

Submitted by the Chair of the  
WLTP IWG

Informal document **GRPE-71-24**  
71st GRPE, 8-12 June 2015,  
agenda item 3(b)

Status report  
of the  
**WLTP Informal Working Group**

Report to the 71st GRPE session  
by Stephan Redmann

## WLTP IWG Meetings since last GRPE

14 – 16 April 2015

**10th WLTP IWG**, Stockholm, Sweden

→ Minutes [WLTP-10-42e](#)

9 - 10 June 2015

**11th WLTP IWG**, Geneva, Switzerland

→ Minutes [WLTP-11-28e](#)

Continuously

IWG Subgroup & Task force meetings,  
audio/web conferences

# Status of WLTP phase 1B working items

- Open issues table: **WLTP-11-03e** (updated by WLTP-11-28e)
  - GTR draft: **WLTP-11-04e / -04-clean** (→ GRPE Inf. Docs)
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## Annex 1/2: Cycle & gear shifting issues

Status report from H. Steven (WLTP-11-05e):

→ Closed items:

Downscaling, use of gear box (def.  $n_{max}$ ,  $P_{wot}$ ), determination of engine speed, calculation of available power, 3s rule, gear shift family criteria, further improvements of gtr text

**IWG No. 11: exclusion of aux. gears (crawler gear)** (WLTP-11-06e)

→ On-going discussions:

Use of gear box (def.  $n_{min\_drive}$ ),

Road load coeff. in gear shift calculation (→ Annex 4 issue)

→ Adoption foreseen at IWG #12.

## **Annex 4:    Road load and dynamometer setting**

Status reports from R. Cuelenaere: (WLTP-10-13e/ WLTP-11-11e)

→ Closed key items:

Speed points, alternative warm up procedure, wheel alignment.

IWG #10: - **Wind tunnel / flat belt method** (WLTP-10-16e)

- **Road load family concept** (WLTP-10-17e)

IWG #11: - **Manufacturer's responsibility for accuracy of road load provisions** (WLTP-11-13e)

- **Equivilancy of torque meter method confirmed**  
(WLTP-11-15e)

- **Wind speed criteria:** regional option removed  
(WLTP-11-14)

→ On-going discussions on key issues:

- Review of on-board anemometry usage
  - Improvements based on SAE standard
- Review of torque meter method
- **Introduction of Roadload Matrix Family**
  - Alternative calculation method for default road load parameters  
Scope: multi-stage and low-volume vehicles (mplm >3000 kg)  
Controversial: necessary safety margin for upward (vehicle H) and downward (vehicle L) extrapolation
    - CP feedback needed

In general good progress, adoption expected at IWG #12

→ Pending:

- Tyre selection criteria of combined approach

## **Annex 5:    Test equipment and calibrations**

→ Closed items:

Review of 4WD specifications, Chassis dyno calibration aspects,  
additional experts proposals.

→ **All OIT items closed.**

## **Annex 6:**    Test procedure and test conditions

→ Closed items:

Provisions for Coasting → Working item WLTP Phase 2

IWG #10: ki factor aspects (WLTP-10-27e)

→ On-going discussions on key issues:

- Speed trace violations, Drive trace index (WLTP-11-21e)

→ Improvement of drive traceability, screening tool, „void test“ decision

- **Number of tests** (WLTP-11-20e)

→ Agreed: 1 or 2 tests for criteria pollutants (90% threshold)

Controversial: number of tests to confirm declared value for CO2

Problem:    different regional certification procedures & required safety margins → regional option = disharmonization

EU:            conservative approach (→ most likely 2-3 tests)

JPN, KOREA, INDIA: harmonized compromise (→ most likely 2 tests)

## **Annex 7: Calculations**

### → Closed items:

FC calculation issues, FC interpolation method, Calculation formulas for Ammonia (NH<sub>3</sub>),

**Correction algorithms** (further investigations in Phase 2)

### → On-going discussions:

#### - **Additional pollutants:**

Calculation formulas for Ethanol & Aldehyde

(Validation program starts end of June)



## **Annex 8:    Pure and hybrid electric vehicles**

→ Closed key items:

Utility factors

IWG #10: FCV test procedure, RCB correction

→ On-going discussions:

- Phase specific calculation
  - CO2 family and interpolation approach
  - Mode selectable switch
  - End of EV range criteria
  - PEV shortened test procedure
- Close to agreements, adoption expected at IWG #12.

## **Annex 9:    System equivalency**

Objective: statistical procedure for comparison and validation of alternative measurement equipment and measurement procedures.

Similar regulations in GTR 4 (WHDC), US EPA 1065, SAE & ISO standards

Task: review and amendments for LDV test procedure need, if necessary

**IWG #11:            **Determination of system / measurement method  
equivalency based on ISO standard****

Implementation requirements to be included in WLTP Phase 2

**→ Item closed**

## General issues:

### → GTR Drafting:

- **Subgroup „Drafting“**, chaired by Drafting Coordinator.
- Tasks: Peer review of GTR (inconsistencies check), decisions on expert proposals, editorial review of task force / IWG proposals

### → **Current GTR Draft** (amendments to GTR No. 15):

WLTP-11-04e (track changes / clean version)

### → Provided as **GRPE Informal documents** (GRPE-71-xx / -yy)

### Additional drafting tasks:

- Update of Part A of GTR No. 15
  - Update of Technical Report
- Technical GTR Sponsors: Japan / European Commission

→ **Definitions:**

- General review regarding inconsistencies, e.g. mass definitions
- **Review of VPSD recommendations**, e.g. HEV definition (GRPE/2015/13, GRPE-71-xx)

IWG #11: First comparison of WLTP – VPSD definitions  
(WLTP-11-24rev1e)

Thorough check until September 2015 needed:

- Which definitions are used in GTR 15?
- Implications of new VPSD hierarchies?
- Implications on GTR contents / intentions?

→ time critical!

→ WLTP IWG may not be able to transpose all VPSD recommendations

## → Round Robin Exercise

- European & Asian (Japan, India, Korea, China) exercises are on-going.
- US EPA and India are participating in cross-over checks.
- Finalization of Round Robin end of 2015.

IWG #11:

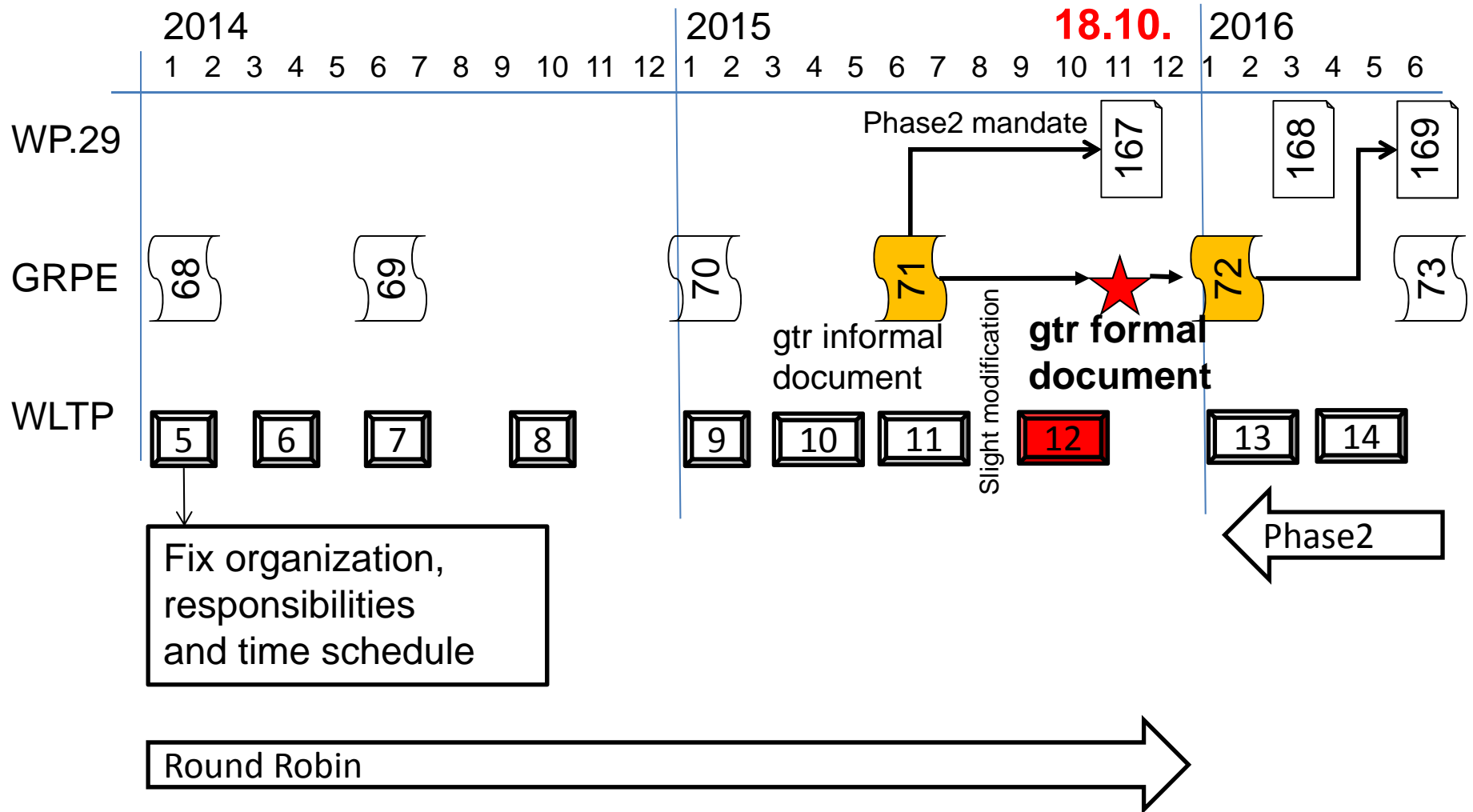
First results from EU

→ no need for major GTR amendments

IWG #12:

First results of Asian exercise are expected

# WLTP Phase 1b Roadmap



## WLTP Phase 2

- Starting note and Phase 2 items Questionnaire were presented by Technical GTR Sponsor Japan, K. Kobayashi, at GRPE No. 70
- Feedback to Questionnaire by Contracting Parties (and other stakeholders) is summarized in WLTP-11-26.
- **Draft proposal for WP.29/AC.3 mandate** submitted by Technical GTR Sponsors to GRPE No. 71 (GRPE-71-xx).
- Adoption foreseen in WP.29, November 2015.

## WLTP IWG meetings in 2015

IWG #12

Week of September 28<sup>th</sup> , Tokyo, **Japan**

3-days IWG meeting,

in conjunction with Subgroups EV and Drafting