



WLTP Phase 2

Durability Task Force **Update**

Bern, 18-20 April 2017
18th WLTP IWG meeting

Index

- Background
- What comes next
- Overview of actions and timing
- Concluding remarks

Background (1)

Since last WLTP IWG meeting in Geneva the Durability Task Force has held a face-to-face meeting on 25 January 2017 and two web-phone conferences on 28 February and 3 April 2017.

A CIRCABC folder dedicated to WLTP DTF has been set up and all the working documents are uploaded there. The most relevant documents are also delivered to the WLTP IWG and are uploaded to the UNECE-GRPE WLTP IWG folder.

Background (2)

A work plan has been agreed.

The work of the DTF has thus been dedicated to the 3 main actions:

- 1) Design and carry out an experimental measurement campaign to compare the thermal load of the SRC vs. WLTP;
- 2) Collect all available data and knowledge on the deterioration of GPF and DeNOx systems. *Analyse this info and propose, if necessary, a revised accelerated bench durability procedure for gasoline vehicles;*
- 3) Collect all available data and knowledge on the deterioration of SCR and DeNOx systems. Carry out an analysis of the durability of EGR systems and assess the potentiality of other engine-related solutions to control NOx emission from diesel vehicles. *Analyse this info and propose, if necessary, a revised accelerated bench durability procedure for diesel vehicles.*

Background (3)

The JRC has proposed a test protocol, which has been discussed and adjusted.

ACEA has provided a list of vehicles/After-treatment technologies, which will be used to select vehicles to be tested.

It has been decided that the JRC will carry out a first series of tests, one on a gasoline vehicle, one on a diesel vehicle.

Next (1)

Design and carry out an experimental measurement campaign to compare the thermal load of the SRC vs. WLTP

The tests are now ongoing and the objective is to provide the results of these tests at the next web-phone conf. of the DTF (20 June 2017).

On the basis of this experience the JRC will further revise the test protocol, if necessary, and will be available to help other laboratories willing to do similar tests.

For the moment only TUEV-Nord/UBA has declared the intention to contribute. The Commission is also finalizing a contract with the consortium TNO-LAT for technical support related to the development of the Durability procedure.

Next (2)

Literature review

Two Teams have been established. Their objective is to collect any available information (books, articles, presentations, etc.) on:

- Aging mechanisms causing deterioration of (existing and under development) ATS and their relative importance (e.g. thermal aging vs chemical poisoning vs mechanical stress)
- Methods used to simulated these deterioration effects in accelerated bench aging tests (e.g. chemical poisoning)
- Characteristics of the engine to be used for accelerated bench aging if not the same for which the ATS had been designed.
- The impact of exhaust flow rate on accelerated bench aging tests
- Comparison of HDV ATS aging vs LDV's
- Different EGR systems and their interaction with engine durability issues
- Impact of different EGR rates on its durability and engine drivability
- Assigned Deterioration Factors for all pollutants and all ATS

Next (3)

Literature review

The contract mentioned earlier between the Commission and the Consortium TNO-LAT will cover also the analysis of the literature data and the proposal of a revised accelerated bench aging test, both for gasoline vehicles and diesel vehicles.

Overview

	Action		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2018 - Q1	2018 - Q2	2018 - Q3	2018 - Q4	2019
1	Comparison of thermal load with SRC and WLTP	preparation																	
		execution and analysis of results																	
2, 3	Literature review	collection of info																	
		analysis of info and proposal of revised procedure																	
Scenario 1		no, or minor experimental verification needed													Drafting of GTR text				
Scenario 2		experimental verification needed													Experimental campaign				Drafting of GTR text

Concluding remarks

- The work of the DTF has started in October 2016. Only in the last quarter of 2017 it will be possible to have a more solid idea about the possible deadline of this TF.
- In the last few months the preparatory work has been completed and now the 3 actions have officially started.
- The Commission is finalizing a contract with a Consortium for technical support to revise the Durability procedure. This work is intended as a contribution to the DTF not as a replacement.



European
Commission

QUESTIONS?