










**UN working group on environmental and
propulsion performance requirements (EPPR)
for light vehicles
08 - 09 October 2013**

Agenda item 5: status revision of type-approval legislation in the EU

- **Type approval legislation**
- Manufacturers can obtain approval for L-category vehicle types (W V T A), systems, components and separate technical units intended for such vehicles in one Member State (MS) of the European Union.
- If the vehicle meets the Union's technical requirements then the manufacturer can market it EU-wide with no need for further tests or checks. Registration must be granted on simple presentation of a certificate of conformity.
- National approval in MS remains possible:
 - small series production:
 - individual vehicle approval
- In case of national approval, mutual recognition principle does not apply

- L-category vehicles – light vehicles – in the EU**

L1e, light two-wheel vehicle	L1e-A powered cycles	
	L1e-B Moped	
L2e Three- wheel moped		
L3e, motorcycle	A1, A2, A3	
L4e, motorcycle with side car	-	
L5e, tricycles	L5e-A Tricycles	
	L5e-B Commercial tricycles	

L6e, Light quadricycle	L6e-A Light quad		
	L6e-B Light mini car		
L7e, Heavy quadricycle	L7e-A On-road quad	L7e-A1	
		L7e-A2	
	L7e-B Heavy all terrain quad	L7e-B1 all terrain quad	
		L7e-B2 side-by-side buggy	
	L7e-C Heavy Quadri- mobile		

Type approval legislation

- **Framework related to (TYPE)-APPROVAL of L-category vehicles**
 - Framework Directive in force 2002/24/EC
 - 14 Directives listed in Annex I of 2002/24/EC specifying technical details and test procedures
 - Entire overhaul started in 2009, to be repealed and replaced with 5 Regulations as of 01 Jan 16.

Type approval legislation

- Identified **concerns** in current EU approval legislation for L-category vehicles:
 1. the complexity of the current legal framework;
 2. the **level of emissions** and its **increasing share** in total road transport emissions, which are decreasing overall;
 3. safety aspects related to type-approval requirements for vehicles;
 4. the lack of a legal framework for vehicles fitted with new technologies;
 5. the entry of products into the EU market which do not comply with the current type-approval requirements regarding functional vehicle safety and/or environmental protection.
- Main Objective: efficiently and effectively address the above listed issues.

Codecision act



REGULATION (EU) No 168/2013 ADOPTED AND PUBLISHED
OJ L60, 02.03.2013, p. 52



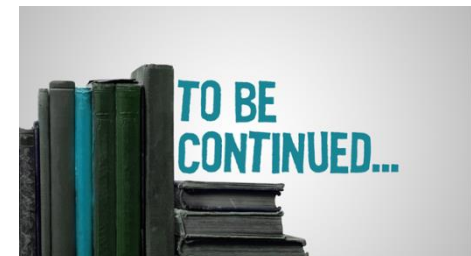
Highlights Regulation (EU) No 168 /2013 – essential elements

- Market surveillance;
- Obligatory fitting of Advanced Brake Systems;
- Abandon 74 kW power restriction;
- Anti-tampering measures;
- Re-categorisation;
- Mandatory introduction of on-board diagnostic stage I;
- Access to repair and maintenance information;
- New emission steps (Euro 3), Euro 4, Euro 5;
- All L-category vehicle categories using one single emission laboratory test cycle (revised WMTC);
- Mandatory fitting of Automatic Headlamp On feature.

Delegated and Implementing acts



- Regulation on environmental and propulsion performance requirements ([REPPR](#))
- Regulation on vehicle functional safety requirements ([RVFSR](#))
- Regulation on vehicle construction requirements ([RVCR](#))
- Regulation on administrative requirements ([RAR](#))





UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles

08 - 09 October 2013

Status revision of type-approval legislation in the EU

Regulation for approval and market surveillance of L-category vehicles

Adoption procedure and timing:

- amendment current type-approval legislation
- delegated and implementing acts

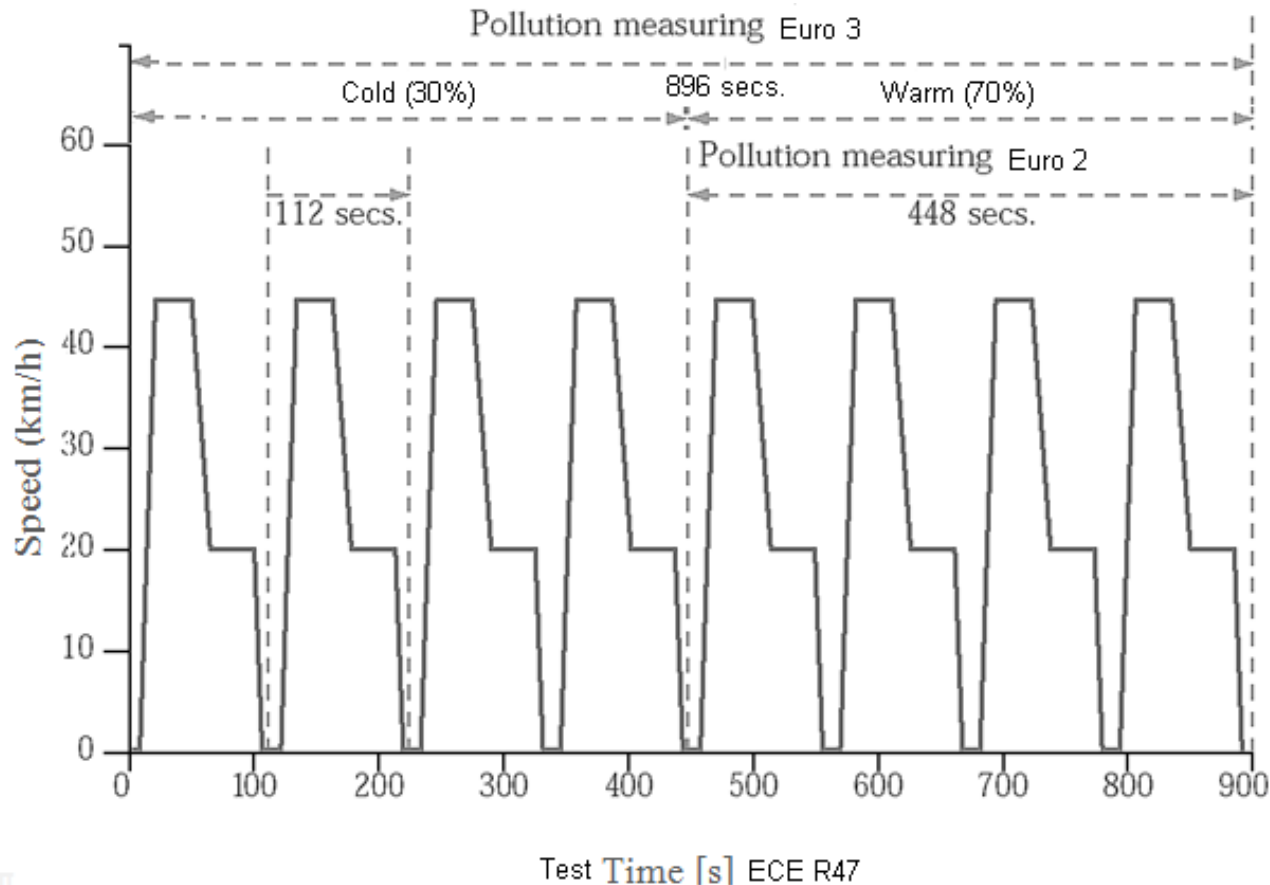
Regulation on environmental and propulsion performance requirements (REPPR)

Regulation on vehicle functional safety requirements (RVFSR)

Regulation on vehicle construction requirements (RVCR)

Regulation on administrative requirements (RAR)

Amendment of current type-approval legislation – Euro 3 step for categories L1e, L2e and L6e and automatic headlamp-on for all L-vehicle categories



Amendment of current type-approval legislation – Euro 3 step for categories L1e, L2e and L6e and automatic headlamp- on for all L-vehicle categories

- Done
 - Vote in Technical Committee Motor Vehicles meeting: 08 May 13
 - Translation
- On-going
 - Three month scrutiny period Council and Parliament (EP) 18 Oct 13
- Next steps
 - Planned EC (European Commission) adoption: Nov 13
 - Publication in Official Journal (OJ): Dec 13
 - Date of first application: 01 Jul 14

Status – Delegated and Implementing acts - Timing

- **Milestones - RVFSR (functional safety)**
 - Member State (MS) expert meeting (1st presentation): 06 Feb 13
 - MS expert meeting (2nd presentation): 18 Apr 13
 - MS expert meeting (endorsement): 07 May 13
 - Adoption European Commission (EC): Oct 13
 - Objection period Council and EP (2+2 months) ending: Feb 14
 - Entry into force: Feb 14

Status – Delegated and Implementing acts - Timing

- **Milestones - RVCR (vehicle construction)**
 - MS expert meeting (1st presentation): 18 Apr 13
 - MS expert meeting (endorsement): 18 Jul 13
 - Adoption EC: Nov 13
 - Objection period Council and EP (2+2 months) ending: Mar 14
 - Entry into force: Mar 14

Status – Delegated and Implementing acts - Timing

- **Milestones - REPPR** (environmental and propulsion performance)
 - MS expert meeting (1st presentation): 07 May 13
 - MS expert meeting (2nd presentation): 20 Jun 13
 - MS expert meeting (targeted endorsement): 06 Nov 13
 - Adoption EC: Dec 13
 - Objection period Council and EP (2+2 months) ending: Apr 14
 - Entry into force: Apr 14

Status – Delegated and Implementing acts - Timing

- **Milestones - RAR** (administrative requirements)

- Technical Committee Motor Vehicles (1st presentation): 18 Jun 13
- Technical Committee Motor Vehicles vote: Feb14
- Adoption EC: Mar 14
- Entry into force: Apr 14
- RAR 1st amendment (introduce appendices for systems, components and separate technical units) EC adoption: Sep 14

Status – Delegated and Implementing acts - Timing

- **Latest revisions of draft delegated and implementing acts**
- File repository system DG ENTR: CIRCABC
- MCWG meeting 30 Sep 13, working documents of agenda item 4.

UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles 08 - 09 October 2013

Agenda item 6a: EC Proposal to amend GTR 2 (Test types I, II, [V] and VII)

Main concern – high level of pollution low end L-category vehicles

- Identified environmental concern: high share of hydrocarbons, carbon monoxide and volatile particles emitted by L-category vehicles

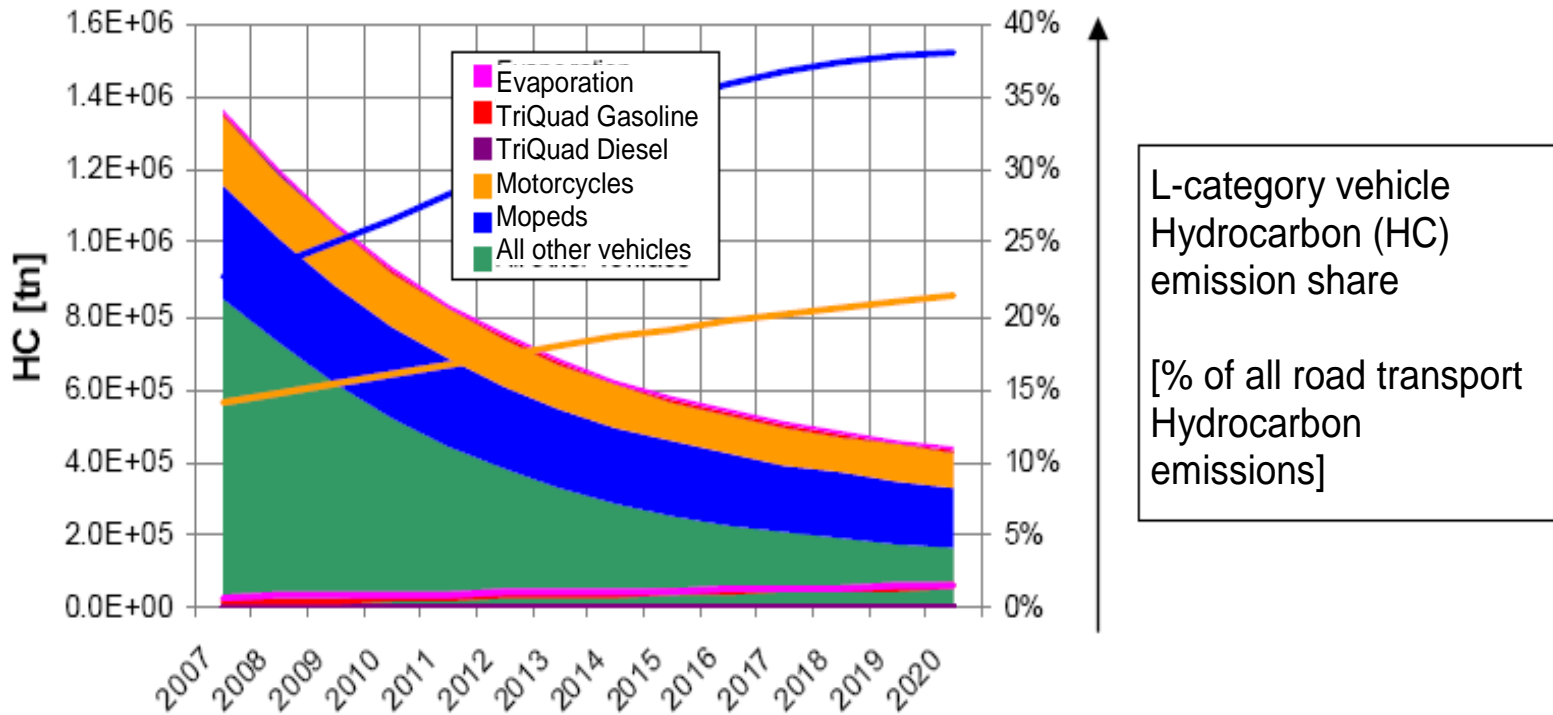


Figure 1: Trend over time of L-category vehicle, absolute and relative share of hydrocarbon emissions if no change in policy.

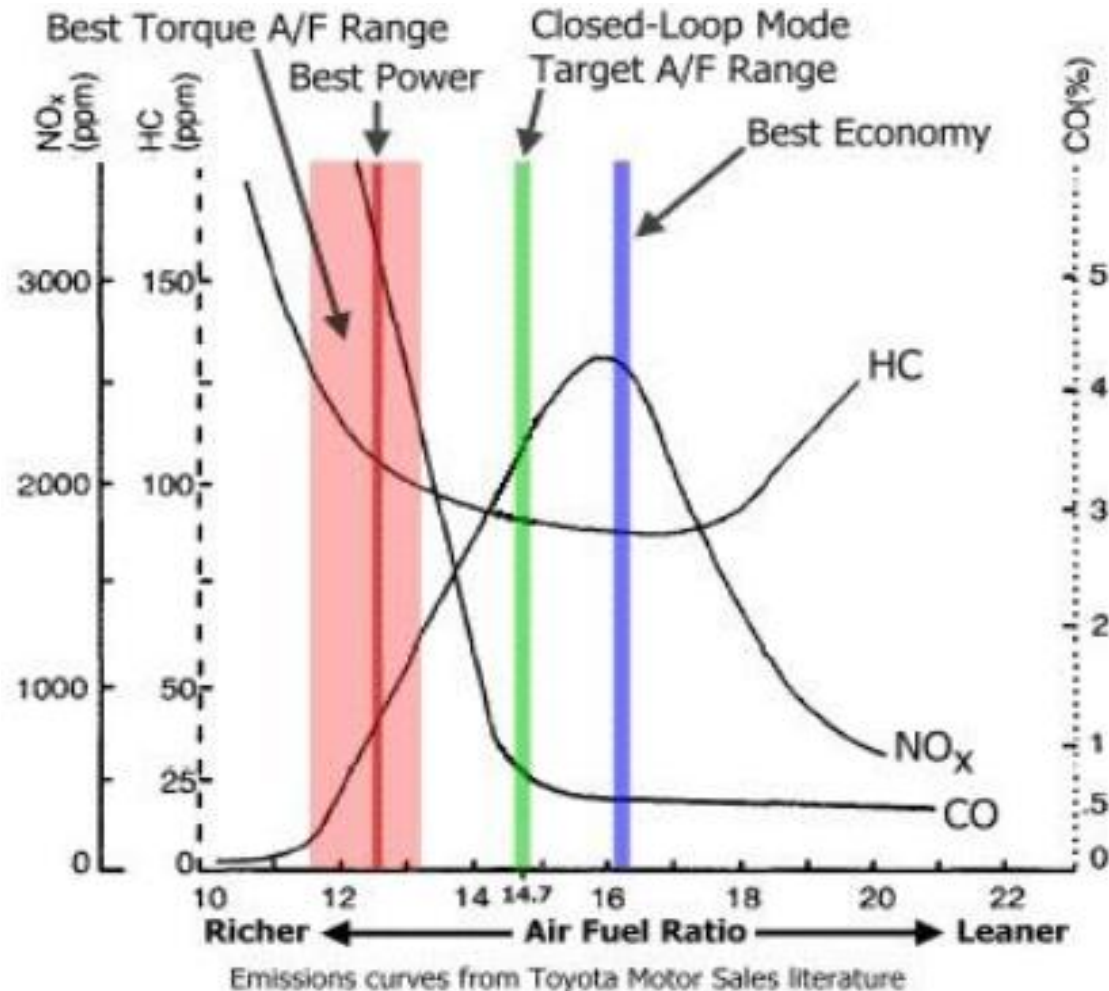
NB. The “all other vehicles” category includes passenger and delivery cars, trucks and busses. Source: the LAT report

Primary Y-axis (left): HC = HydroCarbon emissions; 2.0E+05 = 200,000, 1.0E+06 = 1,000,000, 1tn=1000 kg.

Secondary Y-axis (right): L-category vehicle Hydrocarbon (HC) emission share as % of all road transport Hydrocarbon emissions 18

How can concerns be addressed ?

- Optimise balance pollutant emissions, energy efficiency, propulsion performance



EU Regulation on environmental and propulsion performance requirements (REPPR)

- **Annexes II (A) and V of Regulation (EU) No 168/2013:**
 - **Environmental performance**, demonstrated by conducting:
 - **Test type I : tailpipe emissions after cold start;**
 - **Test type II : tailpipe emissions at (increased idle) / free acceleration test;**
 - Test type III : emissions of crankcase gases;
 - Test type IV : evaporative emissions;
 - **[Test type V : durability of pollution control devices]**

EU Regulation on environmental and propulsion performance requirements (REPPR)

- **Environmental performance**, demonstrated by conducting :
 - **Test type VII : energy efficiency; measurement of CO₂ emissions, fuel consumption, electric energy consumption and electric range determination;**
 - Test type VIII : environmental on-board diagnostic (OBD) tests;
 - Test type IX requirements: sound level;

- **Test type I: Tailpipe emissions tests after cold start**
- Annex II to EU REPPR, requirements based on:
 - UNECE global technical regulation No. 2 (World-harmonised Motorcycle Test Cycle (WMTC));
 - Multi-Directive 97/24/EC, chapter 5 and amendments;
 - UNECE Regulation Nos 40 (motorcycles) and 47 (mopeds), test cycle definitions only (desired vehicle speed vs. test time traces);
 - UNECE Regulation No 83 (motor vehicles), e.g. Particulate Mass measurement equipment, pollutant mass formulae (mg/km), reference fuels, dilution air requirements etc;
 - UNECE Regulation No 101 (motor vehicles), e.g. measurement and processing of CO₂

- **Test type I:** Tailpipe emissions tests after cold start - Structure appendixes of Annex II to EU REPPR:
 - Used symbols in Annex II;
 - Reference fuels;
 - Chassis dynamometer system;
 - Emissions dilution system;
 - Classification of equivalent inertia mass and running resistance;
 - Driving cycles (ECE40, 47, WMTC phase 2 and revised WMTC) for Type I tests.

- **Test type I:** Tailpipe emissions tests after cold start - Structure appendixes of Annex II to EU REPPR ct'd:
 - Road tests for two-wheel vehicles regarding the determination of test bench settings;
 - Road tests for three-wheel vehicles and quadricycles regarding the determination of test bench settings;
 - Explanatory note on gearshift procedure;
 - Type-approval of replacement pollution control devices as separate technical unit;
 - Test type 1 measurement method for hybrid L-category vehicles;

- **Test type I:** Tailpipe emissions tests after cold start - Structure appendixes of Annex II to EU REPPR ct'd:
 - Granting type approval for a vehicle fuelled by LPG or NG / bio methane;
 - Test type I test procedure for a vehicle equipped with a periodically regenerating system.



- **Test type II: Tailpipe emissions test at (increased) idle / free acceleration test, Annex III to EU REPPR;**
- Base requirements mix of UNECE gtr No. 2 and UNECE R83;
- Emission test at (increased) idle for vehicles of which a Positive Ignition (PI) combustion engine makes part of the propulsion;
- Free acceleration test for vehicles of which a Compression Ignition (CI) combustion engine makes part of the propulsion;
- Manufacturer is to deliver the Test type II EU limit values and to demonstrate that the base requirements from Directive 96/69/EC as amended with Directive 2009/40/EC regarding road side inspection are complied with.
- Should be explored if test type II limits should be harmonised at UN level or not.

Test type V: Durability of pollution control devices

- Purpose: verify whether engine and pollution control devices are sufficiently well designed to withstand hostile engine conditions during normal vehicle life
 - Article 23 of Reg (EU) No 168/2013 proposes three methods:
 - Full mileage accumulation, mileages set-out in Annex VII(A) of L-cat Codecision Reg;
 - Accelerated durability testing (half mileage and extrapolation);
 - Mathematical method: multiplying emission test result of degreened vehicle (100 km max) with fixed deterioration factors (set-out in Annex VII(A) of the L-cat Codecision Reg.

- **Test type V: Durability testing of pollution control devices**
- Two defined mileage accumulation test methods:
 - The Standard Road Cycle for L-Category Vehicles (SRC-LeCV) (adapted SRC from UN R83, custom-tailored for L-category)
 - The USA EPA Approved Mileage Accumulation durability cycle (AMA). Text carried over from 40 CFR Part 86, Subpart E mixed with R83 Rev 4, Annex 9 requirements.

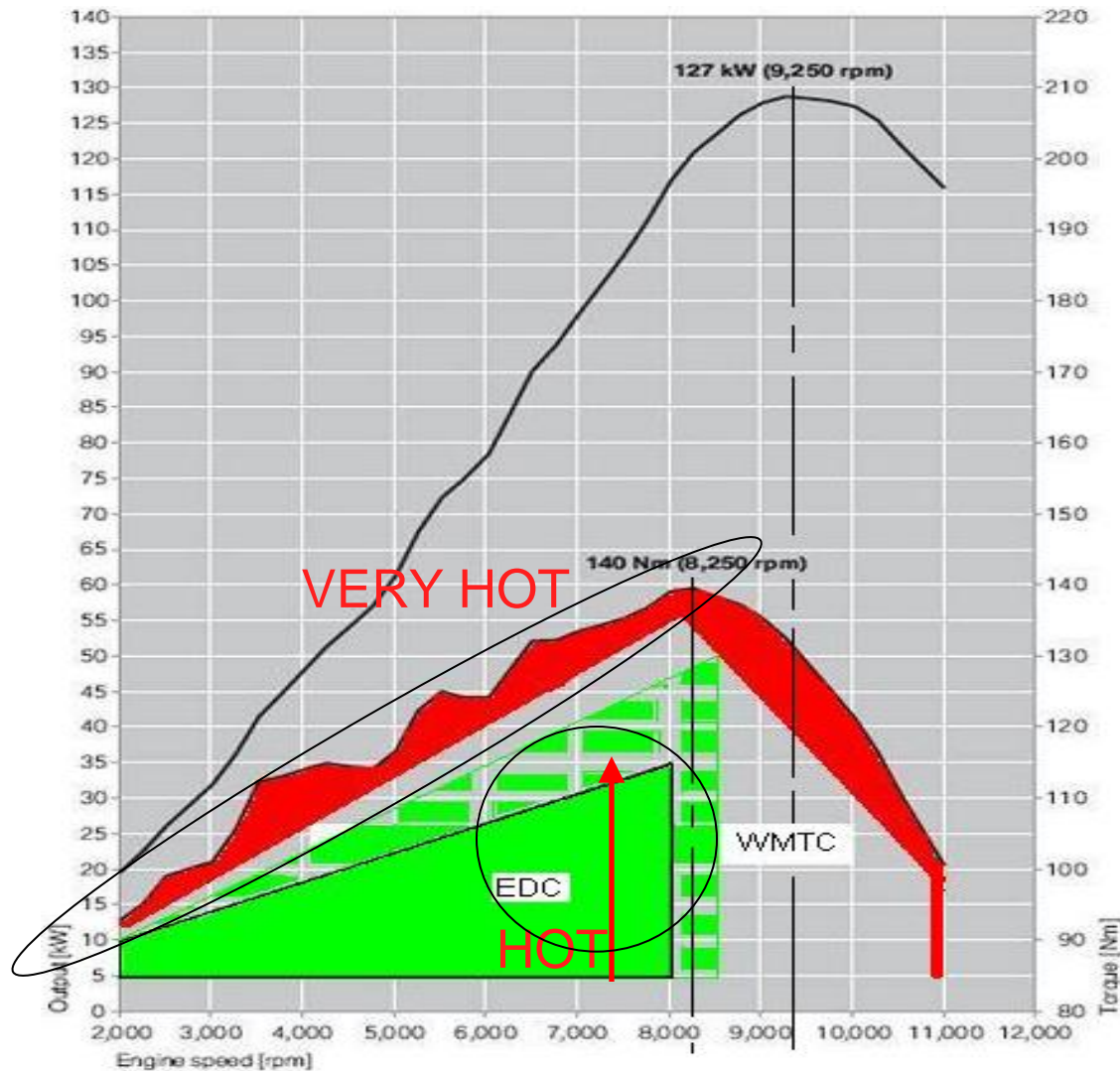
REPPR - Test type V – durability of pollution control devices

- Verify whether pollution control devices are sufficiently well designed to withstand hostile engine conditions during normal vehicle life
 - Thermal exposure
 - Frequent thermal shocks (0 – 1000 °C, gradients low – high and high – low)
 - Continuous operation at high temperatures (600 – 1000 °C)
 - Exothermal reaction from “unburned” HC ignited by hot catalyst
 - Poisoning from combustion “rest” products
 - Mechanical exposure, mainly vibrations
- **CRITICAL: HOT LEAN OPERATION**



European
Commission

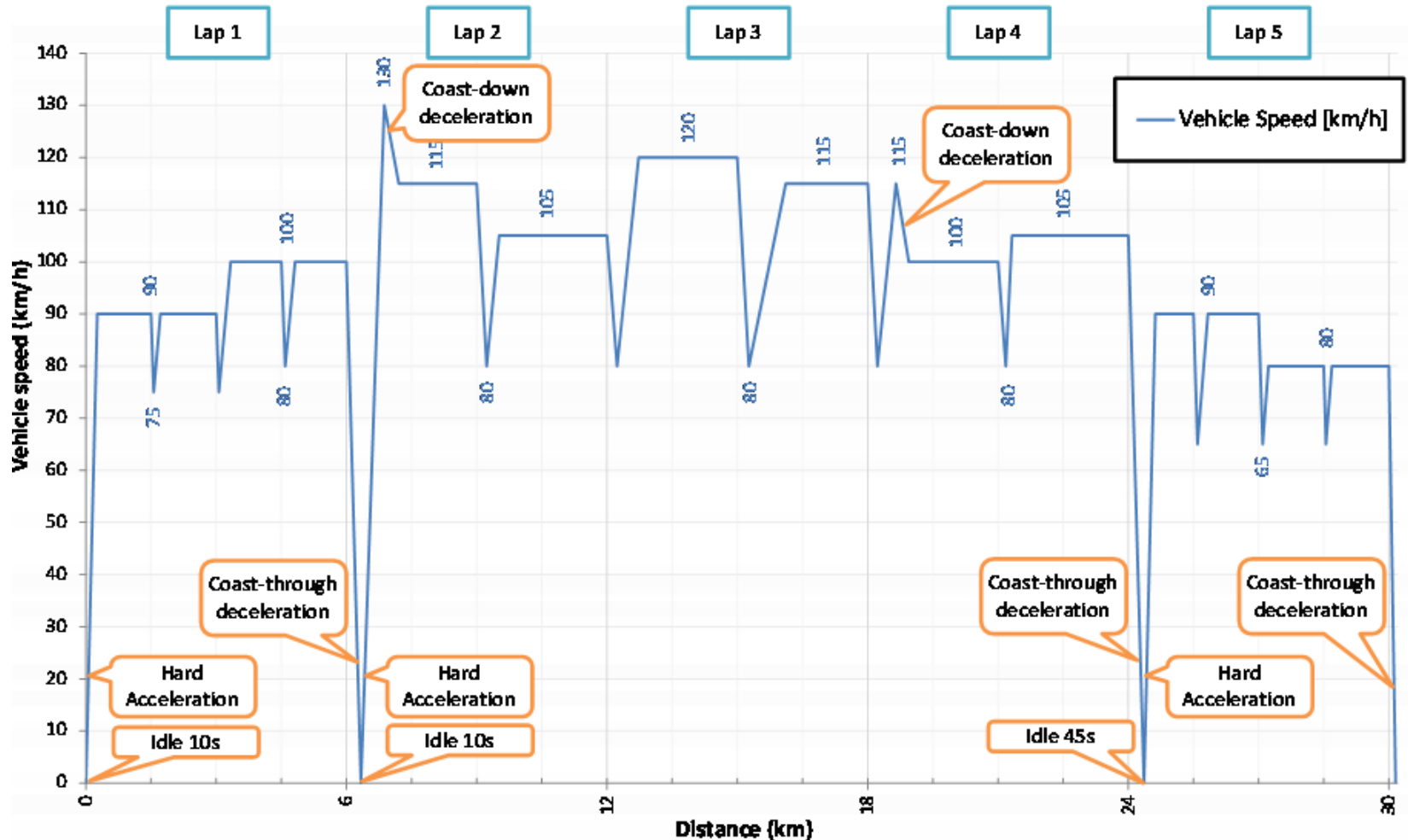
REPPR – Test type V – durability of pollution control devices





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REPPR - Type V durability test – SRC-LeCV – 4 driving profiles

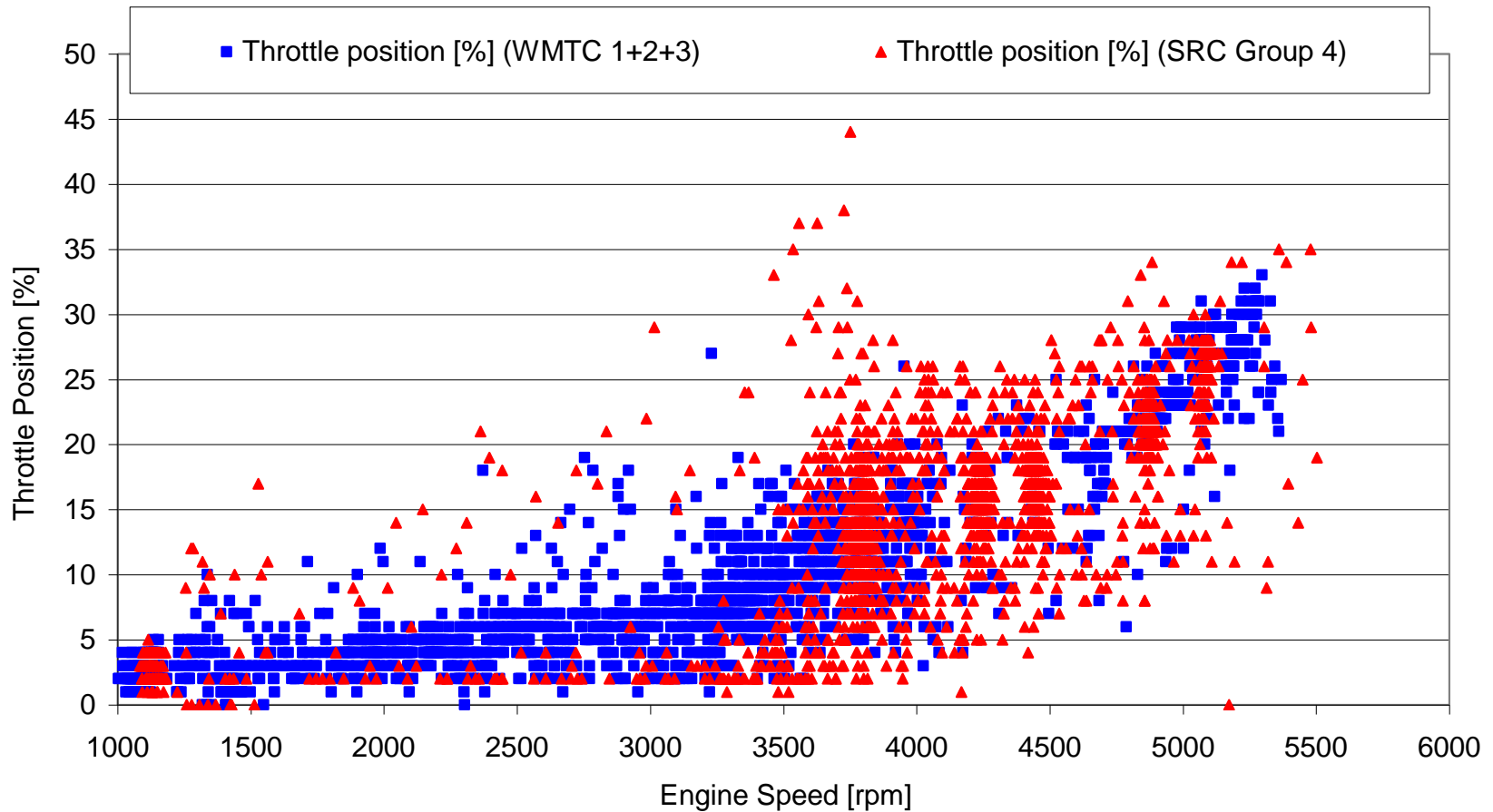


REPPR - Type V durability test – SRC-LeCV - Validation

- Neutral criteria for proper validation of SRC-LeCV
 - Separation of true validation of type V test cycle and assessment of emission performance of test vehicle fleet;
 - Use variables not changing over the investigated partial useful life: engine speed and engine load
- Test matrix with representative test vehicle fleet executed at Joint Research Centre (JRC)
- Investigated technical feasibility and providing confirmation of the theoretical analysis and conclusions contained within durability report.

REPPR - Type V durability test – SRC-LeCV - Validation

- Example – scatter plot comparison WMTC & SRC-LeCV



REPPR - Type V durability test – SRC-LeCV - Validation

- Validation results:
 - Cycles 3 and 4 (for higher performing vehicles) were shown to be technically feasible and appropriate for use;
 - Cycles 1 and 2 (for lower performing vehicles) required further adjustment and the categorisation system needed further adjustment.
- The required changes were made and reported.
- Final revisions of these revised SRC-LeCV test cycles and categorisation system were re-validated to demonstrate their feasibility.

REPPR - Type V durability test – SRC-LeCV - Validation

- Validation results
- EC considers Approved Mileage Accumulation (AMA) test cycle as obsolete for L-category vehicles.
- SRC vehicle speed profile for motor vehicles with significantly lower power to mass ratio haven proven its effectiveness over many years
- WMTC for L-category vehicles, which was used to rescale the SRC for cars, is used since many years for motorcycles and equivalent (same power to mass ratio) vehicle types.

REPPR - Type V durability test – SRC-LeCV - Validation

- Achieved compromise in the EU
 - The EC is prepared to accept both the AMA and SRC-LeCV in parallel up to and including start of the Euro 5 step (2020 / 2021)
 - After phasing out of the obsolete AMA cycle the principle type V mileage accumulation cycle will be the SRC-LeCV
 - The end date to phase out the AMA cycle will be subject to the environmental effect study (report in 2016)
 - However, first step world-wide harmonisation: including both test procedures would be acceptable to EC.

Test type VII: Energy efficiency

Measurement of CO₂ emissions, fuel consumption, electric energy consumption and electric range determination;

- Partially based on UN R83 for the measurement principles of CO₂ emissions and calculation of fuel consumption
- Testing procedures for non-conventional propulsion types (electric hybrid vehicles or vehicles with periodically regenerating systems) coherent with UNECE R101 but custom-tailored for L-category vehicles.

EU Regulation on environmental and propulsion performance requirements (REPPR)

- **Targets of EU for further harmonisation beyond Euro 5 step:**
 - Replace EU environmental requirements to maximum extent possible with references to world-harmonised UN Regulations, coherent with global technical regulations in the area of EPPR;
 - Optimise coherency with existing / near future UN legislative requirements for other vehicle types and categories (motor vehicles)
 - First priority for medium term: measurement equipment and test procedure requirements in order to assess and compare environmental performance of light vehicles at a world-wide level.
 - Long term priority if medium term harmonisation successful : developing and harmonising "other" requirements such as off-cycle emission test procedures, converging environmental limits etc.

EU Regulation on environmental and propulsion performance requirements (REPPR)

- Planned submission draft proposal EC gtr test types I, II, [V], VII: Nov 13
- If L-EPPR group would decide to dedicate a separate gtr on test type V than this could only be compiled and submitted in: Jan 14



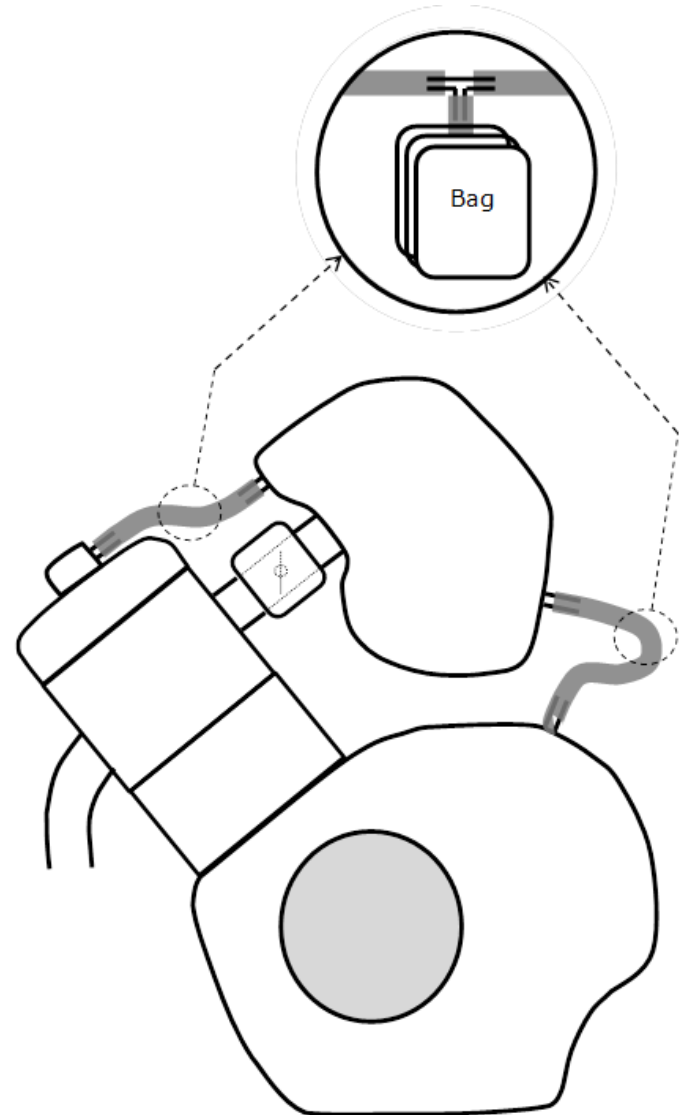
UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles

08 - 09 October 2013

Agenda item 6a: EC Proposal for a new gtr on test type III (crankcase gas emissions) and test type IV (evaporative emissions)

- **Test type III:** Emissions test of crankcase gases
- Elementary and fundamental environmental performance test:
 - complementary in case of partial type IV test (permeability of fuel storage, permeation test of fuel storage and supply system);
 - "prerequisite" assessment (zero emissions from the crankcase system) before conducting SHED evaporative testing .
- Purpose: manufacturer shall prove that crankcase system is closed and emits no pollutants. Crankcase emissions may not be discharged directly into the ambient atmosphere from any vehicle throughout its useful life (Annex V(A) Regulation (EU) No 168/2013).
- Test type III demonstration only necessary in case of:
 - first time new design of crankcase ventilation system
 - difference in opinion between approval authority and manufacturer

- **Test type III:** Emissions test of crankcase gases
- Proposal:
- Carry over principle, simple test procedure coherent with test type III requirements from UN R83 for vacuum based crankcase ventilation systems
- Added alternative test for overpressure / breather based crankcase ventilation systems



- **Test type IV:** Evaporative emissions test
- EU REPPR: base test procedure **fuel tank permeability test** for all L-category vehicles was carried over from Multi-Directive 97/24/EC, Chapter 6, Annex I, paragraph 2.1;
- Emission effect study in Article 23, paragraphs 4 & 5 from L-cat Reg Codecision act 168/2013 will identify how to deal with categories L1Ae, L1Be, L2e, L5Be, L6Be, L7Be and L7Ce either:
 - Sealed House Evaporative emission Determination (**SHED**) test procedure;
 - Revised US EPA **Fuel tank and lines permeation testing**.
Text derived from USA federal requirements (EPA):
US federal standards 40 CFR 1051.110, 40 CFR 1051.245, § 1051.515 , 40 CFR 1060.810 (refers to SAE J30, Fuel and Oil Hoses, June 1998)

- **Test type IV**: Evaporative emissions test
- **SHED test** as applicable as of 2017 for categories L3e, L4e (only base L3e vehicle), L5Ae, L6Ae, L7Ae was proposed by PTW industry as evaporative test procedure to be fulfilled already today for export to the USA (California ARB, Title 13, CCR, §1976 (evap regulations))



- **Test type IV:** Evaporative emissions test
- Proposal to harmonise at different levels:
 - Permeability: non-metallic fuel storage
 - Permeation: fuel storage and supply system
 - SHED test: entire vehicle
- To be addressed: referred technical standards (currently SAE) also to be harmonised through CEN / ISO.
- Discuss whether or not also test limits can be harmonised (UN1 and 2). However, this should not have the highest priority.
- First draft proposal gtr covering test types III and IV submitted: Sep 13



UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles 08 - 09 October 2013

*Agenda item 6c: EC Proposal for a new gtr regarding on-board
diagnostics*

- **Annex XII in EU RVCR, On-board diagnostics, functional requirements**
 - Convenient access to standardised on-board diagnostic information is the first step in successful repair of a broken vehicle;
 - Successful repair:
 - Efficient: repairer can fast identify the smallest identifiable or exchangeable “broken” unit;
 - Effective: repairer replaces or repairs that part that is actually broken.
 - Prerequisite for successful repair: easy accessible and cheap availability of relevant data
 - Off-board diagnostic data
 - On-board diagnostic data

- **Annex XII in EU RVCR, On-board diagnostics, functional requirements**
 - On-board diagnostic information closely related to requirements with regard to access to repair and maintenance information
 - New in L-category vehicle EU OBD requirements: link with functional safety. Starting point: the malfunction indicator light shall be illuminated if a torque limiting default mode is activated.
 - Split required with OBD environmental test requirements (refer to test type VIII)
 - Functional OBD requirements based on UNECE R83 Rev. 4, Chapter 11. Contains both OBD stage I and II requirements.
 - RVCR Annex XII discriminates between OBD Stages I and II.

- **Annex XII in EU RVCR, On-board diagnostics, functional requirements**
- **OBD Stage I:**
 - Monitors for any electric circuit continuity failure, shorted electric circuits or rationality failure of the emissions control system and reports those failures which results in the OBD emission thresholds being exceeded;
 - Reports the triggering of any operating mode which significantly reduces engine torque.
- **OBD Stage II:**
 - More advanced form of OBD operating in addition to OBD stage I;
 - Monitors and reports emissions control system failures and degradation which results in the OBD emission thresholds as laid down in part B (2) of Annex VI being exceeded.

- **Annex XII in EU RVCR, On-board diagnostics, functional requirements**
 - OBD stage II has added value and is more than only “an enhanced environmental protection feature”;
 - It helps the repairer to more efficiently identify a broken or heavily degraded part or non-operational system;
 - It can save money for the user or lead to higher level of functional safety, examples:
 - preventing an expensive catalyst from damage in case of misfire;
 - activate safe and more sophisticated default modes in case of complex engine management system failures leading to drive-ability problems.

- **Annex XII in EU RVCR, On-board diagnostics, functional requirements**
 - Reg (EU) No 168/2013, Article 21 paragraph 4 and 5: effect study in 2015 / 2016 assessing cost – benefits. Pending the outcome of that study OBD stage may or may not become obligatory for (sub-)categories L3e, L5Ae, L6Ae and L7Ae in 2020.
 - Until that decision is made a vehicle may be equipped with an OBD stage II system at the choice of the manufacturer.
 - Where fitted with an OBD stage II system, the technical requirements of Annex XII of the RVCR shall apply. This will ensure standardisation of OBD Stage II and a lot of time for vehicle manufacturers to run diagnostics "in the background".

- **Test type VIII:** On-board diagnostics (environmental part only of OBD)
 - Special test type I: emission verification by introducing fault in system and comparing emission test results with OBD thresholds
 - Basic requirement: manufacturer is to proof which inputs and outputs of the propulsion unit(s), transmission(s), body control units etc. are emission relevant
 - In case of electric failure in electric circuits (including control units) of sensors or actuators, or in case of rationality failure in these circuits when exceeding the OBD emission thresholds the malfunction indicator shall be turned on and a diagnostic trouble code stored
 - Text largely carried over from UNECE R83, Chapter 11, appendix 1

Proposal gtr on on-board diagnostic requirements

- Proposal EC in process, will contain main section on functional OBD requirements. Special section or Annex dedicated to test type VIII (OBD emission verification requirements)
- To be discussed if OBD emissions thresholds should be harmonised
 - Should not be assigned high priority. First priority harmonisation of functional OBD ("infrastructure" on vehicle such as standardised connector, harmonised communication protocols, diagnostic trouble codes etc.) and the special type VIII OBD emission verification test procedure.
- Planned submission EC draft proposal gtr on OBD : Oct 13



UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles 08 - 09 October 2013

Agenda item 6d: EC Proposal for other gtrs and EPPR requirements

- **Annex No XII of EU REPPR:** Propulsion family concept.
 - Objective: selection criteria for representative parent vehicle in order to demonstrate environmental performance by conducting test types I to VIII.
 - To be specified in:
 - gtr No 2;
 - new gtr on test type III and IV,
 - new gtr on propulsion unit(s) performance

EU Regulation on environmental and propulsion performance requirements (REPPR)

- **Propulsion unit(s) performance**, demonstrated by conducting :
 - Testing procedures and technical requirements regarding maximum design vehicle speed, maximum torque and maximum propulsion power.
 - Base: EU Directive 95/1/EC on the maximum design speed, maximum torque and maximum net engine power of L-category vehicles with conventional (combustion engine) propulsion.
 - UNECE R85 proposed for determination of maximum continuous rated power of pure electric propulsion.
 - Issue: propulsion performance of hybrid-electric propelled vehicles and alternative propulsions.

- **Propulsion unit(s) performance**, testing procedures and technical requirements regarding maximum design vehicle speed, maximum propulsion torque and power.
- Base Directive 95/1/EC on the maximum design speed, maximum torque and maximum net engine power of L-category vehicles.
- Including:
 - amendments from Directive 2002/41/EC
 - technical progress taken into account:
 - special test procedure for cycles designed to pedal (new text, not carried over from other legislation);
 - Hybrid vehicles

EU Regulation on environmental and propulsion performance requirements (REPPR)

- Planned submission draft proposal EC gtr propulsion performance

Feb 14



Thank you for your attention

Further information:

<http://ec.europa.eu/enterprise/sectors/automotive>

Status of EU legislation, links to Directives, Regulations and other useful information.

<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29age.html>

Status of UNECE Regulations and GTRs, proposals, working documents and working groups.



UN working group on environmental and propulsion performance requirements (EPPR) for light vehicles

08 - 09 October 2013

Back-up slides

Regulation for approval and market surveillance of L-category vehicles

Regulation on environmental and propulsion performance requirements (REPPR)

Regulation on vehicle functional safety requirements (RVFSR)

Regulation on vehicle construction requirements (RVCR)

Regulation on administrative requirements (RAR)

Status – Regulation on vehicle functional safety (RVFSR)

- Annex II (B) of Regulation (EU) No 168/2013:
 - audible warning devices
 - braking
 - electrical safety
 - endurance testing (manufacturer declaration)
 - front/rear protective structures
 - wash/wipe and defrost/demist
 - identification of controls, tell-tales, indicators
 - lighting installation
 - rearward visibility
 - rollover protective structure (ROPS)

Status – Regulation on vehicle functional safety (RVFSR)

- Topics covered by RVFSR ct'd:
 - safety belts and anchorages
 - saddles and seats
 - steering and cornering
 - installation of tyres
 - speed limitation plate
 - vehicle occupant protection (interior fittings, doors)
 - design speed limitation
 - vehicle structure integrity



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Back-up slides

Regulation for approval and market surveillance of L-category vehicles

Regulation on environmental and propulsion performance requirements (REPPR)

Regulation on vehicle functional safety requirements (RVFSR)

Regulation on vehicle construction requirements (RVCR)

Regulation on administrative requirements (RAR)

Status – Regulation on vehicle construction requirements (RVCR)

- Annex II (C) of Regulation (EU) No 168/2013:
 - powertrain tampering prevention measures (anti-tampering)
 - arrangements for type-approval procedures
 - conformity of production requirements
 - coupling devices and attachments
 - devices to prevent unauthorised use
 - electromagnetic compatibility (EMC)
 - external projections
 - fuel storage
 - load platforms

Status – Regulation on vehicle construction requirements (RVCR)

- masses and dimensions
 - on-board diagnostics, functional requirements
 - passenger handholds and footrests
 - registration plate space
 - access to repair and maintenance information
 - stands
-
- Separate section
 - performance standards and assessment of technical services



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Back-up slides

Regulation for approval and market surveillance of L-category vehicles

Regulation on environmental and propulsion performance requirements (REPPR)

Regulation on vehicle functional safety requirements (RVFSR)

Regulation on vehicle construction requirements (RVCR)

Regulation on administrative requirements (RAR)

Status – Regulation on Administrative Requirements (RAR)

- Article 72 of Regulation (EU) No 168/2013:
 - template for the information document
 - template for the information folder
 - templates for manufacturer's declarations regarding:
 - endurance of functional safety critical systems, parts and equipment
 - vehicle structure integrity
 - proof of compliance to the type approval authority on access to vehicle OBD
 - proof of compliance to the access to vehicle repair and maintenance information

Status – Regulation on Administrative Requirements (RAR)

- template for the Certificate of Conformity
 - certificate of conformity as regards new technologies or new concepts
- models for :
 - the vehicle's statutory plate and the EU type-approval mark
 - EU type-approval certificate
 - EU type-approval certificate for new technologies or new concepts
 - EU type-approval certificate for national small series
- list of applicable requirements or acts appended to the EU type-approval certificate
- numbering system of the EU type-approval certificate

Status – Regulation on Administrative Requirements (RAR)

- test results sheet appended to the EU type-approval certificate
 - reduced administrative burden, test result sheet replaced with executive summary in test report
- general requirements for the format of test reports
- numbering system, marking requirements and certificate for placing on the market and entry into service of parts or equipment that may pose a serious risk to the correct functioning of systems that are essential for the safety of the vehicle or for its environmental performance
- list of parts or equipment that may pose a serious risk to the correct functioning of systems that are essential for the safety of the vehicle or for its environmental performance

- **Test type IX:** Sound level testing
- **Carried over from Multi-Directive 97/24/EC, chapter 9 in EU REPPR**
- **Goal to simplify:**
 - Revise UNECE Regulations Nos 9 (all L-cat vehicles except motorcycles and mopeds), 41 (motorcycles) and 63 (mopeds);
 - The EU will accede to these Regulations and proposes to make these obligatory through Reg 168/2013;
 - Regulation No 41 is ready for accession, Regulation Nos 9 and 63 require update and revision by GRB;
 - Once the EU has acceded to one or more of the UNECE Regulation listed above and has made one or more obligatory, the EU proprietary text on sound testing for these vehicle categories becomes obsolete.