document: "WLTP-SG-EV-web(28th May)-04 PSV FOR OVC-…"	Feedback from Japan is appreciated for the web-audio meeting on May 28th <JAMA> Rcda is no longer necessary, should be deleted. Under this condition, JAMA propose to include transition cycle for calculation. <JAPAN> will be discussed on 29th May However, decision process to delete Rcda takes times…
				Simulations on combined Approach for OVC-HEV: Document: "WLTP-SG-EV-08-05-rev1 "	<u>Stockholm Subgroup EV meeting minutes:</u> JP of the opinion that the proposal is reasonable but need to scrutinize the proposal internally Feedback from Japan is appreciated for the web-audio meeting on May 28th <JAMA> Rcda is no longer necessary, should be deleted. Under this condition, JAMA propose 1. to include transition cycle (all phases) for calculation. 2. to accept different Rcdc (up to 1) <JAPAN> will be discussed on 29th May.

			PSV/CA: VW is doing simulations/measurements for evaluation of the current state ⇨ Not finished yet BMW is evaluating the calculation of EAERcity	However, decision process to delete Rcda takes times…
			Interpolation family criteria: Document: "[WLTP-SG-EV-web(28th May)-05](…) …family_criteria "	**Stockholm SG EV meeting minutes:** JP will confirm but in principle ok. Feedback from Japan is appreciated for the web-audio meeting on May 28th <JAMA> Rcda is no longer necessary, should be deleted. Under this condition, JAMA accept ACEA proposal (including different Rcdc-up to 1-). Please add unique NV description. <JAPAN> will be discussed on 29th May. However, decision process to delete Rcda takes times…

Presentation of document WLTP-SG-EV-web(28th May)-04 from BMW. The intention is to clarify PSV calculation of Rcda. Also regarding exclusion or not of transition cycle.

Example calculation is presented where transition cycle is included and not. When CS phases are included there will be a non negligible difference in PSV.

In cases where CS phases are included a more representative Rcda is determined if transition cycle is excluded.

Alternatively to the exclusion of the transition cycle CD and CS phases in the transition cycle could be identified but this identification procedure is not available at the moment.

Position from JAMA that Rcda is not needed any more because it was used for calculation of UF earlier. But with present calculation of UF, it is not needed.

Rcda is not needed for phases as for whole cycle. There is a possibility that Rcda can also mislead customer.

JAMA will discuss this issue with JP at a meeting on May 29th.

EC (European Commission) will have to check the proposal to delete the calculation of Rcda. In principal the demand for Rcda is a JP request.

This should also consider inclusion or exclusion of the transition cycle. BMW means that it is possible to calculate EAER without Rcda, document 08-05-rev1, regardless if transition cycle is included or not.

This issue should be discussed at next the next Subgroup EV meeting on June 22nd/23rd.

VW is performing simulation on the topic of PSV for PEV and OVC-HEV. Results not finalized yet. This far preliminary confirms the results presented by BMW. Will be available at the latest the next Subgroup EV meeting 22nd of June.

Position from EC and JP is expected to be available at the next meeting 22nd of June, there is a suggestion to discuss the issue before the next Subgroup EV meeting. Request for an audio meeting of EU WLTP before the 22nd of June. EC propose afternoon the 15th of June 14:00 to 16:00.

Presentation of document WLTP-SG-EV-web(28th May)-05 from ACEA.

Regarding CVT unique description would be required in the criteria for n/v ratio:

Question to JP if a text proposal is already available. It was also the question raised why a unique description is needed because this technology is already covered by the existing bullet points.

Proposal from T&E to add a criterion that the n/v ratios at the maximum and minimum transmission ratio in case of CVT transmission has to be checked. This will be added by ACEA and circulated for review before next meeting. According to JP, this also applies to planetary gears, JP will provide description that already has been presented at earlier meeting (WLTP-SG-EV-08_JAPAN Positions OIL, page 3 "@ *engine speed (100km/h with ICE ON) / driveshaft rotation speed under CS condition*") Amendment to point f) regarding type and amount of electric machine: the expression "characteristics with non negligible influence on CO2" was inserted and the expression "permanently" has been removed. ACEA is working on a proposal to exclude Rcdc from family criteria.

For PEV same amendment regarding type and amount of electric machine as for HEV. A useful addition could be to add mode and number of modes to the point of operation strategies since there is a connection to modes. Input from technical service is requested.

| 3 | #51 | Mode selectable switch | | Document: "WLTP-SG-EV-web(28th_May)-06_Mode_Selectable_Switch " | Stockholm Subgroup EV meeting minutes:
- JP (and EC) will consider this draft text of the proposal

Feedback from Japan is appreciated for the web-audio meeting on May 28th

<JAMA>
Similar to ACEA proposals. Here is counter-proposal from JAMA
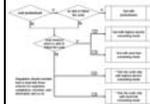
Document: "WLTP-SG-EV-web(28th_May)-10_mode_selectable switch "
<JAPAN> will be discussed on 29th May |

Presentation of document WLTP-SG-EV-web(28th May)-06 from ACEA. Guidance from WLTP IWG in three steps (1. Follow drive cycle 2. Predominant mode 3. Highest energy consumption if no predominant mode) is represented in and reflected by the developed ACEA proposal.

Proposal from JAMA is presented in document WLTP-SG-EV-web(28th May)-10. In principal same approach as the ACEA proposal.

Vehicles which have no mode that can follow the cycle shall be tested in the city cycle. Regulator should consider these vehicles. Comment from BMW that currently there is only a AER cycle. According to JAMA the intention is to enable the amendment of the test cycle and the GTR needs to be modified to allow this proposal. Generally spoken the proposal from JAMA is to exclude those phases, the vehicle is not able to follow the speed profile. Need to consider the possibility to exclude only EH phase. According to JP, JAMA proposal only consider three phase cycle for JP (L, M and H). That means, if the vehicle would not be able to follow the high-phase, this phase would be excluded and the vehicle would have to follow the test cycle consisting of low- and mid-phase only. The proposal also means that for the four phase cycle the vehicle also have to follow the test cycle consisting of low phase and mid phase only.

The topic mode selectable switch should not be mixed up with downscaling. It is no option that vehicles which cannot follow the cycle can do as good as possible. This would mean

individual cycles. EU position is requested; this will be discussed in EU WLTP the 15th of June.

Only remaining open question is the case when there is no mode that can follow the cycle. Otherwise JAMA and ACEA proposal is similar and in principal accepted by SG EV.
Will be discussed in JP the 29th of May and in EU WLTP the 15th of June.

| 4 | #52 | End of range criteria for PEV ⇨ Capped Speed ⇨ Low Powered Vehicles | Conclusion out of Subgroup EV minutes: Agree on the use of downscale method with the downscale cycle as a reference cycle where the four second criteria will apply. The discussion will continue regarding method with capped speed. Conclusion out of IG WLTP minutes: Capping speed is still discussed as well for conventional engines. **EU** will provide conclusion on that in May. **SG EV** will come back with a solution. Consistency between ICE/EV to be ensured. | ACEA suggestion: Document: "WLTP-SG-EV-web(28th May)-07 PEV cap speed" | <JAMA> Support SG-EV decision(only downscale is applied). Oppose capped speed because of unfair test cycle. Normalization or length compensation should be handled during phase2. <JAPAN> will be discussed on 29th May |

Presentation of document WLTP-SG-EV-web(28th May)-07 from ACEA. Propose to extend the distance of the cycle to reflect the part of the cycle where the speed is capped.
Position from EU is requested.

JAMA proposes that this could be an issue for phase 2 of WLTP. But there is also a need for a preliminary solution for phase 1b.
EC propose to develop something for phase 1b and develop that further in phase 2.
ACEA will prepare a document regarding capped speed. But needs political guidance from EU and JP.
This issue will be discussed further on the next meeting the 22nd of June.

5	# 58	PEV shorten test procedure	Conclusion out of Subgroup EV minutes: <u>Conclusion out of Subgroup EV minutes:</u> The method for shorten test procedure is agreed and should be used but still needs to decide on boundary condition - constant speed - Distance for constant speed phases - limit values on speed to mandatory use STP	<u>Stockholm Subgroup EV meeting minutes:</u> Task for VW: VW is doing simulations/measurements for evaluation of the boundary conditions ⇨ Not finished yet ACEA recommends to use not a fixed range for the duration of the CSCe but to define a range of percentage of the UBE which has to be used for CSCe	For detailed procedure, JAMA support WLTP-SG-EV-07-11 (CSC$_E$ = fixed distance) <JAPAN> will be discussed on 29th May

VW performing simulation but no results finalized yet. Will be presented at the latest on the meeting the 22nd of June.

		AOB			

Regarding phase specific values for OVC-HEV from the city cycle, the question was raised if EC/EUdoes require both AER and EAER.

In principle EU requires both values. They indicate two different things. For example AER is relevant for environmental zones (zero emission zones that might be introduced in the future) and EAER for customer information comparable to CO2 emissions for conventional vehicles.

Could be an option to calculate the city values if this can be done accurate enough. ACEA working on a proposal to calculate and evaluate city cycle values which will be presented at the next meeting.

Discussions				**Tasks ACEA**	**Tasks Japan**
6		Setting REESS for CS type 1 tests	Document: "[WLTP-SG-EV-web(28th May)-02](#)"	ACEA will provide a proposal in front of the web-audio-meeting on May 28th (during calendar week 22)	

The issue is initiated by a comment and proposal from T&E in document WLTP-SG-EV-web(28th May)-02.

The difference between the title of the issue in the agenda and the document content (first page of the word-document) is a bit misleading and maybe not clear.

Concerning the conduction of a positive and negative CS test for the determination of the correction factor, ACEA is not confident that this is possible in each and every case. ACEA is asked to illustrate a case that makes it necessary to have a phrase that allows determining a correction factor, which has to be confirmed by the technical service, even if there is no positive and negative REESS balance.

JAMA of the opinion that there is no problem to achieve the conditions requested.

Delta E with positive and negative sign to establish a correction factor. Otherwise it cannot be CS condition.

		AOB			

Drafting				**Tasks ACEA**	**Tasks Japan**
7		FCV test procedure	Document:	<u>Feedback from ACEA:</u>	

				- remove general calculations from Appendix 2b (RCB) to par. 4 - "Pressure method" is candidate method; as pressure method is not a primary/ reference method any more, please delete the description of the pressure method and only refer to ISO 23828; "using candidate methods, the manufacturer has to give evidence…"; - Add subparagraphs in par. 1 for the three methods (1.3. Gravimetric method, 1.4. …); - To avoid redundant information, modification of Appendix 2 is necessary. Please summarize paragraphs that are valid for OVC-HEV, NOVC-HEV and NOVC-FCHV ⇨ ACEA feedback will be further explained during web-audio conference on May 28th ⇨ Who will do these amendments?	SG-EV decision is to rely on drafting group for concrete description JAMA is happy to take care of modification
			"WLTP-SG-EV-web(28th May) -03"		
No discussion.					
8		RCB correction		Task out of the Stockholm meeting: - Start drafting of the proposed methodology Document: "WLTP-SG-EV-web(28th May)-08" Appendix 2: Yellow Highlighted → correction factor determination	Feedback from Japan is appreciated for the web-audio meeting on May 28th Here are initial feedbacks Document: "WLTP-SG-EV-web(28th May)-09"
No discussion.					
9		Shorten Test Procedure	Conclusion out of Subgroup EV minutes: The method for shorten test procedure is agreed and should be used but still needs to decide on boundary conditions ⇨ Procedure itself is agreed		Question concerning the availability of a first draft version? <JAMA> JAMA plan to provide the draft gtr before 15th June. Rough draft gtr will be distributed prior to web. meeting.
No discussion.					