



## MINUTES of the 26<sup>th</sup> WLTP IWG Meeting

Date and Time : 13:30 ~ on 15<sup>th</sup> April, 2019  
~ 12:30 on 18<sup>th</sup> April, 2019  
Venue : Hotel Westin in Zagreb, Croatia

< > indicates the purpose of each agenda

IS : Information Sharing, D : Discussion, RC : Reach Consensus

### \*\*\*\*\* Day\_1 (15<sup>th</sup> April) \*\*\*\*\*

#### 1. Welcome & Organization <IS> (13:30–13:45)

- ✧ Welcome by Chair
  - ✓ The Chair opened the meeting and welcomed all participants.
  - ✓ Special welcome to Josip Bilaver, Assistant Minister of Transport in charge of EU funds and strategic planning.
  - ✓ The Chair opened the discussion on the need for a new contract for a drafting co-ordinator.
  - ✓ B. Thedinga (EC) explained that the EC must continue with its existing tender framework. As a contract is already in place with TRL, Rob Gardner will now take over this drafting work. He expressed thanks to Serge Dubuc for his great work over the years.
  - ✓ W. Coleman (OICA) also expressed thanks on behalf of the group to Serge for his excellent work.

#### 2. Adoption of Minutes & Agenda <RC> (13:45–14:00)

- ✧ Minutes of 25<sup>th</sup> WLTP IWG meeting (WLTP–25–17e)
  - <Conclusion>
    - ✓ Minutes to be updated and then uploaded to website.
  - <Discussion>
    - ✓ Request from C. Astorga (JRC) to update minutes in accordance with wording within presentation to clarify the situation regarding OVC–HEV
- ✧ Proposed Agenda (WLTP–26–01e)
  - <Conclusion>
    - ✓ Agenda adopted.

#### 3. Overall Progress and Schedule <IS> (WLTP–26–02e) (14:00–14:05)

- ✧ Update from the Chair on the above document.
  - ✓ Several items are documented as needing conclusion for January 2020 GRPE. There are also some items listed for after the official mandate expires.
  - ✓ The document will be kept up-to-date by Rob Gardner.

#### 4. Improvement of GTR#15 Amd#5 <D & RC> (14:05–15:30)

##### ✧ Gear Shift TF (14:05–14:30)

Final amendments for annex 2 and status report about the programming code development subgroup by H. Steven (WLTP-26-03e)

##### <Conclusions>

- ✓ H. Steven will begin work on the programming code. He asked the group whether a formal document for Amendment #6 should be presented at the January 2020 GRPE.
- ✓ The UN Secretariat will be asked whether there is a need to completely align a UN R with the GTR that it is supposed to implement, or whether it is possible to deviate slightly in the immediate term.

##### <Discussion>

- ✓ H. Steven gave an update based on the above document.
- ✓ The TF leader asked for feedback from the Gear Shift TF on his proposals by the end of March. No negative feedback was received, so seek adoption of the proposals at this WLTP-26 meeting.
- ✓ The amendments are proposed in order to avoid interpretation issues and to provide consistency
- ✓ M. Morimoto (Japan) noted that Japan will be joining the group but had been forgotten from the table presented on page 3 of the presentation. For other items, Japan support the proposals.
- ✓ W. Coleman (OICA) noted that the biggest issue is around the moving gearshift points in WLTP. This issue might increase as the GTR is transposed into regional / local legislation. One point for consideration, perhaps for the next meeting, is whether previous versions could still be accepted, or at least, the immediately preceding version could be accepted for approval in the local legislation? Minor changes can require a lot of work to fully understand the impact.
- ✓ M. Morimoto noted that Japan already accepts the previous versions of the gearshift tool.
- ✓ W. Coleman suggested that this could perhaps be written into the GTR.
- ✓ B. Thedinga (EC) suggested that it could be included with transitional provisions in the transposed regulation.
- ✓ W. Coleman noted that either could be acceptable.
- ✓ K. Engeljehring (AVL) suggested that perhaps everything that is published could remain valid for one year?
- ✓ The Chair asked the members whether they could accept the proposal.
- ✓ B. Thedinga noted that this proposal should align with the work being done for the correcting act for WLTP in the EU which is scheduled for around September.
- ✓ H. Steven agreed.
- ✓ A. Marotta (JRC / EC) noted there is already agreement on an amendment regarding Annex 2 for the correcting act for WLTP. If modifications arrive after September, they would need to have another correcting act which is not foreseen at this time. It also needs to be considered how the transposition is going to align. Agreement is needed for all of the changes that may be included in Amendment #6 so that they can be included in the WLTP correcting act.

- ✓ The Chair noted that there is no current timeframe for Amendment #6. There could be a working document to be agreed at January 2020 GRPE. It is not unknown for local and regional legislation to include proposed amendments not yet agreed by GRPE.
- ✓ Rob Gardner (EC) noted that the new text for Amendment #6 does require further cross-references etc. which need to be resolved. The document could then be presented as an informal document at May GRPE to allow discussion and give EC some confidence that it will be adopted in the January 2020 session.
- ✓ The Chair asked the group whether it could accept the proposal on gear shifting as proposed by H. Steven.
- ✓ Japan, EC, India and OICA support.
- ✓ N. Ichikawa (Japan) as Technical Secretary questioned whether the resource was available to develop a working document in this timeframe? This is not the only proposal that needs to be included in Amendment #6. Consideration needs to be given to the overall procedure.
- ✓ A. Marotta noted the necessity to have the text that is to go into the transposition regulation aligned with the EU WLTP. Regarding Amendment #6 itself, it could be postponed if needed. GTR #15 Amendment #6 would have to be transposed into the EU, Japan regulations etc. Therefore, the content of Amendment #6 needs to be agreed so that it can be included into the EU correcting act.

✧ Modification of Tyre Energy efficiency class by **W. Coleman** (WLTP-26-04e)

W. Coleman went through the above document.

<Conclusions>

- ✓ The EU labelling regulation developments will be monitored and actioned if needed.

<Discussion>

- ✓ C. Lueglinger noted that the bands should be introduced into the European regulation to ensure that there is no further confusion or potential confusion regardless of how the labelling discussion progresses.
- ✓ B. Thedinga asked whether OICA are speaking with ETRMA on this issue as they will obviously be involved.
- ✓ W. Coleman confirmed this was the case but further engagement is needed on this topic with both ETRMA and ETRTO.

✧ Text improvement of CVS Spec./Calculations by **L. Hill** (WLTP-26-05e)

L. Hill (Horiba) gave an update based on the above document.

<Conclusions>

- ✓ Japan and EC support proposal.
- ✓ Units for CVS flow rate will be checked by L. Hill and the drafting co-ordinator.

<Discussions>

- ✓ L. Hill noted that it could be included in the Amendment #6 but it needs to be done as soon as possible to provide clarity.
- ✓ C. Astorga noted that revisions of the GTR need to be better controlled to avoid this situation happening in the future.
- ✓ EC confirmed that the sentence could be deleted and the text referring to the optional application of the calculation can be inserted.

- ✓ B. Thedinga also raised a question over whether the units for CVS flow rate should  $\text{m}^3/\text{min}$  or whether it mean  $\text{m}^3/\text{s}$ ?

✧ 4 Wheel Drive Chassis Dynamometer Front–Rear Roller Synchronisation by Japan (WLTP–26–15e)

T. Haniu (Japan) presented the above document on 4WD.

<Conclusions>

- ✓ Proposed amended accepted.
- ✓ O. Berg (OICA) to check whether the issue over “major maintenance” is solved by the existing definition in the GTR
- ✓ EC, France and OICA support use of “may” in the sentence below.

<Discussion>

- ✓ The dynamometer speed less than 0.2 km/h [shall or may] be excluded during the evaluation defined in paragraph 2.3.1.2.1. to 2.3.1.2.3.
- ✓ Should it be “shall” or “may”? The standard says “shall”.
- ✓ I. Riemersma (EC) noted that the EC is not in a position to be able to fully support such a technical change.
- ✓ The Chair asked whether there is an urgent need for this change or whether it can be part of Amendment #6?
- ✓ T. Haniu confirmed that Amendment #6 would be satisfactory.
- ✓ O. Berg (OICA) questions the term of “major maintenance” in 2.3.1.2. Needs clarity.
- ✓ N. Ichikawa (Japan) noted there is already a definition in the GTR, paragraph 3.1.7.

✧ Statistical precision by Japan (WLTP–26–16e)

M. Morimoto presented the above document.

<Conclusions>

- ✓ WLTP IWG agreed the proposal.

<Discussion>

- ✓ R. Gardner noted that this was the only paragraph amended in the EU–WLTP regulation so that was all that was amended in the GTR. Effectively, it is a new issue.
- ✓ C. Vallau (France) noted that they had a specific issue with that paragraph which is why only that one was corrected. It seems logical to add it to the other paragraphs.
- ✓ The Chair noted that this should be certainly in Amendment #6; maybe earlier in the EU–WLTP correcting act.

✧ No additional proposals were received for this agenda item.

<Break 15: 30– 16:00>

5. Transposition TF Part#1 <D & RC>

✧ How to handle the optional items\_#1 by ALL (WLTP–26–10) (16:00~17:30)

R. Gardner gave an update based on the above document

<Discussion>

- ✓ All parties working towards harmonization but there are still some topics where no compromise can be found at this time.
- ✓ Aim is to have informal documents to 79th GRPE in May 2019.
- ✓ H. Nakhawa (India) asked whether levels in the GTR continue?
- ✓ R. Gardner noted that there are options, but not really levels in the GTR. The levels are in the UN R.
- ✓ H. Nakhawa noted that there will be optional annexes in the GTR for use by regions if desired.
- ✓ R. Gardner noted that the levels will continue to exist in UN-R because it will not be possible to achieve harmonization on certain topics. However, it makes sense to include all of the elements in the GTR as options.
- ✓ R. Gardner presented the new wiki page for the Transposition Task Force (<https://wiki.unece.org/display/trans/April+2019+Task+Force+and+IWG>) and the Regional Options sheet although not all items discussed in detail.
  - Scope
    - W. Coleman explained that the scope of a GTR will be the very minimum that is acceptable to all Contracting Parties. A Contracting Party can exclude a vehicle from its market, but only on political grounds, not technical ones.
    - For vehicles with gasoline tanks < 15 litres, there is no current need to test the emissions under the gasoline, but Japan want it included.
    - There is an issue with lead being 0 and whether it is technically possible to require that.
    - Section 7 is fully harmonized but will not be included in the UNR as none of the items considered are regulated emissions.
    - ATCT will be accepted by Japan in level 1a and 2. There are also target speed corrections in EU-WLTP which need further discussion.
    - On the 4WD requirement, technical discussions are needed in relation to “if vertical forces cannot be applied...”. Need to decide how to progress this topic within the IWG.
    - Averaging of criteria emissions also needs further discussion.
    - C. Leuginger asked whether there was ever a discussion on whether it would be better just to take the worst-case result on CO<sub>2</sub> and energy consumption rather than trying to ascertain what the most stringent condition is?
    - A. Marotta confirmed that it could be possible in the situation where you could have the same car with two different data sets on the same market. To be discussed further.
    - CoP and Durability are key elements of the UN R and both are under development.
    - Additional discussion on mutual recognition fuels, which exist in GTR 19 and whether they should be taken into the UN R.

6. Transposition TF Part#2 <D & RC>

✧ How to handle the optional items #2 by ALL (WLTP-26-06e\_a to z) (9:00~10:45)

R. Gardner introduced a discussion on regional options and then identified items that he wished to have further discussion on at the IWG.

<Conclusions>

- ✓ Concept of a “quasi mono-fuel” system should be considered for inclusion in Level 2.
- ✓ RMSSE of 1.3 with target speed correction will be used for Level 1a and RMSSE of 0.8 without target speed correction will be used for Level 1b and Level 2.

<Discussion>

- ✓ Discussion on the provision that if the fuel tank is less than 15 litres, then it is not necessary to test the vehicle only on petrol.
  - Japan view is that it should be required to test on petrol anyway and that this requirement should therefore go into Level 2.
  - This impacts the wording of 5.3.5.1. The proposed solution would be to introduce the definition of a “quasi mono-fuel” which would have a tank of up to 15 litres in addition to a mono-fuel and a bi-fuel. There is a question around how one could actually conduct a type 1 test on such a vehicle.
  - A. Marrotta noted that in level 1a, one could have a definition of a quasi mono-fuel.
  - Japan explained that they do not have this and conduct an emissions test on both fuels. Therefore it was agreed that it should go into Level 2. The only way of doing the Type 1 would be to empty the gas tank and therefore run only on petrol. It was noted however that it may be possible that some vehicles would not be designed for this eventuality.
  - If the three categories are allowed, they would not necessarily need to be accepted by Contracting Parties if they chose not to for political reasons.
  - Japan have concerns that even though the gasoline tank is small, the emissions from the gasoline can still harm the environment. The only way to demonstrate that is not the case is by testing. If quasi mono-fuel vehicles can be excluded from a region, that might provide a solution.
  - W. Coleman agreed that the environmental impact is difficult to assess but if the gasoline is not being used other than in cases of emergency, any emissions will be reduced.
  - C. Astorga noted that JRC is conducting studies on various aspects. They have not done tests specifically on evaporative emissions but noted that Japan’s point should be taken into account; particularly in the context of the various low emission zones, which are being introduced.
- ✓ Discussion on atmospheric temperature – paragraph 4.1.1.2. – delete the ability to deviate from the upper range by  $\pm 5^{\circ}\text{C}$ .
  - In the EU-WLTP, this means that it can go to being  $35^{\circ}\text{C}$  whereas the GTR is at  $40^{\circ}\text{C}$ .
  - Japan noted that they would prefer  $40^{\circ}\text{C}$ .

- OICA noted that 35°C has been in place for decades, but confirmed that there is no issue with it being extended to 40°C.
- India noted that this had been previously raised by the EC and India. If the temperature is at 35°C, it can be difficult to ensure that test tracks in certain regions are at that temperature. Hence the extended range had been agreed in the GTR.
- B. Thedinga noted that 35°C has been in European legislation for a long time so it would be difficult to change it easily, but he is willing to try to find a solution as he completely understands the potential issue in certain regions. He would like to avoid, however, that the target would be automatically higher than 35°C as he would be concerned that tests would then be conducted at higher temperatures as the standard.
- C. Lueglinger noted that it is unlikely that manufacturers would wait until they could do coast down tests at the high temperatures and many do testing at night so the temperature is lower anyway.
- I. Riemersma noted that it would be possible to give as a preferred temperature range of 5°C – 35°C. If the manufacturer can prove that it is practically not possible to meet that temperature range because of local conditions, then they could request an extension and discuss with the type approval authority / technical services.
- M. Morimoto (not on behalf of Japan) questioned that if it is possible to test under the GTR at 40°C ± 5°C, why would they need to ask permission to test within that range?
- R. Gardner confirmed that ATCT is included in Level 2, but there is still a discussion needed on test corrections
- B. Thedinga noted that Japan has no correction and an RMSSE < 0.8, so 0.8 could be applied as the most stringent condition in Level 2.
- N. Ichikawa noted the effect on the CO<sub>2</sub> is not significant so it is not certain that it is necessary to apply the drive trace correction.
- A. Marotta noted that that EC can agree that the 0.8 correction can be skipped as it is only applied to ICE. Level 2 should not then include the drive trace correction. If this is the case, does there need to be agreement on what the limit should be? European industry is concerned about the number of potential tests that can be made invalid by a limit 0.8. A value of 1.3 seemed to be more robust from their studies.
- Japan noted that, regarding RMSSE, they have data that supports a value of 0.8.
- Y. Khellef (OICA) noted that with more and more WLTP experience, they still see a 20% rejection rate at 1.3, although there is an overall improvement in the results. There is currently much less data for N1 vehicles so this is still very important.
- B. Thedinga suggested that Level 2 could have 0.8 but without the application of the correction that currently exists in the EU.
- R. Gardner confirmed that 1.3 is used for Level 1a, 0.8 for Level 1b and Level 2. Target speed correction would be yes for 1a and no for 1b and 2.
- Y. Khellef questioned whether the 0.8 is suitable for both type approval and CoP.

- Japan noted that currently it is only for type approval, but they are considering its suitability for CoP.
- ✓ Discussion on Dual axis dyno requirements
- 4WD requirement is listed for all 3 levels, but Japan have some concerns around vertical forces and restraints as well as some other technical issues.
  - I. Riemersma noted that the issues remaining are on vehicle restraints; there are also some issues which could lead to some uncertainties in the measurements. ALR check done after the chassis dyno test to check that the road load was applied correctly. If the vehicle restraint is done correctly, there may not be a need for the ALR check.
  - Japan are concerned that even if there are no vertical forces, there could be other issues that could still impact the measurement accuracy.
- ✓ Discussion on Ki regenerative factor
- N. Ichikawa noted that Japan had presented test results from NEDC cycles which showed Ki not significantly different between urban and extra urban phases. For harmonization purposes, Contracting Parties accepting 3-phase should accept the Ki developed under the 4-phase.
  - B. Thedinga agreed in principle, but would like some further justification.
  - W. Coleman noted that in the interest of robust legislation, the simple statement that either cycle can be used is a little too open. Ki determination involves emissions measurement between regenerations and during regeneration. It should be clear that it should be tested using the same cycle for all components of the determination.
  - A. Marotta noted that there are other aspects that need to be explicitly clear on calculations and definitions. EC can accept to have equivalency if conducted properly.
- ✓ Averaging of criteria emissions
- A. Marotta noted that there appears to be some confusion on this and would like to clarify what the intention was. VH needs to be tested and can be tested up to 3 tests. Optionally VL can then be tested up to 3 times. In Europe the highest result of the test for each pollutant has to be recorded on the test report; e.g. for CO, average of 3 tests for VH might be higher than the average for VL but for HC, it might be VL which has the highest data. In this case, data would be recorded for VH for CO and VL for HC. In the case of THC + NO<sub>x</sub>, the sum of both for VH and VL is taken and the highest is declared.
  - W. Coleman noted that in WLTP, every pollutant must comply in every test, so why not just declare the absolute highest value rather than use averages?
  - A. Marotta noted that historically it has always been the average which is declared, so that principle has been maintained.
  - C. Lueglinger noted that there was a concern if some countries use the values that are declared. This method means that the values declared cannot be viewed as being representative for vehicles sold under that interpolation family.



It would be better to purely determine compliance and then not declare the measured values on the CoC.

- A. Marotta noted that in the EU, the emissions type approval must be reported, and therefore the average will be more representative of that vehicle. The values are needed for emissions modelling so it would be difficult to change now.
- ✓ Discussion on snow tyres / optional equipment in paragraph 4.2.1.1.2.
  - In the EU-WLTP, there were some additions in 4 places in the regulation where this is information about snow tyres not being considered as optional equipment.
  - Japan's view is that optional items fitted at dealers are out of scope in Japan.
  - W. Coleman noted that this is probably purely an EU issue due to the framework directive. The CoC must apply to the specification of the vehicle at the point of registration. This is probably a non-issue outside of Europe. Need to check implications for DoC under IWVTA.
  - Also in this paragraph, there is guidance in the GTR, which would probably not be acceptable in the UN R.
  - W. Coleman noted that a fundamental principle of type approval is that it can be used to cover future vehicles so this means that it can include "virtual" vehicles in the type approval process. Therefore, the values quoted in the guidance would be good to have in legislation, but this may cause issues if it invalidates existing type approvals. However, as there are no existing type approvals to UNR-WLTP, so presumably this is not an issue.
  - The table that Japan prepared is just a discussion point and Japan do not currently have a position on the items in the table.
  - M. Morimoto noted that guidance versus legislation is something that Japan cannot accept.

<Break 10:45 – 11:15>

## 7. OBD TF <IS & D> (11:15–11:45)

✧ Status report and timeline for next actions by **M. Morimoto** (WLTP-26-07e)

M. Morimoto gave an update on the progress of the OBD TF.

- ✓ The proposal is to have a working document for June 2020 GRPE, although this will be challenging.
- ✓ B. Thedinga noted that it is not a political priority for EC to develop a GTR on this, but would like to continue with the Task Force to provide clarity and harmonization.
- ✓ W. Coleman noted that ACEA have conducted a review of potential improvements. The conclusion was that, in terms of timing, it would be better to progress these developments via GRPE, so there may be three informals for May GRPE. This needs to be considered in parallel with the work of the OBD TF. If the discussion goes well, then they would be submitted as formal working documents for January 2020. If working documents are agreed at the January session, then they could be incorporated into the working document for OBD GTR for June 2020 GRPE.

- ✓ India noted that there are no plans at this stage to implement WLTP in India so, as there is no Contracting Party option available, this GTR will also not be implemented. If WLTP is implemented in India for Type 1 and 4, then the GTR OBD would also be introduced.

#### 8. Sub-Group EV <IS & D & RC> (11:45–12:30)

✧ Text improvement/COP/EVE activities/Next actions (WLTP-26-EV01~XXe)

Update from M. Naegeli on the SG-EV.

##### <Conclusions>

- ✓ Request for M. Morimoto to share her timeline slide used for the OBD TF so that the same format can be used for SG-EV.

##### <Discussions>

- ✓ Low temp procedures for both OVC-HEVs and PEVs need to be finalized by SG-EV by the end of 2019.
- ✓ Guidance is still needed on what consumer information should contain and how it should be presented. Consideration needs to be given to what happens if the discussions cannot be finalised by the end of the year. Meetings every month are needed to achieve desired timeframe.
- ✓ Consideration also on specific inputs to the CoP TF on the portions specifically dealing with electrified vehicles.
- ✓ Key point on GTR 15 is that there is no definition of NOVC-FCHV but there is a procedure for testing. There is also no definition or procedure for OVC-FCHV.
- ✓ HEV system power determination – separate GTR based on ISO standard.
- ✓ In-vehicle durability is likely to move towards having a separate GTR on this based on Deterioration Factors for pollutant emissions and range. Way forward needs to be finalized by January 2020.
- ✓ Low temperature work needs to provide a conclusion by January. CoP TF activity is fully aligned.
- ✓ Drafting report is in-progress for system power determination. Results of validation process have raised some additional questions, which need to be resolved. Need decision on expected timeframe for the production of this stand-alone GTR. If there are two procedures giving different values, there is a need to identify all of the sources of deviations and try to resolve
- ✓ H. Steven noted that this is unlikely to be possible to resolve within the timeframe of Amendment #6.
- ✓ A. Marotta noted that there is no need for system power in the EU regulation (all electrified vehicles are considered as Class III at this stage). Battery durability not included in standard durability TF at this stage. There is an idea to link the criteria, but the scope and the requirements are not related.

\*\*\*\*\* Day\_3 (17<sup>th</sup> April) \*\*\*\*\*

#### 9. Transposition TF Part#3 <IS & D & RC>

✧ Updated status of Durability by A. Marotta (WLTP-26-08e) (9:00~9:20)

Update given by A. Marotta.

##### <Conclusions>

- ✓ IWG members encouraged to go through the text in detail.
- ✓ A. Marotta requested that members pay particular attention to the calculation of the multiplicative and additive deterioration factor and provide feedback if needed.

#### <Discussion>

- ✓ As agreed previously, durability should be part of the UNR-WLTP. A new durability procedure has not yet been agreed within the TF, so the UNR-WLTP would need to include the current durability procedures from the EU and Japan. This should not be considered as a proposal for a separate annex or separate GTR within the 1998 agreement.
- ✓ This text has already been shown within the Transposition TF. Text has been colour-coded to make it clearer. Plain text is level 2. For Level 1a, the EU procedure has been used; for Level 1b, the input from Japan has been used. Text highlighted in yellow is based on the second package of information received from Japan.
- ✓ W. Coleman asked for clarification to be made on where the Level 1a or Level 1b text is in place of the Level 2 text (Level 2 not clearly identified at this stage). This point is not specific to durability but does need to be addressed.
- ✓ A. Marotta requested that members pay particular attention to the calculation of the multiplicative and additive deterioration factor and provide feedback if needed.
- ✓ Three open points still remain:
  - 1/ Accelerated bench ageing cycle is only in Level 1a at the moment. There are assigned DFs for both EU and Japan only for gasoline. For the diesel vehicles which do not have assigned DFs, the accelerated bench ageing cycle is not possible for Level 2.
  - 2/ Initial discussion on evaluating the possibility to propose assigned DFs for diesel vehicles
  - 3/ Need to clarify Japan submission of a table used to start the discussion on how to address the concept of family extensions and durability in a way that is clear for all of the parties.
- ✓ W. Coleman noted that while he could understand the rejection of bench tests from Japan based on it does not exist in their current legislation, in the absence of assigned DFs, it is the only option.
- ✓ Industry requested that they be fully involved in the discussions around family concepts.
- ✓ N. Ichikawa asked about the difference between the EU-WLTP durability procedure and the current R83 procedure. He noted that, regarding the family, all parties should be involved to develop a better, harmonized test procedure.
- ✓ A. Marotta noted that the EU-WLTP procedure uses the WLTP test. NEDC inertia classes are obviously not available in WLTP, so there has been a discussion in the past which resulted in the provisions in paragraph 6.3.1.2. on the road load coefficients settings to ensure that they are representative for all of the family. He is open to suggestion to compromise on SRC test.
- ✓ Regarding the submission of a proposal, how should the process regarding GRPE be managed. Should it be an informal document at this stage or just a report on the progress of the work? Square brackets could be used for the section where assigned DFs could be included. On the family question, it is a necessary

clarification and common understanding on how families are defined and extended under EU-WLTP.

- ✓ W. Coleman noted that the original idea under WLTP was to do away with extensions all together which would align with Japan. He asked whether there is any resistance to the development of a GTR on durability.
- ✓ A. Marotta noted that the post-Euro 6 discussion in the EU might have an impact on the concept of durability so it might be that the GTR discussion will resume once the UNR-WLTP is in place.
- ✓ Referring to WLTP-26-08 Appendix 1, A. Marotta invited IWG members to check whether the text reflects correctly the contents of the table.
- ✓ Japan will discuss with EC to harmonise on Level 2. Regarding bench ageing, Japan does not accept accelerated bench ageing, but does accept assigned DFs. It is likely that it will be more acceptable to progress assigned DFs for diesel than achieve acceptance of accelerated bench ageing process.
- ✓ Data collection was discussed.
- ✓ C. Vallaude (France) would be willing to give data but does not have a significant amount.
- ✓ OICA will probably be able to supply a greater quantity, but the vast majority of data comes from bench tests as this is the simplest process for the EU. OEMs do have their own proving data, but this is commercially sensitive (due to the cycles which are viewed as representative of real life durability) so need to find a way to anonymise the data. Other existing sources of data; e.g. from US and China, does not have much on diesels. June seems an incredibly tight deadline, but OICA members will do their best.
- ✓ H. Nakhawa (India) asked whether there was any equivalency being studied for road cycle vs assigned vs bench.
- ✓ W. Coleman noted that the road cycle had been a political decision to represent the useful life of the vehicle, with assigned DFs representing worst case. The bench test works on the concept of correlation so need to decide the length of the bench test to simulate 160,000 km. Diesel test was a simple carry-over of gasoline cycle but the correlation is demonstrable.
- ✓ H. Nakhawa (India) questioned whether if DFs are only available for gasoline, will they be considered for diesel?
- ✓ A. Marotta noted that they do not exist for diesels because when Euro 5 and 6 was developed, there was no data available to propose assigned DFs taking into account SCR fitment etc. At a UNECE level, it should be possible to introduce assigned DFs for diesel. In Europe and other regions where RDE is coming into force, the type approval durability is potentially not as important. The manufacturer would be expected to make a declaration and RDE would then provide verification.
- ✓ H. Nakhawa (India) questioned what happens after the useful life of the vehicle in terms of durability requirements. It is a tight schedule for developing UNR-WLTP. There is nothing on durability at a GTR level at the moment. In-Service conformity is used in Europe up until 100,000km because after that time, it is very difficult to ensure that the vehicle is still genuinely representing the production vehicle. PTI and roadworthiness checks should address some of the concern later in life.

- ✓ W. Coleman noted that the terminology for useful life generates much discussion. Full useful life is a completely misleading term – it should perhaps be “minimum” as the vehicle does not just cease operating at 160,000 km. Perhaps if more work is going to be done on durability, it would be worth better defining it, so that there is a clear understanding of what it means.

✧ Updated status of COP TF by **I. Riemersma** (WLTP-26-09e) (9:20~10:00)

Update given by I. Riemersma.

<Conclusions>

- ✓ Data urgently required to be able to validate proposals
- ✓ Status report only for May GRPE.

<Discussion>

- ✓ Urgently need WLTP CoP data to be able to allow full assessment of proposals on pass / fail criteria.
- ✓ According to time schedule, there should be an informal document at May GRPE which would be a first draft of a proposed text. This is not yet possible so would propose delivering a Status Report to May GRPE as an annex to the report of the WLTP IWG. Would plan to be able to deliver a contribution to a working document in January 2020 GRPE session.
- ✓ Y. Khellef noted that this is important work for industry, particularly now fleet compliance in the EU is based on measured values but compliance with type approval will still be based on declared values. Therefore industry is very keen to have an improved CoP in EU-WLTP. They will do everything possible to assist with the supply of data.
- ✓ W. Coleman asked whether there is any possibility of harmonization on statistics? If the UNR-WLTP contains different statistical procedures, the only way that could be applied for mutual recognition, is if all of them are conducted. That also would introduce the possibility of a failure on only one of the procedures. This needs more work.
- ✓ I. Riemersma noted that different pass / fail criteria and different procedures would be completely undesirable. At least if there could be harmonization on the procedures, it would be a step in the right direction. It would obviously be preferable to achieve full harmonization, but some harmonization is better than none.
- ✓ A. Dijkhuizen noted that for this reason, it is essential that we have data. RDW is doing its best to support.
- ✓ I. Riemersma re-iterated the importance of data to be able to evaluate the potential procedures.
- ✓ C. Vallaude noted the difficulty of anonymizing data when there is only a small sample.
- ✓ I. Riemersma would propose to include status report and no text for May. This allows Contracting Parties to understand where the issues are.
- ✓ R. Gardner noted that for GTR #15, the CoP should be included in the working document for Amendment #6. This would therefore make it logical to include status report within IWG report.
- ✓ N. Ichikawa requested that Amendment #6 should be submitted to the June 2020 session rather than to the January 2020 session.

- ✓ UN secretariat response confirmed that there would be no problem with a slight mis-alignment between the text of the GTR and UNR-WLTP; therefore this is a decision for the IWG.
- ✓ W. Coleman noted that the work that H. Steven is doing in the GS TF is really useful to include in the EU-WLTP but this would impact on whether Amendment #6 should progress in January or June 2020.
- ✓ The Chair stated his understanding is that the work from the GS TF would be included within the UNR-WLTP. The drafting of UNR and GTR and Correcting Act does not have to be done in parallel. UNR and Correcting Act can be done first and then the GTR text can be updated as soon as possible afterwards.
- ✓ A. Marotta supported this view. This also allows some of the discussion to be finalized at the point that the GTR is updated.
- ✓ R. Gardner noted that the informal document presented ahead of Amendment #5 had not given much detail, so the same approach could be taken in regard to Amendment #6.

✧ Structure scheme and Next Actions by **R. Gardner** (WLTP-26-10e) (10:00~11:00)

- ✓ R. Gardner gave his thanks to all of those involved in CoP and durability as this work is essential to the transposition task force. The complexity of the work was one of the reasons why the UNR has been delayed by one GRPE.

<Break 11:00 ~ 11:30>

10. **Low Temperature TF Part#1 <D & RC>**(11:30~12:30)

✧ Items need to be closed @ this meeting by **ALL** (WLTP-26-11e\_a to z)

<Conclusions>

- ✓ Plan to deliver informal document for June 2020 GRPE with working document for January 2021 GRPE for new GTR.

<Discussion>

- ✓ C. Astorga introduced the open issues list and explained that there would be further discussion on some of these items. There is now an OICA (Hans Matthiasson) representative in the TF. Thanks to N. Ichikawa for producing the initial document and those that had subsequently updated it. She welcomed the new drafting co-ordinator, Rob Gardner and gave thanks to Serge Dubuc for his excellent work.
- ✓ For the supplemental test for low temperature, there is a plan to have an informal document at January 2020 GRPE with a working document at June 2020.
- ✓ Proposal from OICA to include a round-robin in the workplan which could result in an extension, length of which is dependent upon number of labs and identification of golden vehicle. Could treat the EVs separately if necessary.
- ✓ A. Marotta noted that the low temp TF is developing a procedure but there are no limit values for this procedure at this time. A round-robin could only be conducted once there are limits. We should instead just carry out a validation exercise to check the process.
- ✓ O. Berg (OICA) noted that this is the first time we have a cold test procedure for diesel vehicles. It is doubtful that even a simple validation could be done in the

same timeframe. The procedure needs to be at least 90% defined before any validation could be conducted.

- ✓ OICA confirmed that they are willing to provide a vehicle.
- ✓ C. Astorga would like to include at least a Euro 6d-temp gasoline, diesel and hybrid vehicle. Consumer information is a repeated question in this TF. There needs to be a discussion and conclusion reached on this. Need something for EV vehicles.
- ✓ On the Open Issues document, column L gives information about where the item should be discussed. SG-EV still has a lot to discuss in order to be able to finalise a proposal.
- ✓ The Chair asked for views on the necessity of validation and round-robin. If it is needed, there will need to be an extension to the timeline and the mandate.
- ✓ R. Suarez-Bertoa (JRC) noted that if a validation or a round-robin, then more details are needed on exactly what that would need to involve. If repeatability is included, then it might cause difficulty because labs are not currently approved to do this sort of testing.
- ✓ M. Naegeli noted that there are still some open questions on family concept, particularly based on outstanding questions on consumer information. A fixed procedure would allow better evaluation of data to address these concerns. Those points, in their own right, might need a further extension to the programme.
- ✓ O. Berg noted that historically, the low temperature test has never been that detailed or precise. The proposal is now to use the same equipment and facilities to do something far more precise under WLTP. This means there may be unexpected variations between facilities at  $-7^{\circ}\text{C}$ , which is likely to make some variations more evident. Also based on the results, it may be necessary to update the procedure.
- ✓ Y. Khellef noted that the timeline is important for post-Euro 6, but it is not possible to do everything by the end of this year. The work could be divided – one group looking at the political implementation and another looking at the technical work, including validation and round-robin.
- ✓ C. Astorga replied that this should not be necessary as the IWG should be able to make the political decisions. The TF and SG-EV do the technical work.
- ✓ R. Suarez-Bertoa noted that some people have already been working on this for two and half years.
- ✓ Y. Khellef stated that the work that has already been done is very much appreciated. The clarification on the timeline is related to other timelines. There is no intention to undermine the work already done.
- ✓ B. Thedinga noted that he is not really convinced why a round-robin would be needed within the scope of the TF. He can understand why the industry would like to do this, but it can be carried out within ACEA / OICA. He does not see the need to have the round-robin results as part of the TF activity.
- ✓ W. Coleman noted that no-one wants to organize or fund a round-robin, but previously, Contracting Parties have recognized the benefit of a round-robin to validate the decisions made. It would be preferable to have all of this done ahead of the procedure being put in place but fully understand the time limitations. Industry would like to ensure that any round-robin results could be taken into account future amendments.

- ✓ B. Thedinga expressed surprise that a round-robin is viewed as being necessary. This is not a completely new procedure, but just an extension of a known, existing procedure.
- ✓ W. Coleman noted that it is in the interests of the regulator to have proof that any procedures put into legislation are robust. This is a new procedure, as there is no experience, for example, of measuring diesel PN at low temperatures.
- ✓ B. Thedinga stated that if a round-robin is really necessary, it should have been planned for two years ago.
- ✓ W. Coleman noted that this has been discussed in the WLTP-IWG and that a round-robin is an essential part of the development of a test procedure. It is recognized that sometimes it happens after the procedure is in place, but the results should always be taken into account.
- ✓ C. Astorga asked what the results were for the Type 1 development? These could be used as inputs into this. There is already something that could begin to be compared within labs, Contracting Parties and industry.
- ✓ P. Bonsack (Switzerland) noted that he understands the concerns from Industry on this procedure. There has already been a lot of testing which has been the basis for the procedure development for ICE and hybrid vehicles.
- ✓ M. Naegeli reintroduced the discussion on the family concept. If the Type 1 test has to be repeated for all vehicles, this is lengthy and costly. Again, the exact purpose needs to be understood in order to understand how the families might be defined.
- ✓ C. Astorga noted that this can be discussed later in the agenda. In the TF, there has been a repeated request to all of the participants not to open any further issues, unless there is evidence that it is absolutely necessary. If any further issues are discovered, please bring them to the TF but with clear evidence as to why the discussion needs to happen.
- ✓ The Japan comments are included in the original open issues documents on a separate tab.

<Lunch 12:30 ~ 13:30>

#### 11. **Low Temperature TF Part#2 <IS & D> (13:30~17:30 including Break)**

✧ Pure ICE (WLTP-26-12e) and EVs (WLTP-26-13e)

##### <Conclusions>

- ✓ Low Temp TF should exclude FCHV from 1<sup>st</sup> phase of GTR
- ✓ No objections received to the suggestion to extend the mandate by 6 months for Phase 2, and to request a mandate for Phase 3 work.

##### <Discussion>

- ✓ Useful to have the same drafting co-ordinator on transposition and low temp TF. Will keep adding the comments received in all fora.
- ✓ Auxiliary devices:  
Christophe Petitjean (CLEPA) submitted a proposal for treatment of auxiliary devices during the low temp test. No agreement was reached during the last meeting. A new document will be prepared for presentation during the next WLTP



IWG. The task force needs to decide the list of equipment to be included. (see minutes from Low Temp task force)

- ✓ Japan comments – today is not a discussion; this is a decision making day.
- ✓ GTR structure – already decided to have a separate GTR.
- ✓ Name of the test – Japan has no strong position and will follow TF position
- ✓ Scope of application – Japan is OK to keep this issue on the table but concerning the timescale, exempt FCHV at this time.
- ✓ P. Bonsack noted that for FCHV, the fuel consumption may be affected by low temp, but should be addressed as a secondary item to avoid delays.
- ✓ Gear shift for ICE: Japan support that this should be the same as GTR15
- ✓ Road Load: movable aerodynamic body parts: Japan supports applying same requirement as GTR15
- ✓ O. Berg noted that this topic is inherently linked to target RL
- ✓ N. Ichikawa noted that this requirement is very precise and seems to make sense to use the requirement for GTR15.
- ✓ O. Berg noted that industry wants to ensure there is no suggestion of having to do RL tests at  $-7^{\circ}\text{C}$ .
- ✓ Test Equipment – measuring non-criteria emissions: Should focus on pollutants which are regulated at  $23^{\circ}\text{C}$  to manage resources over tight timeline.
- ✓ R. Suarez-Bertoa noted that this point should be further considered before being closed.
- ✓ O. Berg noted that if those test procedures are developed, it will delay the process further.
- ✓ R. Suarez-Bertoa asked whether the procedures and equipment already prescribed in GTR 15 are able to be used at  $-7^{\circ}\text{C}$ .
- ✓ O. Berg noted the only way of knowing that is by doing tests.
- ✓ R. Suarez-Bertoa noted that until is proved otherwise, those procedures are assumed to be capable of measuring at low temperature.
- ✓ N. Ichikawa confirmed that he is not proposing to close completely but just to exclude from 1<sup>st</sup> phase.
- ✓ C. Astorga suggested including a “priority 2” column so that these items are left on the list but are not necessarily dealt with in the first phase. If any ongoing work reaches conclusion on these priority 2 topics, they can be included in the draft text.
- ✓ W. Coleman noted that it is not just a matter of proving that it can be measured at that temperature. It is also about ensuring that the written process is unambiguous. Need to make sure that all of the processes are written robustly for application at  $-7^{\circ}\text{C}$ . An example is the placement of the CVS in relation to the climate chamber – everyone involved in the IWG knows that it must be outside, but the text does not specifically say that.
- ✓ Pre-conditioning cycle: Japan proposes the same as GTR15
- ✓ C. Astorga noted that this was beyond where the Task Force had concluded so no decision can be taken today.
- ✓ Regarding the timeline:
  - Mandate for the IWG:
  - Deliver GTR Low T < end 2019
  - At IWG-25, timeline discussed and no extension was requested.

- The overall mandate runs until the end of the year so therefore working documents should be agreed within the January 2020 session.
- Proposal:
  - Deliver GTR Low T < end 2019: Beta-version = starting point for further steps. This could then be used as the procedure for any validation / r-r exercise
  - Request for extension to the mandate as part of Phase 3:
  - Scope of work:
    - Validation, improvements to GTR (Amendment #1) and add FCHV
    - Transposition into UNR
    - Limit values
    - Support post-Euro 6 process
    - Delivery of amendment #1 + UNR (end of Low T mandate):
    - Informal for June 2020 + working document January 2021 (according to WLT-26-02 Overall Progress)
- ✓ B. Thedinga noted that it is important that the structure of the GTR is finished by the end of this year as a follow-up look into the development of the UN R. In order to set limit values, European Parliament might need to be involved, which could lead to a further delay in the development of the UN R. The round-robin process could be useful in terms of determining limit values.
- ✓ O. Berg noted that a round robin for validation is very different to one for limit values, so that would need to be a separate project.
- ✓ N. Ichikawa reminded that there is a need for an informal document for May session with a working document to be submitted in October for January 2020 GRPE. Based on the current working practices, this timeline seems very ambitious.
- ✓ M. Naegeli notes that regarding the scope, if this relates to Phase 3, it needs to include the consumer information work as well. For the consumer information, it is important that this is consistent.
- ✓ The Chair noted his impression that consumer information is not part of the GTR or the UN R as such.
- ✓ W. Coleman noted that the increase in test burden had been justified by JRC by the need for consumer information but there are no further details at this time.
- ✓ C. Astorga believes there is some misunderstanding. The information came from the Contracting Parties' responses to the questionnaire. JRC were not involved in the responses to the questionnaire. In the case of the EC, the responses were provided by DG-Clima.
- ✓ C. Lueglinger noted that the difficulty with the questionnaire was that the answers were general so there was no precision in the expectation from the Contracting Parties. What consumer information is required? If none, then CO2 could be dropped from the process and it would be done much quicker; if there is, exactly what is it?
- ✓ C. Astorga refers to a document presented in Ispra April 2018, which had a list of suggestions of consumer information for discussion. She never received any feedback on this.
- ✓ C. Lueglinger noted that this is the difficulty. There is a substantial amount of data, which can be derived from the test, but how much is useful to the consumer?

- ✓ The Chair returned to the comment from Japan about delivering an informal document by May and working document by October which may not be feasible. There are several areas that would benefit from an extension of 6 months, so maybe a request should be submitted for the overall work.
- ✧ Input WLTP Sub Group EV for Low Temp Discussion
  - Matthias gave an update on the discussions on PEV test procedure
  - ✓ Major discussion points are on procedure and family concept
  - ✓ Original proposal prepared by JRC on OVC-HEV low temp test procedure focused on type 1 procedure
  - ✓ Comments on this proposal are highly welcomed
  - ✓ Family concept discussion:
    - What is the exact purpose of the customer information values? Should they be worst-case values? What level of granularity?
    - If we can't answer these questions:
    - Should we just focus on the low temp test procedure which could provide the input for formal document due in Jan 2020? Then we could work on the customer information as a second phase of amendment.
    - Would this be acceptable to the IWG WLTP?
    - This question needs to be addressed for all vehicles.
  - ✓ Need to understand what the Contracting Parties want for consumer information
  - ✓ P. Bonsack noted a discussion on K factors – rough estimation using common energy consumption values at -7oC, 15% share for K1 and 85% for K2 and K3. This might not be representative for the vehicle at -7oC. In discussion with SIAM on this.
  - ✓ M. Naegeli voiced an interest in any alternative proposals with justifications as why they might work.
  - ✓ Japan is still in discussion within JAMA and will then discuss with MLIT. Share concerns of Switzerland around K factors. They also are discussing how consumers will actually use the vehicles and what information they actually need. If this does not fit with the ambitions of the Contracting Parties, the procedure will have to be changed so clarification is needed as soon as possible.
  - ✓ The Chair noted that the process needs to speed up. Development of the test procedure would at least be a good start.
  - ✓ M. Naegeli noted that the consumer information is an important part in the development of the test procedure too. Could a worst-case be acceptable as a starting point?
  - ✓ The Chair asks all of the IWG, particularly the CPs, to provide feedback. We will have this on the agenda of the next session in May.
  - ✓

\*\*\*\*\* Day\_4 (18<sup>th</sup> April) \*\*\*\*\*

## 12. CFD sub-working group <IS & D> (9:00~9:30)

- ✧ Status report by **M. Morimoto** (WLTP-26-14e)

M. Morimoto gave an update on the CFD sub-group:

<Conclusions>

- ✓ CFD SG to continue work as is and to review at May session. Will keep to current timeline proposal (26-02) and to align with Amendment #6 of GTR 15.

#### <Discussions>

- ✓ Still believe it is under the New Issues task force and gave the background
- ✓ From CP/TAA/TS side, workshop was attended by EC, UTAC, VCA NTSEL and Malta.
- ✓ CFD sub working group want to know if they can proceed in the way that is proposed in the status report document
- ✓ C. Lueglinger noted that if discussion is on criteria and a way of validating, this should be a more general topic than specifically CFD – anything specific could of course be included.
- ✓ C. Vallade noted that the group is populated with participants who are not normally involved in this kind of meeting so expectations have to be managed. Therefore, some sort of approval from the IWG is needed to allow them to continue to work in the way which has been proposed.
- ✓ A. Marotta cannot comment officially on behalf of the Commission, but the main motivation in choosing whether to provide support or not, is agreement from the TAAs / TS and VMs that this would be useful or even necessary.
- ✓ The Chair noted that there is no timeslot requested at the May IWG for CFD but maybe there should be in order to progress this point.
- ✓ W. Coleman noted that it might be worth mentioning CFD specifically within the IWG report to GRPE to put in a request for more support from Technical Services.
- ✓ The Chair believed this had been done previously
- ✓ M. Morimoto believes that B. Thedinga already asked every TAA in Europe to join. More interest would certainly help.
- ✓ The Chair noted that a short timeslot on CFD will be included within IWG to then reconsider how to present to GRPE. Do we support the approach of the CFD?
- ✓ D. Hannah (UK) noted that VCA attended the meeting and are now discussing internally. They have their concerns around the validation etc. They want to support the process, but there is an issue with the expertise required to support the work.
- ✓ India noted that there was a potential issue with the validation of the software used for the approval of the vehicles. Is anything like this used for other systems in the vehicle – for example, vehicle safety? This could be explored via WP29?
- ✓ The Chair concluded that there is no reason to stop the work as proposed, but can hopefully reach full conclusion at May session.
- ✓ M. Morimoto noted that members, particularly OEM members, are keen to know when this might be included in GTR and then local legislation. If the timeframe can be specified in May, that would be useful.
- ✓ The Chair noted that the current proposal is to have a working document for the June 2020 session of GRPE (in line with Amendment #6). For EC legislation, preparations for a WLTP correcting act will start in September. Is there any chance of adding CFD?
- ✓ A. Marotta noted that it is unlikely. This is a correcting act and is principally to align with UNR-WLTP. It might be better to align with Amendment #6 of the GTR.

- ✓ M. Morimoto noted that this means probably more than 2 years to enter into local legislation.

13. **non-GTR issues <IS & D> (9:30~9:45)**

✧ Reference Calculation Sheet (WLTP-26-17e)

M. Morimoto gave a presentation on this:

<Conclusions>

- ✓ General support for the initiative, but needs detailed plan for evaluation of true benefit

<Discussion>

- ✓ Proposal is to make the GTR15-based reference calculation sheet on test report for emission and coastdown results. The use of the calculation sheet is not mandatory. It can be used as a reference. The purpose would be to avoid having to recalculate at every type approval audit.
- ✓ W. Coleman noted that this is a good initiative. This came up at the starting point of Ki calculations. This resulted in the calculation sheet being right and everything worked so no-one noticed that the legislation was actually wrong. If this is done, it would need to be a controlled document. Another point to consider is the evolution coefficient does not exist in the GTR. There seems to have been an agreement that the evolution coefficient should not be applied at the end of the process but should be applied at the right chronological point of the process.
- ✓ A. Marotta also noted that it seems a good suggestion, but it should be considered in respect of the extension of the mandate and who would be in a position to do the work etc.
- ✓ K. Engeljehring (AVL) notes that it is a good proposal. However, equations in calculation tools can change so there would still need to be work done to prove it is still correct.
- ✓ Everyone supports the idea of the work, but who is going to be part of the team to do the work?
- ✓ M. Morimoto noted that this was the issue. That is why there is no target yet but if it could be included UNR-WLTP, it would be useful. Concern that some countries who want to use the UNR, but are not part of the 58 agreement, may misunderstand the calculations. The reference sheet would remove that risk. There is no ultimate rush though. Others will need to verify the calculation sheet to ensure that it is correct. If there is anyone willing to share their calculation sheet, that would be very helpful as a starting point.
- ✓ AVL noted that they do not use an excel sheet anymore – it is part of the overall system.
- ✓ Horiba noted that there are many different routes through the calculation which makes it complex. There are different interpretations between the type approval authorities so equally this might mean that a single reference sheet may not be as useful as we might hope.
- ✓ W. Coleman noted that this might be the benefit of the calculation sheet – it might allow the discussion around the different interpretations to be harmonized and eliminated in the future.

- ✓ C. Vallade noted that there are different interpretations so it could be a valuable piece of work which may help that. Cannot commit to being able to contribute resource at this time.
- ✓ India also agree with the initiative
- ✓ I. Riemersma noted that it's not certain how this works in practice, but it should be clear what the purpose is of having this sheet. If the calculations are normally built into the system, then it can only ever be a reference. If TAAs do their own calculations, would it be useful? Could it just be used as an example of how the calculation would work rather than trying to make a sheet, which actually does the calculation?
- ✓ D. Hannah supports I. Riemersma's view on this. It does have to have a purpose. The misinterpretation comes down from what is not written which is when assumptions have to be made, leading to different views. If there is a clear purpose, then it can be supported.
- ✓ M. Morimoto notes that it will take a lot of work so it needs to be supported in principle, or it will not be worth doing.
- ✓ I. Riemersma noted that the purpose is clear but if it is not going to be used by the relevant parties, is it worth the amount of work? Who would actually use the information?
- ✓ O. Berg noted that it will need some sort of dataset – should this be at the 10Hz dyno speed level? What sort of reference data would be needed?
- ✓ The Chair noted that the process might be more challenging than just putting up a calculation sheet. Given the comments made in the group, the structured plan might need to have slightly more elements than just the timeline and participants.
- ✓ M. Morimoto noted that Honda use the calculation from the system as the reference and then have their own calculation sheet. Are other VMs doing the same thing?
- ✓ C. Lueginger noted that it depends from which point the calculation is started? If at the final step, it might be easier. If at the dyno end, it could be a massive amount of work, which is not used by anyone in the end. It might be easier to do the last few steps?
- ✓ A. Marotta suggested thinking more about scope versus complexity. There is an issue of whether this could become a compulsory tool or not. It could be considered as “guidelines” in either complex or simpler form for those who do not feel confident about understanding all of the steps. This might be helpful.
- ✓ M. Morimoto will think about what to propose in May. The comments seem to be positive, but if no-one is going to use it, is there a purpose? Might come back in May, but quite short timing, so maybe September.

14. **Re-visit the contradictory items<hopefully RC>, if necessary** (9:45~11:30 including break)

15. **Overall progress re-visit <D & RC>** (11:30~12:00)

- ✧ Recap of progress
- ✧ Extension of mandate required?
- <Conclusion>

- ✓ The leading team will prepare a document to request extension of the Phase 2 mandate and to propose the possible work items for a potential Phase 3 to have as an informal document for May GRPE.

<Discussion>

- ✓ Original Mandate – ref. WP29/2016/73
- ✓ Proposal for request to GRPE–79 in May:
  - By June 2020 most of the phase 2 items will be finished.
  - Request #1: extend WLTP Phase 2 mandate until June 2020
  - At the same time, further actions beyond mid–2020 is necessary for mainetnatnce, transposition, new GTR development etc.
  - Request #2: Phase 3 mandate to treat outstanding items but obviously need sponsors to do this.
- ✓ W. Coleman noted that there had previously been a decision to only go to WP29 once a year. If we delay by 6 months, that puts WP29 decision in June 2021. ISC is clearly feasible, although whether it is desirable or not is another question. Inducement of SCR systems is missing from GTR15 – do CPs want it and if not, what happens under transposition?
- ✓ The Chair noted that SCR inducement should be added to the list of possible new items.
- ✓ European Commission has a slightly different vision on potential Phase 3.
  - The idea of having low temp GTR in the UNR–WLTP is not automatic. In UNR, limits are needed. These cannot be established within the IWG. At least for Europe, it needs to be decided by EP and put in regional legislation first.
  - All of the parts concerning the extension of the mandate for Phase 2 are fine. The next phase – some of the items being proposed, such as altitude, ISC now will also probably be covered by parallel IWG in the UNECE, namely RDE.
  - So, request Phase 2 mandate extension. If some of the issues need to be covered also within the RDE informal working group, WLTP IWG is left mainly with maintenance of UNR and relevant GTRs. This would need an extension, but it could be a reduced level of working (perhaps 2 / year – one in Geneva, one elsewhere).
- ✓ The Chair noted that the comments are valid and clear. Both points are taken into account in the proposal but perhaps not presented explicitly. The request is to come up with a Phase 3 proposal in January 2020 to allow GRPE to decide what should be included in phase 3. Need to also take into account other initiatives such as RDE. On low temp, the difficulty on transposition into UNR is part of Phase 3 rather than Phase 2.
- ✓ M. Naegeli noted that SG–EV needs to be in contact with RDE and EVE to ensure that timeline can be supported.
- ✓ Japan supports the request to extend the mandate by 6 months.
- ✓ India questioned if UNR–WLTP CoP, durability, reference fuels, emission limits are in the UNR first, what will be the link back to the GTR?
- ✓ R. Gardner noted that, for example, the aim will be to have a fully developed CoP procedure for the UNR which goes into January 2020 GRPE and this would then be included as an optional Annex into Amendment #6 of the GTR six months later.
- ✓ India asked about reference fuel and emission limits?

- ✓ R. Gardner noted that currently the plan is to use the EU reference fuels for Level 1a and 2 and Japan reference fuels for Level 1b. In terms of emissions limits, these probably are not for the GTR. They will also be in the transposed legislation for each region.
- ✓ India noted that they have not given comments on the CoP procedure yet. The CoP procedure part has got some administration provisions, which they cannot agree to. Can only agree to the technical part. This would be a similar view for the reference fuel. The properties which are very important could be harmonized, but this may not be able to be agreed to. Mostly use properties in line with EU fuel, but changes may come in the future, which may not be supported. This could be a problem for India so there may be further comments at the point at which the GTR is discussed.
- ✓ W. Coleman noted that there is simply a list of reference fuels in the GTR with the idea that a new Contracting Party could select from the existing list if possible rather than create a new one. The same concept could be applied to emission limits. There is a request to India, and any other Contracting Parties, to please bring any concerns into the TF so that they can be addressed as much as possible where possible.

**16. Meeting schedule <IS> (12:00~12:15)**

✧ **Schedule of upcoming meetings**

<https://wiki.unece.org/display/trans/WLTP+calendar>

✧ **27<sup>th</sup> WLTP IWG meeting (20<sup>th</sup> full day, 21<sup>st</sup> morning May, 2019 @ Geneva)**

Request from SG-EV during this time slot – put on Tuesday morning to allow members to travel in for a single day. Start at 10am on Monday.

✧ **28<sup>th</sup> WLTP IWG meeting (September 2019 @TBD)**

Switzerland have volunteered to host in Bern in conjunction with a meeting of the LowTemp TF. Anticipate meeting in week 39 (23–27 September) TBC

✧ **29<sup>th</sup> WLTP IWG meeting (January 2020 @ Geneva) include dates if available**

Need to start looking for volunteers in March / April and September / October next year.

**17. AoB <IS or D or RC> (12:15~12:30)**

Others, if necessary



\*\*\*\* Meeting is facilitated by Leading Team and each TF Leaders \*\*\*\*

**Leading Team**

Rob Cuelenaere (Chair)

Daisuke Kawano (Vice Chair)

Anna Lindt (co-Secretariat)

Nick Ichikawa (co-Secretariat)

**SG EV Leading Team**

Per Ohlund (Chair)

Matthias Naegeli (co-Secretariat)

Nick Ichikawa (co-Secretariat)