

WLTP GTR#15 Amend#6

Overview square brackets SG EV needs to provide input

Status: 08.04.2020





Square bracket topic in WD of WLTP GTR#15 Amend#6

Update/amendment of the wording of nominal voltage

Intention of proposal:

- Nominal voltage is a fixed voltage value which is not taking care of the voltage decrease of a REESS
- For PEV test procedures, nominal voltage is not allowed at all; but still for the CD-test of an OVC-HEV
- Proposal limits the application of nominal voltage to the CS-conditions of an OVC-HEV and to the low voltage REESSs of PEVs and OVC-HEVs under CD conditions; high voltage REESS under CD condition are not allowed to use nominal voltage

Current status:

- It was agreed during the meeting on April 8th to follow JPN counter proposal
- Remaining open question regarding 60V threshold has been clarified, threshold can be supported
- Remark: with JPN counter proposal, not only paragraph 3.2. need to be adjusted but complete paragraph of Appendix 3 in Annex 8

Discussion basis:

- Current text in square brackets → working document: Annex 8, Appendix 3, paragraph 3.2.
- Counter Proposal JPN: [200315 JPN input REESS voltage measurement.docx](#) (complete paragraph 3)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed



Square bracket topic in WD of WLTP GTR#15 Amend#6

Proposal 1 in the context of the CO₂ correction factor application of NOVC-HEVs

Intention of the proposal:

- Proposal is to give the manufacturer the option to use a worst case approach based on the generic approach from pure ICE vehicles
- These proposals will reduce unnecessary testing without any additional value

Current status:

- EC and JPN: Intention of the proposal is understood and supported but proposal needs further scrutiny
- EC supports the proposal if it is ensured that it is providing a worst case
- Feedback during the meeting 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

Discussion basis:

Working document: Annex 8, Appendix 2a

Supporting documents from ACEA EV:

[200402 Generic approach CO₂ correction NOVC-HEV.pptx](#)

[200310 Generator Efficiency Example BRS Broschuere RZ en.pdf](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed



Square bracket topic in WD of WLTP GTR#15 Amend#6

Proposal 2 in the context of the CO₂ correction factor application of OVC- and NOVC-HEVs

Intention of the proposal:

- Manufacturer should be able to group several interpolation families into one K_{CO2} family
- This proposals will reduce unnecessary testing without any additional value

Current status:

- Intention of the proposal is understood and supported but proposal needs further scrutiny
- JPN proposes to use the COP family concept as basis for the K_{CO2} family concept

Discussion basis:

K_{CO2} correction factor family proposal for (N)OVC-HEVs based on COP family concept

Supporting documents from ACEA EV:

[200402 K CO2 factor family proposal \(based on COP family concept\) \(N\)OVC-HEV.pptx](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed



Square bracket topic in WD of WLTP GTR#15 Amend#6

Expected number of cycles in CD mode for OVC-HEV

Intention of the proposal:

- It is not clear what need to be done in the case of a borderline OVC-HEV which reaches in one test the expected numbers of CD cycles but in another test one cycle more or one cycle less than the expected number of CD cycles
- Proposal is providing a solution how to deal with this situation

Current status:

- Proposed wording in [...] in the working document would need further amendment (also authorities should be able to request a repetition of the test on their request;
- Further, during the meeting on April 2nd, a specific use case has been introduced and explained (number of CD cycles less than the expected number) and a possible problem has been addressed (see link below)
- 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 need to be driven and test results based on a different number of CD cycles need to be averaged.
- EC and JPN are still in discussion on the appropriate solution but necessity seen for action

Discussion basis:

Working document: Annex 6, paragraph 1.2.3.4., 1.2.3.5. and 1.2.3.6. (ACEA EV text proposal)

ACEA EV provided an explanation based on an example: [200402 Expected Number of CD Cycles example rev1.pptx](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed

Link working document:

[ECE-TRANS-WP29-GRPE-2020-14e_Track.docx](#)



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Low Temp Test Procedure

Current status of EV low temp topics can be seen in the latest version of the Excel Sheet:

→ 20xxyy_Status Square bracket topics_Amd#6 WD.xlsx

Latest version of the Excel Sheet can be found on the UNECE wiki in the following folder:

<https://wiki.unece.org/display/trans/Optional+annex+Low+T++Drafting>

BACK UP



Possible input for WLTP GTR#15 Amend#6

Update/amendment to include extrapolation for PEVs, define interpolation range for PEVs

Intention of the proposal:

- No extrapolation defined for PEVs, no interpolation range defined for PEVs
- Proposal adds this option and shall define value for interpolation and extrapolation range

Status after IWG IMD, Brussels, February 20th:

- Support on the concept but still discussion required on the values “minimum interpolation range”, “maximum interpolation range”, “maximum allowed extrapolation range”; also on the question if the vehicle M concept shall also be applicable for PEVs
- JPN and EC position has not changed since January where they stated that without concrete proposal and justification
- As position has not changed : Shall not go into GT#15 Amd#6 and shall be further postponed (**unless further justification provided**)

Updated version and draft text included in document: [191016 Extrapolation OVC-HEV interpolation extrapolation PEV.docx](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed



Possible input for WLTP GTR#15 Amend#6

Update/amendment to extrapolation for OVC-HEVs

Intention of the proposal:

- Extrapolation is defined for OVC-HEVs but to avoid mistakes in the extrapolation two additional aspects need to be considered, to ensure that the extrapolation is right and correct
 - By extrapolation below VL, the amount of CD-cycles need to be identical between VL and the extrapolated vehicle below VL; if VL was not able to drive CD in pure electric operation, also no pure electric operation for the extrapolated vehicle below VL allowed
 - By extrapolation above VH, the amount of CD-cycles need to be identical between VH and the extrapolated vehicle above VH; if VH was able to drive CD in pure electric operation until SoC_{min} , also pure electric operation for the extrapolated vehicle above VH required

Status after IWG IMD, Brussels, February 20th:

- JPN and EC position has not changed since January where they stated that this is not necessary to include now, can be done later
- As position has not changed : Shall not go into GT#15 Amd#6 and shall be further postponed

Latest version: [190930 WLTP-GTR-Proposals EV extrapolation OVC-HEVs.pdf](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed



Possible input for WLTP GTR#15 Amend#6

Alternative option for COP testing of PEVs

Intention of proposal:

- JAMA is proposing an alternative method (option) to the existing COP procedure (first cycle of the PEV test procedure for DC energy consumption confirmation) as in current procedure, vehicle is coming out of the test with a high SoC because procedure is starting with a fully charged battery and only one cycle is being driven
- If vehicle is shipped by plane, there is a requirement to have a maximum SoC of 30% which means that for those vehicles, the manufacturer needs to discharge the REESS down to this level
- Alternative procedure is following the same methodology like the existing procedure but starting with lower SoC and therefore avoiding this discharge of the REESS after the first cycle

Status after IWG IMD, Brussels, February 20th:

- Topic can be skipped and will be further postponed

Presentation describing proposal: [PEV Test Procedure for COP_JAMA.pdf](#)

Conclusion within WLTP SG EV:

- Shall go into GTR#15 Amd#6
- Shall not go into GTR#15 Amd#6, topic shall be further postponed