

35 th WLTP Sub Group EV Meeting	
Date	13 February 2020
Time	9:00 to 12:00 CET
Title	35 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 5 February 2020 01 WLTP SG EV Minutes 5 February 2020.pdf → Adopted - Adoption of this agenda → Adopted
1	WLTP Low Temp Test Procedure Development for EVs: inputs
	<p>Reminder: <i>timeline for defining Low Temp test procedures and family concepts for NOVC-/OVC-HEV and PEV (see slide 3):</i> 200127 SG EV Low Temp Test Procedure for EV - Schedule.pdf</p> <p><u>Input/comments/position(s) on Low Temp test procedure for EVs</u></p> <ul style="list-style-type: none"> - EC's clarifications on current proposal on Type 6 family <p>Bart Thedinga (EC) clarified EC's position by indicating that, as first proposed in Sept 2019 (see COM 20190917 IWG WLTP SG-EV LowT TA approach.pdf), main focus is on pollutant emissions, CO₂ not being the main concern for ICE, NOVC-/OVC-HEV. Nevertheless, for PEV the focus is on range, so a different concept is required. The family concept for OVC-HEV will be the challenge as both, emissions and range need to be considered.</p> <p>For a better understanding, Bart shared the tentative (not final) view of the EC on the required parameters to be determined during Type 6 testing: required parameter during Type 6 EC.pdf</p> <p>EC is open for discussion on these parameter values in the face-to-face meeting next week and expects them to be used for the PEV family definition considerations.</p> <p>Nick Ichikawa (co-TS, JASIC) noted that there might be need to separate the families along criteria to be decided.</p> - EC's clarifications on the urgency to develop the test procedure for PEV based on the CCP/STP approach <p>Bart Thedinga (EC) reminded the group that the idea of a shortened/alternative STP was previously considered to be too premature for the implementation into a first working document (see also agenda points 2 in 01 WLTP SG EV Minutes 7 November 2019.pdf and 01 WLTP SG EV Minutes 26 November 2019.pdf). Due to time constraints, the idea is to set a base frame for measurements so a ratio approach using CCP/STP can be followed. However, a shortened/alternative STP was recognized to have promising aspects that could be discussed in a second</p>

development phase. Nevertheless, from EC's point of view, a test procedure for PEV will need to be included in the working document for June 2020 GRPE-81, since this update of GTR#15 is needed for the next legislative steps in Europe.

Nick Ichikawa (co-TS, JASIC) voiced the concern of JPN to include the current CCP/STP procedure adapted for Type 6 into the GTR#15, due to its greater test time consumption and the lower low temperature test cell availability. JPN could provide a proposal for a shorter alternative test procedure.

Bart Thedinga (EC) pointed out that the goal is to set a base line in the GTR#15 with a first solution and then update it accordingly afterwards. These updates would then also be taken into consideration with regard to the implementation in Europe.

- ACEA's input for definition of Low Temp test procedure for NOVC-/OVC-HEV & PEV [200213 ACEA EV proposal Low-Temperature-Test for SG EV rev1.pdf](#)

Matthias Nägeli (co-TS, on behalf of ACEA EV) presented an update to the ACEA EV Low Temp test procedure proposal for NOVC-HEV, OVC-HEV and PEV. Main updates include the request to put the first soak into square brackets for PEV and OVC-HEV (CD) to get some more time for determining data which show if it is required or if it is not required based on the impact on the test results. Furthermore, ACEA EV is proposing to remove it for NOVC-HEV and OVC-HEV (CS).

Nick Ichikawa (co-TS, JASIC) stated that these proposals are not acceptable for JPN as there would be too many options and flexibilities. The main concern of JPN is how to stabilize the REESS temperature in order to get a robust procedure. From JPN's point of view and as it will be shown in JPN's proposal (see below), the first and second soaks as well as preconditioning at -7°C are a "must".

Iddo Riemersma (on behalf of EC) voiced similar concerns about too many options and acknowledged the need of a first soak at -7°C. Furthermore, the question was raised about the difference of ACEA EV's previous proposal that included 1 WLTC, 1 City Cycle & a constant speed segment for preconditioning compared to the current one including a constant speed segment of 30km (± a tolerance) only.

Matthias Nägeli (co-TS, ACEA EV) indicated that concerning the first soak ACEA EV is investigating the need and therefore it was proposed to put it in square brackets for the moment.

Nico Schütze (BMW, ACEA EV) explained that for simplification effort reasons the 1 WLTC, 1 City Cycle & a constant speed segment (~30km) was proposed to be exchanged by a constant speed segment for preconditioning (which has about the same distance).

Iddo Riemersma (on behalf of EC) will have a thought on that and consult with JRC.

Elena Paffumi (JRC) offered to evaluate existing data on low temp effects to be presented next week in order to support the discussions on first soaking.

- JPN's input for definition of Low Temp test procedure for NOVC-/OVC-HEV & PEV [Test Diagram JAPN proposal rev2.xlsx](#)

Nick Ichikawa (co-TS, JASIC) presented JPN's proposal on Low Temp test procedure for NOVC-HEV, OVC-HEV and PEV. The main focus lays on how to get robust test data and therefore some specific customer behavior might be disregarded. Furthermore, JPN is developing a UBE family concept where a parent vehicle is to be tested and all children vehicles are included by it. The family concept is still in development and the Low Temp test procedure for OVC-HEV (CD conditions) is still in discussion as well.

Main points:

- JPN is accepting the ATCT method for -7°C road load determination
- No restrictions on temperature in vehicle preparation (for all vehicle types)
- First soak at -7°C (for all vehicle types)
- Preconditioning with constant speed segment (min. 100kph or 90% of v_max) with less than 50km to break off (CD-test of OVC-HEV and PEV)
- Preconditioning with driving the applicable WLTC until break off (as option for CD-test of OVC-HEV)
- Second soak (and charging) at -7°C → 2 cases based on charge duration (for CD-test of OVC-HEV and PEV)
- Cold start test for OVC-HEV:
 - Still in discussion within JPN; first idea stated in the proposal
 - Parent/children vehicle concept in discussion but family concept still in preparation; most likely final concept not available for next week
- Cold start test for PEV:
 - only for parent vehicles in a family: drive 3 applicable test cycles + steady speed driving until break off to define UBE
 - for children vehicles in a family: drive 3 applicable test cycles only
 - Parents/children vehicle concept in discussion but family concept still in preparation; most likely final concept not available for next week
- HVAC on only for cold start test (for all vehicle types)

Further explanations were given for NOVC-/OVC-HEV (CS) where forced cooling shall not be allowed for vehicles equipped with SCR. However, for other vehicle types, there is no procedure developed yet for forced cooling. First soak should be at -7°C and as a manufacturer's option.

- ACEA's input for family concept for PEV [200213 ACEA EV proposal PEV Low-Temperature-family for SG EV.pdf](#)

Matthias Nägeli (co-TS, on behalf of ACEA EV) presented ACEA EV's proposal on a PEV family concept based on interpolation family criteria with additional low temp family criteria. It was pointed out that the proposal is not finalized yet. The idea is to measure a worst case in terms of a worst case ratio for range and electric energy consumption (cycle energy demand, CED) as a mandatory test. Further measurements are optional and not mandatory as these vehicles can be covered by the worst case ratio. Furthermore, the concept of a UBE family as a potential solution was explained as this could reduce testing burden up to 70%.

	<p>Nick Ichikawa (co-TS, JASIC) mentioned that JPN's concept does not consider interpolation families, just UBE families. It might not be possible for JPN to provide the proposal on this concept already by next week due to further parameter determination and the need of more testing data for scrutinizing the concept.</p>
2	<p>WLTP Low Temp Test Procedure Development for EVs: discussion on open items</p>
	<p><u>Overview of open items (revision on status of topics)</u></p> <p>The latest document <i>WLTP_Low_Temp_TF_Status_list_v2020-xx-yy.xlsx</i> can be found in the UNECE wiki area: Optional annex Low T - Drafting</p> <ul style="list-style-type: none"> - Revision of rows: <ul style="list-style-type: none"> 82/116 "REESS compensation" based on JPN's feedback in LowT TF TelCo on 6 February 2020 → Comment added (row 116): "Agreement: Type 1 correction factors to be used"
3	<p>WLTP Low Temp Test Procedure Development for EVs: drafting status</p>
	<p><u>Working draft of Low Temp Optional Annex</u></p> <p>The latest document <i>20xxyy – Low Temp Annex based on ECE-TRANS-WP29-2019-62e.docx</i> can be found in the UNECE wiki area: Optional annex Low T - Drafting</p> <p>→ This working draft is consecutively updated by the drafting coordinator (Rob Gardner) according to proposals/discussions/agreements within the SG EV and the LowT TF.</p> <p><u>Document supporting drafting of Low Temp Optional Annex</u></p> <p><i>Annex 8 working draft for NOVC-/OVC-HEV & PEV</i> Low temperature test procedure xEV draft V7.docx</p> <p><i>Updated Annex 8 working draft for NOVC-/OVC-HEV & PEV</i> Low temperature test procedure xEV draft V7p3.docx</p> <p>Sam Tripathy (Renault) on behalf of the SG EV drafting volunteers presented an updated version of the working draft, reflecting the latest status of agreed items as well as the current proposals for NOVC-/OVC-HEV and PEV in one document.</p> <p>Following colour coding was used throughout this document:</p> <p>Grey: Same as the 23°C test Black: Parts of the draft concerned by the modifications but not yet modified Violet: Additional text or modifications or deletion Blue: Text merged/updated to avoid separate Low Temp Annex. Violet still applicable for additional changes needed.</p> <p>Following changes to the previous draft version (V7) were made:</p> <ul style="list-style-type: none"> - Added family criteria proposal (2.5) - Added test vehicle selection for Low Temp proposal (3.4.1.2) - Added multiplication factor, i.e. PER ratio proposal (4.8) - Combined the Type 6 text within Annex 8 to show possibility for Annex 8 to include both Type 1 and Type 6

	<p>Upon suggestion by Rob Gardner (DC) it was decided not to pursue the combination of Type 6 and Type 1 text as an amendment to Annex 8, since this might create issues for CP's not adopting the Low Temp Optional Annex. Therefore, the updates made will be included into the previous version (V7) and in a next step it will be decided how to best implement it into the Low Temp Optional Annex.</p> <p>Furthermore, a ratio proposal for OVC-HEV will be provided and text parts that shall be included into the main body of the Low Temp Optional Annex will be placed at the beginning of the document for clarity reasons. Items in square brackets shall be labelled accordingly (e.g. with comments) indicating the need of discussion and agreement within the group for them.</p> <p>The drafting volunteers will work hard to provide an updated version for next week's discussions, which was greatly appreciated by the group.</p>
4	GTR#15 Amd#6 Development
	<p><u>Decisions about topics to go/not go into GTR#15 Amd#6</u></p> <p>Possible input from SG EV for GTR#15 Amd#6 (postponed topics from UNR WLTP development and additional new topics)</p> <p>200214 Possible inputs SG EV GTR15Amd6 tbd.pdf (note: comments made during the meeting are included)</p> <p>Matthias Nägeli (co-TS) presented topics that were postponed during the UNR WLTP discussions as well as additional topics to be considered to be included in GTR#15 Amd#6.</p> <p>The updated presentation includes feedback received during the meeting. Final decisions are expected in the face-to-face meeting next week.</p> <p>→ Feedback from stakeholders is requested by the next face-to-face meeting on 21 February 2020 about which topics shall go or not go into GTR#15 Amd#6</p>
5	Next meetings (WLTP calendar)
	<p><u>WLTP SG EV web-audios and f-2-f meetings in Q1 2020:</u></p> <p>19-20 February 2020 (WLTP IWG face-to-face meeting in Brussels) → See details in invitation document below (registration needed) → Agenda: WLTP-ITM-02e Agenda.pdf</p> <p>21 February 2020 (face-to-face meeting in conjunction with Low T TF in Brussels) → See details in invitation document below (registration needed)</p> <p>WLTP-30-01e Invitation (1).docx</p> <p>4 March / 11 March 2020 (web-audio; each from 09:00 to 12:00 CET)</p>
6	AOB

For Information

	WLTP Low Temp Test Procedure Development for EVs: current proposals
	<p><i>EC's proposal on Low Temp test procedure for OVC-HEV & NOVC-HEV</i> 2020_01_14_OVC-HEV_NOVC-HEV_procedure_proposal_JRC_V3</p> <p><i>Update on EC-JRC's proposal on Low Temp test procedure for PEV</i> 2020_02_05_PEV_update.pdf</p> <p><i>EC's proposal for required parameters during Type 6 testing</i> required parameter during Type 6_EC.pdf</p> <p><i>JPN's proposal on Low Temp test procedure for NOVC-/OVC-HEV & PEV</i> Test Diagram_JAPN_proposal_rev2.xlsx</p> <p><i>ACEA's proposal on Low Temp test procedure for NOVC-/OVC-HEV & PEV</i> 200213_ACEA_EV_proposal_Low-Temperature-Test_for_SG_EV_rev1.pdf</p> <p><i>EC's proposal on Type 6 Family (ICE, NOCV-HEV & OVC-HEV)</i> 200114_Type_6_Family_EC_Proposal_update.pdf</p> <p><i>ACEA's input for Low Temp family concept for PEV</i> 200213_ACEA_EV_proposal_PEV_Low-Temperature-family_for_SG_EV.pdf</p>