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Federal Department of the Environment,
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Traffic Section

Swiss Proposal

to the UNECE WLTP Low & Realistic
Winter Temperature Task Force

Dübendorf, 12.-13.11.2017

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Proposal for Structural Approach Test Procedure – Part for ICE Vehicles



Proposal for Structural Approach

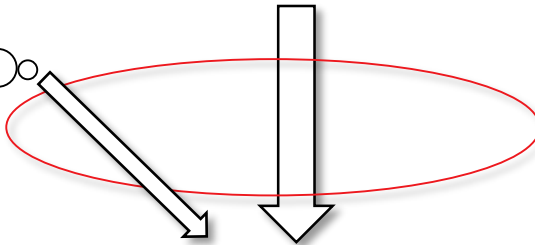
Test Procedure – Part for ICE Vehicles

Input from:

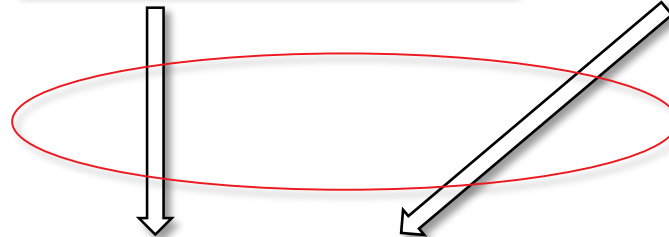
- R83 – Type VI
- US Cold T Test
- ...

Merging and adapting text modules by drafting task force members with support from the drafting coordinator
(Swiss contribution)

WLTP GTR 15



GTR Low T
Text Proposal



GTR Low T
Draft

Input from Low T TF:

- Temperature
- Cycle
- Road-Load
- Vehicles
- Pollutants
- Vehicle Family
- Reference Fuels
- ...

Drafting coordinator
(Swiss support)



Proposal for Structural Approach

1st Part – ICE Vehicles Test Procedure

Source: Minutes of the 15th TelCo (17.11.2017) – Document LowT 15-02

1st part - Discussion for a proposal for ICE test procedure

This slot of time of the meeting will be dedicated to the proposal for LD ICE vehicles test procedure:

ICE TEST for LDV Type approval at low Temperature (sub-zero). Hypothetically, this proposal could be elaborated based on the following:

A Test for LD vehicles under cold weather conditions, meaning temperature below zero (sub-zero). Let's refer to that temperature as $T = -X$ °C. **This test** should be done for

- All ICE – Type 1 test of WLTP (see GTR 15) at $-X$ °C
- all pollutants need to be referred (same as for Type 1)
- Cold start
- auxiliary systems “on”
- R/L determination at $-X$ °C or 10% (?) reduction of coast-down time

➤ Details to be worked out based on WLTP GTR 15



Proposal for Structural Approach

1st Part – ICE Vehicles Test Procedure

- Basis is WLTP GTR 15
- Identification of parts, where modifications and exceptions from GTR 15 are needed
→ *performed by drafting coordinator*
- Get "inspiration" from UNECE R83 Annex 8 and US 40 CFR §1066.710
→ *see documents prepared by drafting coordinator*

Structure of Annex 8, UNECE R-83

Initial statement	Procedure schematically shown in a flow chart.		
1. Introduction Only +ve ignition engines.			
2. Test equipment	2.1. Summary	2.1.1. Vehicles concerned. Only for positive ignition-engined vehicles.	
	2.2. Dyno	2.2.1. Adjustment of road load to -7 °C. [DC: Responsible authority may approve other road	

Structure of §1066.710

Initial statement	Only NMHC, CO and fuel economy to be measured using the FTP cycle (1066.801); Procedure schematically shown in a flow chart.		
(a) §§ 1066.410 – 1066.425 and § 1066.815(d) are to be followed with exceptions and additional provisions	1066.410 describes the dynamometer test procedure (cycles; cooling fan; speed trace; tire inflation; type of dyno; dyno warm-up); 1066.415 describes vehicle operation (driving the vehicle; driving the cycle; shifting; accel.; decel.); 1066.420 describes test preparation (PM; test cell conditions; setting instruments); 1066.425 describes the emissions test (driving the trace; sampling; analysing).		
	(1) Control and measure ambient conditions (see (b)).		
	(2) Using vehicle		



Proposal for Structural Approach

1st Part – ICE Vehicles Test Procedure

- Start drafting the 1st part, i.e. ICE vehicles test procedure, within the drafting group
- Get input from Low T TF on identified parts as well as:
 - *Temperature*
 - *Cycle*
 - *Road-Load*
 - *Vehicles*
 - *Pollutants*
 - *Vehicle Family*
 - *Reference Fuels*
 - ...

➤ Similar approach suggested for hybrid OVC-HEV



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Thank you for your attention