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Emission legislation and current works for the development of a new harmonized test-cycle with respect to emissions



European Commission
Enterprise and Industry

Bernardo MARTÍNEZ
Automotive Industry Unit
bernardo.martinez@ec.europa.eu

Main tasks of DGEntr on the cars sector

- **Development of policies related to competitiveness**
 - European strategy for clean and energy efficient vehicles
 - CARS 21- Competitive automotive regulatory system for 21st century
- **Type-approval legislation**
 - Safety
 - Environment
 - ❖ Emission limits for light duty and heavy duty vehicles
 - ❖ CO2 saving measures: gear shift indicators, tyre pressure monitoring system, tyre rolling resistance limits
 - ❖ Development of new test-cycle for pollutants emissions (UN/ECE)
 - ❖ Development of a test-procedure for MAC

Emission legislation-passenger cars

- Regulation 715/2007 (Euro 5 and Euro 6)
 - Emission limits for pollutants (CO, HC, NO_x and PM)
 - Two steps
 - ❖ Euro 5: from 1st September 2009 for new models and from 1 January 2011 for all models
 - ❖ Euro 6: from 1st September 2014 for new models and from 1 September 2015 for all models
- Regulation 692/2008: technical conditions for the implementation of Euro 5 and Euro 6
 - Tests description
 - Reference fuels
 - Fuel consumption formulae
 - Type-approval documents...

Development of the new WLTP

- Objective: provide a test-cycle accepted worldwide, hence increasing harmonization for the automotive sector at a global level
- Initiative: decision of WP.29 to set up an informal group to prepare a roadmap on the development of a new light-duty test procedure

Development of the new WLTP (II)

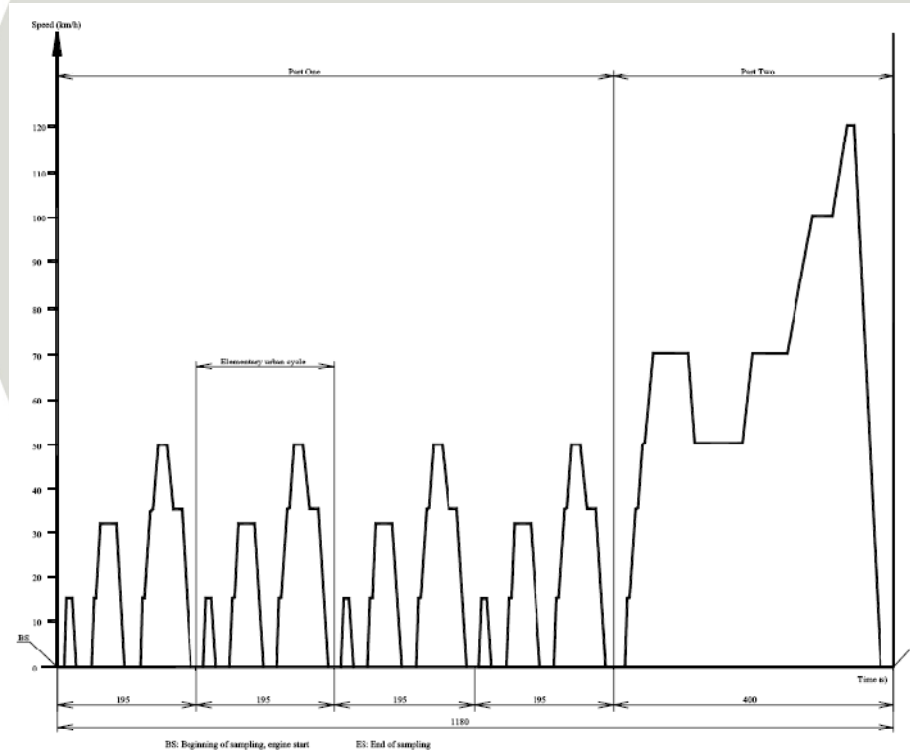
- Phase I
 - Developing the driving cycle
 - Developing the test procedure
- Phase II
 - Off-cycle: engine operation area outside driving cycle
 - MAC
 - Low ambient temperature
 - High altitude
 - Durability
 - In-service conformity

Working structure

- DHC: development of the driving cycle
- DTP: development of the test procedure (parameters definition, equipment, accuracy, fuels...)

DHC subgroup

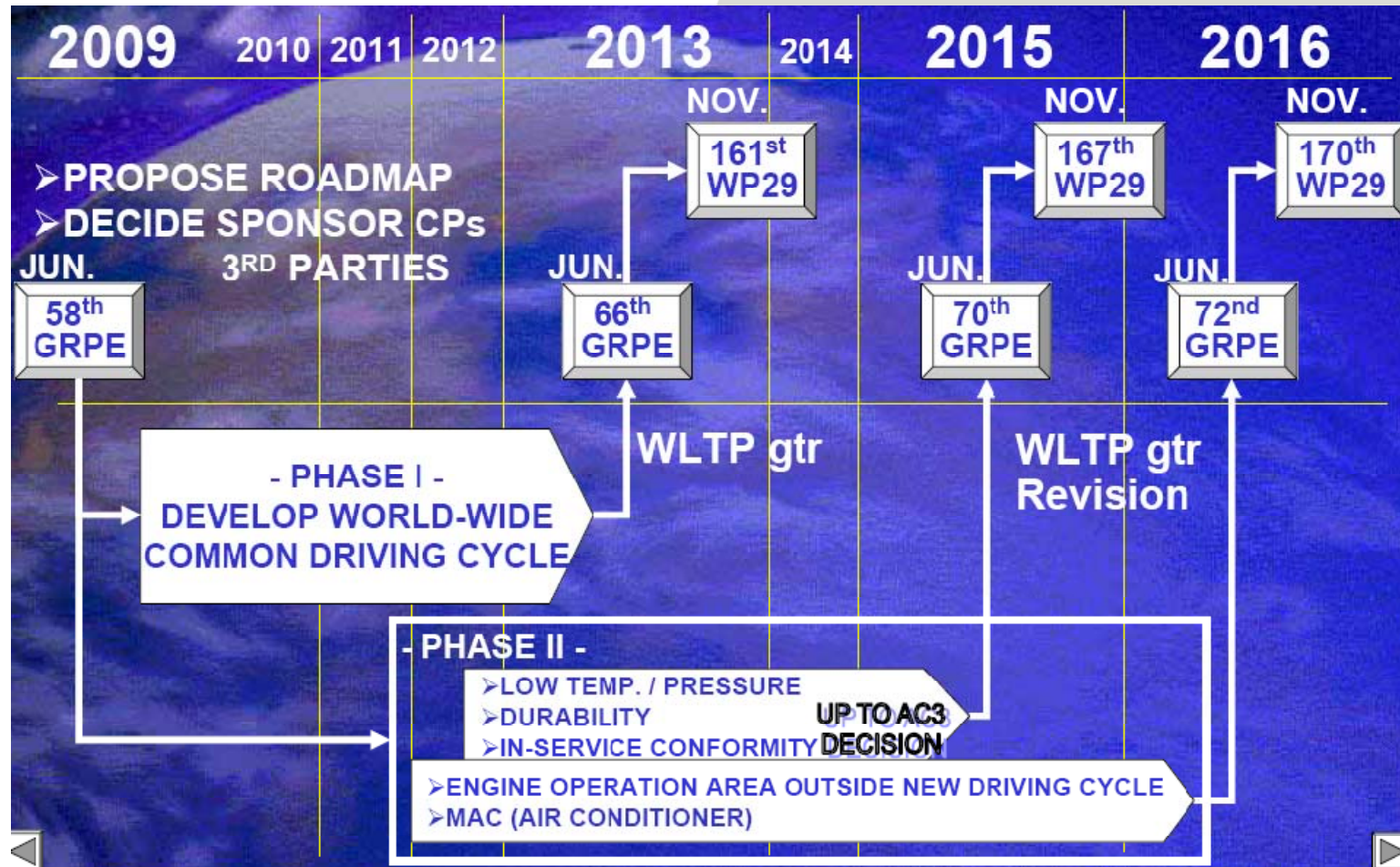
- In-use data collection
- Data analysis methodology
 - Weighting factor (urban/rural/motorway)
 - Weighting factor (regions)
 - Short trip profile
 - Driving/idling profile
 - Gear shift point
 - Cold/hot start
- New cycle development
- Validation tests
- Confirmation tests



DTP subgroup

- PM/PN measurement procedures
- New pollutants
 - Gases that could be taken into account: NO₂, VOC, ammonia...
 - Defining adaptation of the measurement procedure
- Lab procedures
 - Determination of parameters: accuracy (time, vehicle speed, wind speed, temperature...), wind speed, humidity, atmospheric pressure...
 - Decisions on: possible adaptation of CVS, consideration of pollutants in the intake air...
- HEV/PHEV/EV/FCV: vehicle preparation, vehicle configuration, measurement equipment, formulae for pollutants and fuel consumption
- Reference fuels

Development of the new WLTP (III)



MAC

- Defining test-cycle: repeat the same profile (km/h-time) twice, with A/C on and off
- Defining the test procedure
 - Ambient temperature
 - Relative humidity
 - Solar load
 - Air mass flow
 - Glazing effect

Thank you

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