

Draft Work plan of WLTP gtr proposed by Japan

1. Objective

The objective of this proposal is to establish a Global Technical Regulation (gtr) for light duty vehicle emissions including:

- a common test cycle reflecting the actual driving conditions in real world
- consideration of OBD detection capabilities and off-cycle emission

Regulations governing the exhaust-emissions from light duty vehicles have been in existence for many years but the test cycles and methods of emissions measurement vary significantly. To be able to correctly determine the impact of a light duty vehicles on the environment in terms of its exhaust pollutant emissions as well as the efficient use of energy, it is desirable that as many countries as possible use the same technical regulations. For this a gtr is an important step forward.

The gtr No.2(WMTC) for motor cycle emissions and the gtr No.4(WHDC) for heavy-duty vehicle emissions have been successfully established and it is beneficial to start the work on light-duty vehicles as well. Light duty vehicles are increasingly produced for the world market. It is economically inefficient for manufacturers to have to prepare substantially different models in order to meet different regulations and methods of measuring emissions, which, in principle, aim at achieving the same objective. To enable manufacturers to develop new environmentally friendly models more effectively and within a shorter time, it is desirable that a gtr should be developed. These savings will benefit not only to the manufacturer, but more importantly, to the consumer as well.

Work on the proposed gtr for WLTP would contribute to ensure better air quality and substantial growth in the popularity of low-emission vehicles.

2. Draft Work plan of WLTP gtr

Steps of work	Tasks	Notes
Establishment of GRPE WLTP Working Group		
Creation of plans (Fundamental scheme)	<p>1) Consideration of the concept of common test cycle --develop common test cycles for emission and fuel consumption measurements, for example, representing three modes for urban, rural and highway.</p> <p>2) Classification of equivalent inertia weights --should be common worldwide</p> <p>3) Consideration of the items to include in WLTP -OBD, off cycle, Evaporative emission, Low temperature test, High altitude, Air conditioner, Electric load, etc) -Energy sources: gasoline, diesel, Natural Gas, Liquefied Petroleum Gas, Hydrogen, <u>Flexible Fuel Vehicle</u>, Electric Vehicle, Hybrid Electric Vehicle</p> <p>4) Countries/regions subject to collect the data (Europe, the United States, Japan, China? India?)</p> <p>5) Allocation of workload</p>	Comparison of current test procedures in each country or region
proposal for development	Adoption of proposal for development with the concept of WLTP , work plan, work schedule and other necessary items	
Studies of driving cycle	<p>Consideration of the procedure how to develop the common test cycle --Sort the actual driving data in each country/region (driving pattern, shift point, etc) and collect the complementing data --Analysis of the driving frequency distributions of the collected driving data in each country/region</p>	Analysis of current test procedures in each country or region
Creation of driving cycle and test procedure	<p>Development of the common test cycle and test procedure Adjustment of the common test cycle and test procedure</p> <p>Items to consider: -Gear shift points -Duration and running length of the common test cycle -Equivalent inertia weights -the weighting factors of cold start test and hot start test -the representativeness, reproducibility, measurability -Preconditioning, etc.</p>	
Studies of test fuels, etc.	Consideration of test fuel, road-load setting and performance requirements for chassis dynamometer, etc.	
Interim conclusion	Common test cycle and test procedure	
Validation test and refine, etc.	Validation test for common test cycle, improvement of the test procedure (tests performed by third party, manufacturers, etc.)	

Drafting of gtr	Drafting the gtr	
Proposal for a draft gtr	Draft of WLTP gtr	
Approval at GRPE	Approve the formal document at GRPE	
Proposal to AC3	Proposal of the formal document to AC3	
Voting at AC3	Voting and Adoption at AC3	
Available for application	WLTP gtr is ready to be applied by Contracting Parties to the 1998 Agreement (around 2016)	

Next step: Consideration of limit values for emission standards

3. Work Schedule

Schedule for WLTP Activities -Draft-

