

System Power Determination

Status of Drafting

EVE 26 – Tokyo

March 28, 2018

Drafting group

- Current membership:
 - Chair – Mike Safoutin, US EPA
 - Samarendra Tripathy – Renault
 - Elena Paffumi – JRC
 - Michele DeGennaro – JRC
 - Jiamiao Li – PSA Group
 - Matthis Naegeli – VW
 - Norbert Klein – Hyundai
 - Heinz Steven
 - Kendelle Anstey – Canada
 - Shinichi Abe - Toyota
 - Masao Kubodera - Honda
- Meeting 1 telco held 21 Nov 2017
- Meeting 2 telco held 13 Dec 2017
- Meeting 3 telco held 21 Mar 2018
- Recent progress:
 - Aligned/added definitions and terminology with GTR 15
 - Aligned measurement accuracies with GTR 15
 - Other proposed alignments with GTR 15 where a need was identified
 - Equations formatted and reviewed

Next steps

- Continue to seek guidance on whether we are drafting a standalone GTR or an Annex/Appendix (discuss at EVE26)
- Prioritize needs of validation program
 - Sufficiently complete procedure is needed before testing can begin
 - Open issues must be discussed at EVE 26
- Detailed review of draft document at EVE26
- Identify specific assignments for drafting group members
- Establish regular cadence of drafting group teleconferences

Feedback from WLTP Subgroup EV

- Draft topics were discussed with drafting group in 21 Mar telco
- Resulted in feedback from several parties

“If EVE determines that the procedure should be an annex to GTR 15 rather than a standalone GTR, then it should be stated in the scope of the GTR that the procedure is intended for the requirements of WLTP.”

- JAMA prefers to put it in Annex 8 of GTR 15
- JASIC anticipates standalone GTR will make drafting difficult to achieve in available time

“While a system power value could be used for customer information or taxation purposes, these are not within the scope of GRPE”

- JASIC agrees that these are outside the scope of GRPE

“Is the scope of the procedure limited to HEVs, or does it also include PEVs with more than one electric motor? (The ISO standard on which we are basing the GTR only concerns HEVs, but could easily be applied to PEVs with more than one motor)”

- Heinz Steven: PEVs with more than one motor should be included
- JAMA:
 - PEV has already been established by UNR 85. However, multi-motor PEV is not mentioned by R85.
 - This test method can also be applied to multi-motor PEV.
 - JAMA is not opposed to multi-motor PEV application.
 - A single motor PEV may have two values by R 85 and this test method.
 - JAMA thinks that application to PEVs should be discussed at EVE IWG.

“Instances of “according to manufacturer recommendation” need to be replaced by requirements of WLTP where applicable (e.g. temperature requirements)”

- JAMA: Case by case. Technical Authority can hear the reason for manufacturer recommendation.
- Heinz Steven: Supports this. Expects that this will be done almost "automatically", if the system power determination becomes an annex of GTR 15

“Manufacturers should continue to have option to use Class 3 for classification and elect no downscaling, because this is the worst case; this option should be explicitly detailed in the GTR”

- JAMA: It is not a problem of draft Gr due to WLTP issue
- Heinz Steven: This is a WLTP related issue and should be treated uniformly for all types of vehicles

“Similarly, for an HEV where rated power of the ICE (by R85) is already classifying the vehicle as Class 3 with no downscaling, no determination of system power should be necessary, and this should be stated in the introduction to the GTR”

- JAMA: WLTP's problem. They will revise WLTP if they wish.
- Heinz Steven: But in this case it should be made clear that for a manual transmission vehicle the gearshift determination will also be based on the ICE power only.

“Does the procedure apply to range-extender type HEVs for purpose of classification and downscaling, or should they be treated like a single motor PEV?”

- JAMA: thinks that the range extender type vehicle is HEV. It meets HEV requirements. In the case of $CD > CS$, it can be classified by the power of the CD providing the maximum power.
- Heinz Steven: I think the question would also be valid in case of a multi-motor PEV with range extender. Do we need to find a solution urgently or do we have time to think about it more intensively?