

Progress report Annex 4 Open Issues

Since the IWG#10 meeting in Stockholm, Annex 4 open issues have been discussed during a progress meeting in Brussels on 20 May and some extensive email exchanges and telephone conferences on dedicated issues.

1. Wind tunnel method (OI #10, #18)

The general proposal for the Wind Tunnel method as an alternative RLD method (OI#18) was adopted at IWG#10.

On the request of the IWG a review of tolerances and accuracies was performed and some editorial changes have been made following recent Japanese proposals.

The Annex 4 Task Force advises the IWG to adopt document WLTP-11-12e prepared by BMW and to close OI#18.

After adoption of the general approach for Alternative delta Cd*A determination (OI#10), the proposal has been improved following guidance of the IWG and additional discussions in the Annex 4 Task Force. The gtr text has been handed over to the Drafting Subgroup to complete the final wording.

For information purposes the final proposal, document WLTP-11-18e prepared by BMW, has been made available to the IWG. The Annex 4 Task Force considers OI#10 closed.

2. On-board anemometry and wind speed (OI #11, #13)

Following guidance from IWG#10 Ford prepared gtr text proposals, that were pre-discussed in the Annex 4 Task Force. At IWG#11 Ford will present an improved text proposal (WLTP-11-14e).

An advice of the Annex 4 Task Force is pending further in-depth review of the methodology. The IWG is asked for guidance in particular on the balance between provisions in the proposed gtr text and references to the SAE-standard.

The Annex 4 Task Force will put additional effort in bringing a proposal ready for adoption to IWG#12.

3. Torque meter method (OI #4, #14, #15, #16, #20)

The results of the validation tests conducted by Ford and a review of the gtr text related to the Torque Meter method prepared by TNO have been discussed in the last Annex 4 progress meeting.

The Annex 4 Task Force advises the IWG to accept the tests performed as a sufficient basis to proceed with further development of the Torque Meter method (WLTP-11-15e).

Reflections of the Task Force, in particular T&E and Audi, have led to an improved proposal for modifications of the gtr text. The relevant document (WLTP-11-16e) prepared by TNO contains a table of how all the different Open Issues will be solved/covered.

The Annex 4 Task Force asks the IWG for guidance on the general principles given in this table. Following this guidance the Annex 4 Task Force will prepare a proposal ready for adoption at IWG#12.

4. Default road load parameters (OI #17)

IWG#10 supported the general principles of the **Road Load Matrix Family**. A subgroup of RDW/Daimler/T&E/TNO prepared an improved proposal and initial gtr text covering all issues on the to-do-list established by the IWG. Reflections of the Annex 4 Task Force resulted in presentation **WLTP-11-17e**.

The Task Force asks guidance of the IWG in particular on:

- The selection of a representative test vehicle
- Level of safety margin (correlation factor)

The Task Force is convinced a proposal ready for adoption can be presented at IWG#12.

5. Road load family concept (OI #1b_2)

Following adoption by the IWG#10, BMW provided the final text proposal to the Drafting Subgroup. The Annex 4 Task Force considers OI#1b_2 closed.

6. Tyre rolling resistance under combined approach (OI#1b_3)

No progress has been made.

7. WLTP Correction Algorithms (OI#48)

IWG#10 welcomed an Audi proposal to improve the procedure of dyno setting and asked the Annex 4 Task Force to come up with an amended proposal ready for adoption covering the comments from Contracting Parties.

The Task Force advises the IWG to adopt document **WLTP-10-19-rev1e** prepared by Audi. The Task Force also advises to close OI#48 for phase 1b if no additional initiatives from the WLTP Correction Algorithms process are proposed.

8. Manufacturer's responsibility for accuracy of road load specifications (OI#1b_5)

IWG#10 welcomed an initial Japanese proposal on manufacturer's responsibility for accuracy of road load values and asked the Annex 4 Task Force to further discuss the issue and come up with a proposal in IWG#11.

The Task Force elaborated on this issue, but couldn't come to an agreed position in the time available. A document (**WLTP-11-13e**) describing the state of play will be made available shortly before IWG#11. The Task Force asks the IWG for guidance whether or not a reference method should be included.

On the request of the EU Com the Japanese delegation prepared a table comparing the accuracies, tolerances and differences of the Road Load Determination methods and their options included in Annex 4. The table will be pre-discussed in the Annex 4 Task Force and will be brought to one of the upcoming IWG meetings.

9. Closed issues

- Speed points: OI#12, OI#21
- Alternative warm-up: OI#19
- Wheel alignment: OI#48
- Road Load Family: OI#1b_2
- Improved reference determination of tyre rolling resistance: OI#1b_3
- Alternative delta Cd*A: OI#10