

MINUTES of the 19th WLTP IWG Meeting

Location: Palais des Nations (Room XXVI), Geneva, Switzerland

Date & Time: June 6th 10:30 – 17:30, 2017

< > indicates the purpose of each agenda

IS : Information Sharing, **D** : Discussion, **RA** : Request for Adoption

1. Welcome & Organization <IS>

WLTP IWG organisation (WLTP-19-04e-rev1)

New Charman, Rob Cuelenaere introduced the new organization. A few typos were corrected and a revised one is posted as WLTP-19-04e-rev1.

2. Adoption of Minutes & Agenda <RA & IS>

- Minutes of 18th WLTP IWG meeting (WLTP-18-25e)
- Proposed Agenda (WLTP-19-02e-rev1)
- Current status and schedule of Phase2 items (WLTP-19-03e)

Last IWG meeting minutes were adopted with no modification.

3. Cycle TF <RA & IS & D>

- Status report by **H. Steven** (WLTP-19-06e)

Most issues already presented in Bern and partly refined for approval in this meeting.

For details on the proposals see WLTP-19-06e.

1. N_max: shift points of some vehicles in the round robin could not be calculated

Definition on page 16 ff: **adopted**

2. P_wot: editorial changes: **adopted**

India asked about a recommendation how to calculate the curve, since mostly only 6 equally spaced points are being recorded and how to bring this in line with the 2 per cent tolerance. H. Steven explained that a linear

interpolation is sufficient to calculate the data points used as input parameters for the calculation of the shift point. This issue will be discussed bilaterally and eventually in the group (**new open issue**).

3. Determination of the ng_vmax: highest speed might be reached in ng-2 or even lower gears. H. Steven presents a proposal on how to solve this problem. **adopted**

4. "Exclusion of a crawler gear": disregard n_rated for the calculation of a crawler gear and use n_95high instead. New text was presented: not adopted, scrutiny reservation by Japan until the delegation will receive feedback. The chair asks the Japanese delegation for feedback until Thursday (GRPE)

Japan accepted the new definition of "crawler gear" during GRPE.

5. § 3.3 and § 3.5 have to be amended in accordance with the changes to the definition of ng_max: **adopted**

6. "Additional requirements for corrections and / or modifications of gear use" dealing with gears that would only be used for a second due to a lack of power for a second: **adopted**

7. Avoid unlikely upshifts in phases from acceleration or constant speed phases to a deceleration phase: **adopted**

The herewith adopted issues will be included in the current version of the GTR and presented in the upcoming GRPE. Afterwards EU will include these issues in the WLTP 2nd act.

The ACCESS tool will be changed accordingly and the members of the round robin exercise shall use the new calculation method. The results will be presented in Korea.

All remaining issues are deemed to be finished until the meeting in Korea.

- **Feedback on proposed drive trace indices criteria** ([WLTP-18-06e](#))

Two comments by BMW on the criteria:

- a) RMSSE threshold to low – too many void tests
- b) All values shall be symmetrical.

JRC is working on the evaluation of the indices.

T. Haniu wants to discuss this issue in Korea and wants to finalise this topic during the IWG meeting in January 2018.

All feedback of the group shall be delivered **until end of August**.

OICA, B. Coleman: EU develops a method for CO₂ correction (normalization) which might have an impact on the development of the thresholds of the indices.

N. Ichikawa reminds the group that it was decided that normalization

calculations will not be a part of GTR 15 and is a European issue, only.
T. Haniu will keep EU-COM informed about the current process of the development of the indices (A. Marotta).

4. **EVAP TF <RA>**

- Status report by **M. Morimoto** (WLTP-19-07e)

M. Morimoto presents the proposed test procedure and the main discussion points of the group (8 issues). IWG approves and adopts all issues presented by M. Morimoto.

TF will finish drafting on sealed tank systems until the meeting in Korea then will be sent the 2018 January GRPE.

Semi sealed tanks and the running loss procedure will be dealt with on a later stage.

- Proposed gtr amendment (WLTP-19-07e Appendix, GRPE-75-16)

5. **Supplemental Test TF with SG EV team <IS & D>**

- Status report by **C. Astorga-Llorens** (WLTP-19-08e)

There were three telephone conferences since the last IWG meeting. The open issue if the draft text should be a part of a new annex of GTR 15 or if a new GTR should be developed is expected to be answered by GRPE this week.

Basis for discussion in the phone conferences was the Japanese presentation of emission measurements at different temperatures. Battery stabilisation at low temperature is necessary, however, stabilisation procedure is under the discussion from the viewpoint of representativeness and effectiveness. Harmonised winter/low temperature fuel specifications have been discussed.

Testing vs. model procedure and battery performance at different temperatures will have to be discussed.

GRPE secretariat proposes a separate GTR due to practical reasons, since GTR 15 might become too big.

- Contribution from SG EV team (WLTP-19-09e)

M. Naegeli presents an overview of the three parts of the test procedure where the temperature and the handling of the REESS might have an influence on the results: pre-setting, soak and low temp test. The aim of the group is to develop a procedure that is representative for what the customer will experience.

This issue will be discussed during tomorrows EVE meeting and in the upcoming low temperature task force telephone conferences.

N. Ichikawa points out that it is a very big task for this group to define a harmonised temperature, given the various views of the different CPs involved.

6. OBD TF <IS & D>

- Status report by **M. Morimoto** ([WLTP-19-12e](#))

M. Morimoto presents the current status. R83 is a start point for further discussion and currently focus on terminology collaborating with EEPR until experts from EC is assigned (expect from 21st IWG @ Korea).

7. Round-Robin Final Report <IS & D>

- Status report by **C. Vallaude / T. Haniu**) ([WLTP-19-16e](#))

C. Vallaude gives a summary of the Asian and European results and on the outcome of the round robin.

Objective: Check the understanding and application of the GTR text in different labs.

Findings of the Asian and European round robin were the same, therefore a double check of the vehicles in the other region was cancelled.

Some parts of the GTR text were revised after the discussion in the different labs. Most parts of the text were clear and did not lead to any misunderstandings.

Not all labs were equipped according to the requirements of GTR 15, the equipment differed strongly between the labs.

A gear shift calculation check was not feasible, since everybody used Heinz Stevens ACCESS tool. It was decided to check this issue in a separate round robin test.

The measurement of RCB turned out to be the biggest issue. Since measuring of RCB was new for many labs, it was a problem of training of the staff. The frequency of the measurement has been clarified in the GTR.

The text on zero adjustment has to be revised, C. Vallaude presented a draft text. The proposal was generally **adopted**, but the text will amended and included in the informal document (GTR).

8. New Open Issues TF <RA & IS & D>

- Status report by **R. Cuelenaere** ([WLTP-19-13e](#))

Status report by R. Cuelenaere (WLTP-19-13e)

R. Cuelenaere values the new group as a good platform to discuss technical

issues that are too “deep” for the IWG. He presents a table with the status of all different issues that have been discussed in the phone conference of the group.

Rob invites all members of the IWG to the task force, if they are interested in contributing to the work of the group.

C. Lueglinger presents issue No. 4 “n/v: 4WD with different tyres front and rear”

This proposal puts into words, what is already common practice for WLTP type approvals. WLTP-18-22 “the value of the mainly powered axle shall be applied”: **adopted**

- Status report Dual Axis TF by **I. Riemersma** ([WLTP-19-18e](#))

The Dual-Axis Dyno task force has previously acted under EU-WLTP, the proposed text will be implemented in WLTP 2nd act (Europe). In the last IWG meeting in Bern the transposition task force asked to harmonise the procedures by a common, harmonised text for the GTR.

I. Riemersma explains that why in his view a definition for the use of the correct dyno and vehicle setting (2WD, 4WD) is needed. He refers to a different vehicle warm-up in, driveline efficiency (front and rear) and brake energy recuperation when vehicles are operated in 2 WD or 4 WD which might lead to different CO₂ values.

Japan measured differences from -2 up to 5 grams of CO₂ (based on different test cycles, such as NEDC, JC08 and FTP) when using a 4WD compared with a 2WD. Until now they cannot distinguish if the effect originates from drivetrain issues or restraint systems.

One possible option that was discussed to find a harmonised solution for the GTR was the possibility to first demonstrate equivalency between 2WD and 4WD, and then to allow to test a vehicle on a single axis dynamometer. A family approach for which vehicles the equivalency can be applied would have to be developed.

Japan has expressed to be opposing a harmonised text due to unknown effects of the restraint systems and due to high cost of the 4 WD systems.

The sub group asks the IWG for guidance to achieve harmonisation in the framework directive.

EU-COM (A. Marotta): The current GTR text might lead to different interpretations and EU-COM wants to avoid that different labs measure a vehicle in a different way. Adding of the possibility to show equivalency would be a big step forward in flexibility to avoid unnecessary investments in the laboratories.

Japan (N. Ichikawa) agrees with EU-Com` s line of thoughts, however, first step is to work on the evaluation of the restraint systems and on the variation of the results when vehicles are being tested with different dynamometer settings. For Japan, from the viewpoint of cost-effectiveness,

the work on the drive index with no extra investments in the labs or the work on MAC procedures with a high CO₂ impact is a number one priority which gives a benefit. The 4WD issue is lower end priority.

Iddo asks to clarify the political and cost effectiveness issues on IWG level to have the possibility to focus on the technical issues in the task force.

EU-COM and Japan will have an exchange of information/data as soon as possible.

The issue will be presented again in the IWG meeting in Korea:

The IWG chair reminds the group to focus on the individual merits, not bargaining between different issues.

- Reference fuel for level 2 by **W. Coleman** (WLTP-19-19e) skipped

9. **Transposition to UNR <RA & IS & D>**

- Status report by **R. Gardner** (WLTP-19-05e)

R. Gardner gives a recap of what the transposition task force worked on in the last couple of years and months.

Two levels of regulations:

Harmonised top level (2) contains the most stringent limits from across all regions and is subject to full mutual recognition.

Regional levels with issues of different stringency and the possibility of options for the regions

The transposition route for Europe will be a 08 series of R83 that includes all tests that are currently in EU WLTP except the UNR WLTP elements (i.e. Type I and IV). The regulation shall be introduced at the same time as UNR WLTP. As and when GTR15 and UNR WLTP add new tests (e.g. Durability) UNR 83 08 series will 'shrink' in volume.

This approach turned out to be more agreeable (EU, JAPAN, OICA; UN secretariat).

The group already looked at the principle, the task force has now to focus on the details like worst case reference fuels, emission limits etc.

UN ECE secretariat: Discussion on UNR 83 08 and UNR WLTP have to adopted at the same time. IWVTA regulation 0 will enter to force in September each year. Documents have to be submitted to WLTP WP 29 in November (working document has to be approved in June)

India asks if more than two Level 1 texts could be developed which was confirmed by Rob Gardner (e.g. Level 1c for India ...).

10. Durability & In Service TF <IS & D>

- Status report Durability by **A. Marotta** ([WLTP-19-10e](#))

Overview of actions

1. JRC tests a gasoline vehicle to measure the thermal load during a SRC (standard road cycle) vs. WLTP. Initial results show some effects of the driving style for the same cycle on the thermal load.
2. and 3. The Gasoline and Diesel teams have started their literature review.

TNO-LAT will be involved in the activities of the DTF. The next telco is scheduled on June 20th.

It is planned to finish the work of the actions 1 to 3 by the end of this year. w/o the need of an experimental campaign one could already start drafting in 2018, if an experimental campaign is needed, the work on the draft document is deemed to start in 2019.

The conclusion of the actions cannot be foreseen at the current time.

- Status report In Service by **A. Marotta** ([WLTP-19-11e](#))

The ISC group does not have a chair at the moment, EU-COM committed to take the lead of the group.

Considerations: vehicle certification (regional requirements), IWVTA, 1958 & 1998 Agreement, Transposition of WLTP, Provisions at approval vs. Market surveillance.

A. Marotta points out that one difficulty of the group's work will be the correct location of the text in the UN regulations. While approving vehicles against higher stringency levels (ex. RDE) than own requirements might be acceptable, ISC needs a different treatment.

At the same time it should be acknowledged that Parties where ISC provisions are presents cannot waive them when signing a UNR.

EU-COM proposes to discuss the legal considerations first, before discussing the technical issues.

- ISC requirement under 1958 agreement ([WLTP-19-17e](#))

1958 agreement: 2 elements:

Declaration of conformity to the requirements by authorities after type approval

COP by manufacturers

ISC is the criteria for vehicles in the market--> after type approval.

Obligating authorities to carry out the required verifications in the market is

out of scope according to the 1958 agreement.

Bill Coleman: Industry needs a target to develop vehicles to, ISC could be the toughest target to meet.

If that is the case, the burden of showing compliance with the durability "issues" at type approval is not necessary.

According to Rob Gardner ISC would be in UNR 83 08 series.

EU-COM (A. Marotta) points out that durability is already part of UNR 83 06 & 07

The IWG Chair asks how to bring this issue to GRPE? A.Marotta seeks confirmation by IWG to open a small group of members of all representative groups. He plans to present an agreed position during the Korean meeting. The idea was confirmed by the group, Alessandro will send out an invitation.

11. **E-Lab. Sub-Group <IS & D> (16:00-16:30)**

- Status report by **Chairs (N. Mizushima / P. Ohlund)** ([WLTP-19-14e](#))

N. Mizushima gives a brief summary on the proceedings of the last months work.

He presents a questionnaire with answers to several questions on HEV system power, answered by EVE:

1. Peak power for the cycle classification and downscaling is sufficient
2. Final procedure will be presented in November 2019
3. It still has to be decided if a reference method for the determination of power is sufficient or if a candidate method has to be developed.
4. Also for CD and CS tests, only one system power is needed, since it is only needed for cycle classification and downscaling

EV Durability: CPs may have different requirements, Japans requirements will be presented during the EVE meeting tomorrow. The group still asks for contributions of all other CPs!

US EPA (Mike Olichew) emphasizes that the Matrix of durability issues is a crucial one that has to be filled by all CPs to further develop the basis for durability procedures. The EV subgroup will have the next phone conference at the end of June, where this matrix will be one of the key issues.

EU-COM (A. Marotta) will send their information to the EV subgroup.

12. Drafting <RA>

- gtr amendment by **S. Dubuc** ([WLTP-19-15e, 15e_appendix](#))
- GTR #15 amendment 3 ([WP.29/GRPE/2017/9](#))

S. Dubuc gives a brief overview on the latest drafting issues and the history of the GTR and the respective amendments.

He introduces the next drafting issues that will be dealt with within the next months. (e.g. definitions of accuracy, precision, REESS, modifications brought in by the different task forces ...)

Serge prepared a document with all amendments since amendment 2.

Bill Coleman proposes a draft text for a definition of REESS, which is missing in the GTR at the moment. **Japan needs time to discuss this issue until the meeting in Korea.**

- Technical report for GTR #15 amendment 3 ([GRPE-75-07](#))

S. Dubuc presents the current technical report for amendment 3, which can be downloaded from the UN ECE website.

Next deadline of working documents: 9 October 2017

13. Meeting schedule <IS>

- Schedule of upcoming task force meetings
<https://www2.unece.org/wiki/display/trans/WLTP+calendar>
- 20th WLTP IWG meeting (26-28 September, 2017 @ Korea)
- 21st WLTP IWG meeting (week of January 8th, 2018 @ Palais des Nations)

Further information for 20th IWG @ Korea will be available by the end of July.

14. AoB <IS or D or RA>

- Possibility of Phase2b prolongation and GRPE report
- Others, if necessary

Prolongation of Phase2 activities is expected but at the time it is unknown how much time will be needed.. During 21st IWG (January 2017) meeting, further information will be available for more concrete discussions.

For the minutes

M. Bergmann

