

39 th WLTP Sub Group EV Meeting	
Date	2 April 2020
Time	9:00 to 12:15 CEST
Title	39 th WLTP Sub Group EV Meeting – Minutes
Location	Web-Audio

0	Revision & adoption of meeting minutes & agenda
	<ul style="list-style-type: none"> - Meeting minutes of web-audio meeting on 11 March 2020 01 WLTP SG EV Minutes 11 March 2020.pdf → adopted - Adoption of this agenda 00 WLTP SG EV Agenda 2 April 2020.pdf → adopted
1	GTR#15 Amd#6 WD: SG EV square brackets topics (non Low Temp)
	<p><u>Conclusion on square bracket topics in GTR#15 Amd#6 WD not related to Low Temp Working Document for GTR No. 15 Amendment 6 (document with track changes)</u> ECE-TRANS-WP29-GRPE-2020-14e Track.docx</p> <p>Peter Bonsack (chair) pointed out that the remaining square bracket topics now being in the working document (WD) for GTR No. 15 Amendment 6 will be discussed and concluded upon in this and the upcoming web-audio meetings of SG EV. An overview of these topics, not related to as well as related to Low Temp, is given in the presentation below. Furthermore, it is very likely that upcoming web-audio meetings will be held in conjunction with the WLTP LowT TF.</p> <p><i>Overview presentation of square bracket topics to be agreed upon (slides 2 to 5)</i> 200402 Overview square brackets SG EV GTR15Amd6 rev2.pdf</p> <p>Matthias Nägeli (co-TS) introduced the square bracket topics remaining in the GTR#15 Amd#6 WD not related to Low Temp. Comments and conclusions are reflected below.</p> <p>(1) Update/amendment of the wording of nominal voltage (<i>slide 2</i>)</p> <p>This topic was discussed with the information on slide 2, additional information provided by ACEA EV as well as a counter proposal by JPN on how to possibly re-structure paragraph 3. in Annex 8, Appendix 3, including an additional explanatory Table A8 App3/1.</p> <p>Iddo Riemersma (on behalf of EC) confirmed the general support of EC for the intention of the proposal.</p> <p>Nick Ichikawa (co-TS, JASIC) raised the question from JPN (MLIT) about the background of the 60V threshold and indicated that JAMA could support it.</p> <p>Matthias Nägeli (co-TS, on behalf of ACEA EV) answered that this 60V threshold is coming from a safety regulation (UN R 100 Rev.2 – Electric power trained vehicles; see paragraph 2.17.).</p>

Nick Ichikawa (co-TS, JASIC) indicated that JPN intends to finalize their position by the 30th WLTP IWG meeting (14 to 16 April 2020).

Bart Thedinga (EC) announced the same intention from EC's side.

(2) Update in context of CO2 correction factor applicable to (N)OVC-HEV (*slide 3*)

This topic was discussed with the information on slide 3 as well as additional information provided by ACEA EV.

Nick Ichikawa (co-TS, JASIC) raised the concern that while looking at internal data, a fixed CO2 correction factor might not always produce the worst case. Therefore, it is still under further scrutiny.

Iddo Riemersma (on behalf of EC) voiced interest in such data examples, where there might not be a worst case produced with application of the proposal. EC would be supportive of the approach, if it is producing worst cases.

Jochen Wiessner (Daimler, on behalf of ACEA EV) explained that the generic approach is a required option with respect to reproducibility as it might be challenging in case of powerful HEVs to get a reproducible CO2 correction factor if the factor is determined via measurements according to Annex 8 Appendix 2. This case needs to be taken into consideration in context of the worst case discussion.

Matthias Nägeli (co-TS, on behalf of ACEA EV) pointed out that the application of the proposed approach would be an option while the CO2 correction factor determination could still be done.

Nick Ichikawa (co-TS, JASIC) intends to further discuss this topic within JAMA and then with MLIT.

(3) Proposal to group several interpolation families into a CO2 correction factor family (*slide 4*)

Nick Ichikawa (co-TS, JASIC) stated to only be able to support the approach by application of the previous proposed concept by ACEA EV using a COP family concept, since proving a "non-negligible influence on a CO2 correction factor" to a TAA might be hard to accomplish in certain cases.

Iddo Riemersma (on behalf of EC) declared support for the concept shown, also agreeing on a concept having fixed criteria, as mentioned by Nick Ichikawa. He further invited ACEA EV to include EC's and JPN's input and combine it with the existing proposal.

Matthias Nägeli (co-TS, on behalf of ACEA EV) confirmed to provide an updated proposal based on these inputs.

(4) Expected number of cycles in CD mode for OVC-HEV (*slide 5*)

This topic was discussed with the information on slide 5. ACEA EV's text proposal in square brackets as a placeholder is located in Annex 6, paragraphs 1.2.3.4., 1.2.3.5. and 1.2.3.6. of the WD.

	<p>Regarding the placeholder text in the WD, Iddo Riemersma (on behalf of EC) stated that there might also be the need for repeating a test upon request of the TAA, in addition to the possibility of a request by the manufacturer.</p> <p>Jochen Wiessner (Daimler, on behalf of ACEA EV) further explained the issue of possible differences in e.g. CO2 and EC values with the following slide: 200402 Expected number of CD Cycles example rev1.pptx</p> <p>The proposed idea to also use the declared EC in case of number of tests does not resolve the issue. It might most likely lead to a situation where all 3 tests would need to be driven and test results based on a different number of CD cycles would need to be averaged.</p>
2	GTR#15 Amd#6 WD: SG EV square brackets topics (Low Temp)
	<p><u>Conclusion on square bracket topics in GTR#15 Amd#6 WD related to Low Temp Working Document for GTR No. 15 Amendment 6 (document with track changes)</u> ECE-TRANS-WP29-GRPE-2020-14e Track.docx</p> <p>An overview list of the remaining square bracket topics now being in the working document (WD) for GTR No. 15 Amendment 6 related to Low Temp, is given in the following document:</p> <p><i>Overview table of square bracket topics of GTR#15 Amd#6 WD</i> 200406 Status Square bracket topics Amd#6 WD rev1.xlsx</p> <p>→ SG EV members are asked to use this version of the overview table to prepare their input, comments and proposals for upcoming SG EV web-audio meetings.</p> <p>Due to time constraints it was decided to take on a square bracket topic related to battery charging (topic “EV_LT_38” in overview table) as input was prepared for it in advance of this web-audio meeting.</p> <p><i>EC’s compromise proposal for square bracket topic “EV_LT_38” (battery charging)</i> 20200401 SGEV type 6 soak and charge procedure EC.pptx</p> <p>Bart Thedinga (EC) presented a compromise proposal for a harmonized approach for the PEV soak and charge procedure. After careful consideration of all the views and comments from the group on the previous proposals, the compromise proposal intends to address most, if not all, issues to the greatest extent possible. He further pointed out that the main leading parameter is still the 12h soak.</p> <p>Several questions were raised during the discussion:</p> <ul style="list-style-type: none"> • Question on the pre-heating function: pre-heating function activated by vehicle itself is taken into consideration and is covered by the proposal; customer initiated pre-heating functions are not taken into consideration. • Question on the definition of power level provisions: recommendation to use same provisions as for Type 1 (up to the manufacturer). • Question on the (minimum) duration of the “green” (start of charging) and “yellow” (start of the test) cells: start within 1h

	<p>Matthias Nägeli (co-TS, on behalf of ACEA EV) indicated to discuss this compromise proposal within ACEA EV.</p> <p>Nick Ichikawa (co-TS, JASIC) also intends to scrutinize this compromise proposal within JAMA and then discuss it with MLIT.</p> <p><i>Excel version of EC's compromise proposal:</i> 200402 Battery charge operation Type6 UN harmonised.xlsx</p>
3	GTR#15 Amd#6 WD: PEV family concepts
	<p><u>Family concept for PEV</u></p> <p>Family concept development for PEV is related to topic "EV_LT_2", as well as topics "EV_LT_17" (PER calculation) and "EV_LT_18" (EC calculation), see 200406 Status Square bracket topics Amd#6 WD rev1.xlsx</p> <p><i>Update on ACEA's input for Low Temp family concept for PEV</i> PEV Low Temp Family idea ACEA EV update.pdf</p> <p>Matthias Nägeli (co-TS, on behalf of ACEA EV) presented the idea of ACEA EV on a Low Temp family concept for PEV.</p> <p>The discussion within SG EV on the concept of UBE families so far included criteria parameters such as "battery capacity", "battery preheating", "same battery insulation/housing" and "on-board charger" as well as other relevant criteria, if required.</p> <p>Elena Paffumi (JRC, on behalf of EC) further mentioned possible other criteria parameters to be taken into consideration, such as battery management system (BMS) specifically the cooling system (to be verified); operating strategy, that might be different and could influence differently the energy consumption and power train (if there is a non-negligible case of influence, i.e. to be verified); and worst case energy efficiency of the vehicle heating system (if different). Furthermore, battery chemistry and type should also be identical.</p> <p>Nick Ichikawa (co-TS, JASIC) raised the question if the intention would be to modify the PEV interpolation family definition for Type 1 as well.</p> <p>Matthias Nägeli (co-TS, on behalf of ACEA EV) answered that the intention is to only apply it in the context of the proposed UBE (ratio) family.</p> <p>Iddo Riemersma (on behalf of EC) mentioned that in this context a UBE (ratio) family could contain more than one interpolation family, i.e. the current families could be merged into a UBE (ratio) family according to the criteria parameters to be defined. This would mean that every parameter having an influence on the UBE (ratio) might need to be considered for the merging.</p> <p>Nick Ichikawa (co-TS, JASIC) further stated that with the same logic as used e.g. for battery pre-heating (with and without), a higher battery capacity could then also be covered by a lower battery capacity.</p> <p>Bart Thedinga (EC) mentioned that apart from discussing UBE (ratio) families, the vehicle selection in the context of family definitions also needs to be discussed.</p>

4	Next meetings (WLTP calendar)
	<p><u>WLTP SG EV web-audio in Q2 2020:</u></p> <p>8 April 2020 (09:00 to 12:00 CEST) → in conjunction with the WLTP LowT TF</p> <p><u>30th WLTP IWG meeting (web-audio):</u></p> <p>14 to 16 April 2020, (each from 08:30 to 12:30 CEST)</p> <p>→ More WLTP SG EV web-audios will be scheduled for the period after the 30th WLTP IWG meeting. SG EV leading team will propose a schedule, please indicate the planned meetings of your organization as input, if available.</p>
5	AOB
	<p><u>Future work items after June 2020</u></p> <p>During the upcoming WLTP IWG meeting (14 to 16 April 2020), preparation of an advice to GRPE on the future of the WLTP IWG is foreseen. The SG EV leading team intends to prepare an input to this discussion (list of possible work items after June 2020). This input from SG EV will be discussed during the next web-audio meeting on 8 April 2020. Input from SG EV members to this list is welcome.</p>

Supporting Information

	GTR#15 Amd#6 WD: supporting information for concluding square bracket items
	<p><i>ECE/TRANS/WP.29/GRPE/2020/14 - Proposal for Amendment 6 to global technical regulation No. 15 (document with track changes)</i> ECE-TRANS-WP29-GRPE-2020-14e Track.docx</p> <p>Overview presentation of Low Temp test procedure for EVs - square bracket topics 200402 Square bracket topics Low Temp Test Procedure.pptx</p> <p>Overview presentation of square bracket topics of GTR#15 Amd#6 WD (including links to supporting documents) 200402 Overview square brackets SG EV GTR15Amd6 rev2.pdf</p> <p>Overview table of square bracket topics of GTR#15 Amd#6 WD 200406 Status Square bracket topics Amd#6 WD rev1.xlsx</p> <p>JPN's input for square bracket topic "EV_LT_38" (battery charging) 200327 Battery charge operation Type6.xlsx</p> <p>EC's compromise proposal for square bracket topic "EV_LT_38" (battery charging) 20200401 SGEV type 6 soak and charge procedure EC.pptx</p> <p>Excel version of EC's compromise proposal: 200402 Battery charge operation Type6 UN harmonised.xlsx</p> <p>Overview presentation of test sequence options 200311 Possible Low Temp Test Sequences overview rev2.pptx</p> <p>Overview of required parameters during Type 6 testing – consolidated document (EC's and JPN's preliminary positions) Overview required parameter during Type 6 EC JPN prel feedback consolidated.xlsx</p> <p>Overview of remaining square bracket items (status of topics) The latest document WLTP_Low_Temp_TF_Status_list_v2020-xx-yy.xlsx can be found in the UNECE wiki area: Optional annex Low T - Drafting</p> <p>ACEA's input for Low Temp family concept for PEV PEV Low Temp Family idea ACEA EV update.pdf</p>