

Transposition of EURO VI requirements into UN/ECE R49 Status report

GRPE 9-June 2011

Submitted by the expert of
European Commission

UN/ECE R49-06 transposition

- Informal document to GRPE january 2011
- Need to update Regulation 49 for « Euro VI requirements »
- Informal document No: GRPE-61-18
- Agreed by GRPE in its January session

UN/ECE R49-06 transposition

- European Commission has contracted TRL/Ecorys to support the Commission in the work
- Dedicated workshops have been held and invitations have been sent to GRPE members
- A first draft of the text has been submitted to GRPE as an informal document

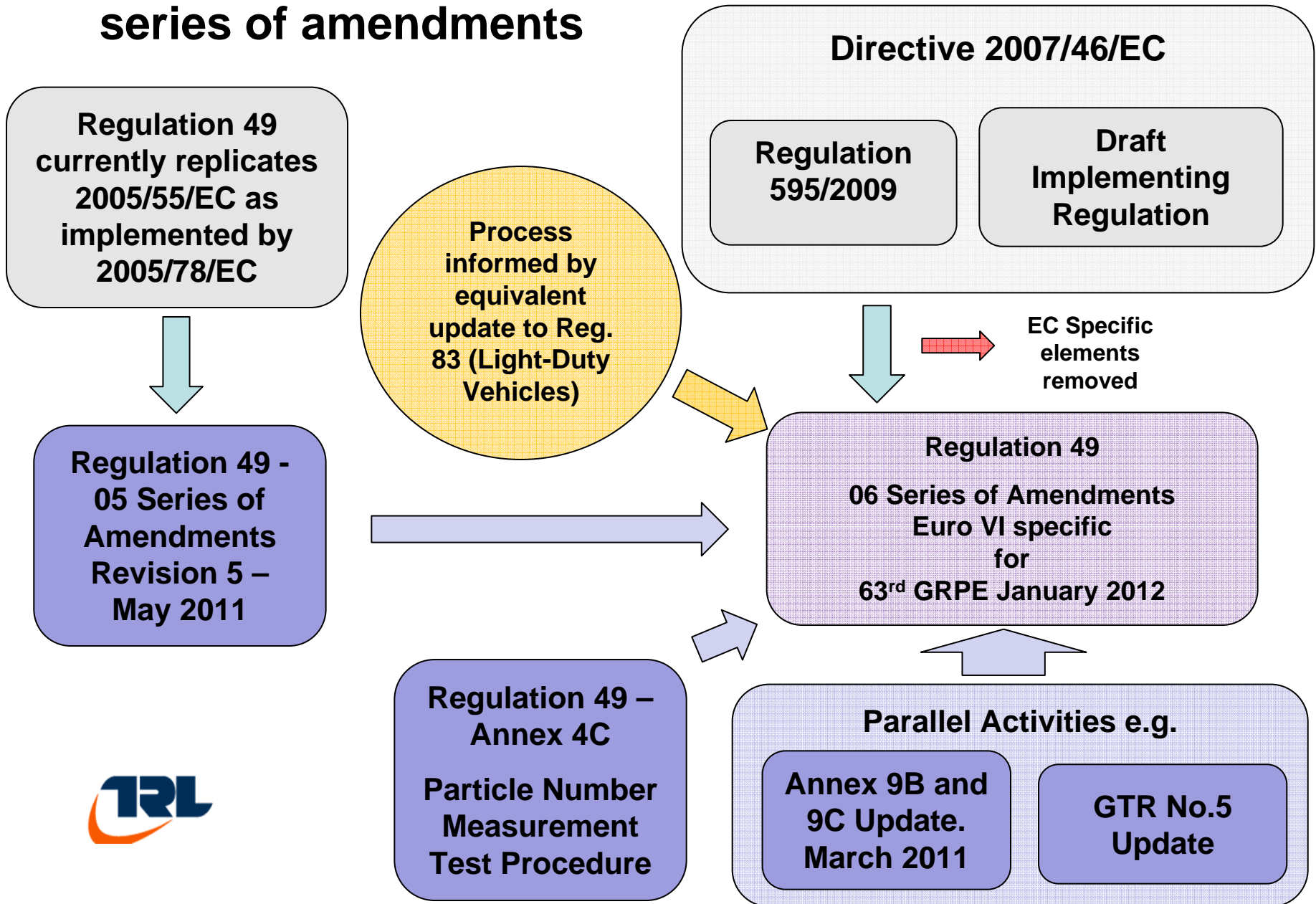
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- Reg 49-05 includes up to Euro V requirements (Stage B2)
- Reg 49-05 also include annexes not applicable at the moment
 - Annex 4B (WHDC-gtr)
 - Annex 4C (PN measurement procedure)
 - Annex 9B (OBD-gtr)
 - Annex 9C (IUPR)
 - Annex 10 (OCE-gtr)

UN/ECE R49-06 transposition

- Objective is to make a new consolidated series of amendments only covering « Euro VI requirements »
- Proposal: include the currently not applicable Annexes (4B,4C,9B,9C and 10) and make them applicable
- Proposal: also include requirements from EC regulation No 595/2009 (Euro VI) and corresponding implementing regulation

Updating Regulation 49 - 06 series of amendments



| Main body of Regulation | Scope, definitions, application for approval, transitional provisions etc. |
|-------------------------|--|
| Annex 1 | Models of information document |
| Annex 2A and B | Communication concerning the approval or ... |
| Annex 3 | Arrangements of approval marks |
| Annex 4 | Test procedure for compression-ignition (C.I.) engines and positive-ignition (P.I.) engines ... (WHDC (gtr) No. 4) |
| Annex 5 | Reference fuels |
| Annex 6 | Emissions data required at type-approval for roadworthiness purposes |
| Annex 7 | Procedures for conducting the test for durability of emission control systems |
| Annex 8 | Conformity of in-service vehicles/engines |
| Annex 9A, B and C | On-board diagnostic systems (OBD) (OBD gtr in B) |
| Annex 10 | Technical requirements on Off-Cycle Emissions (OCE gtr) |
| Annex 11 | Requirements to ensure the correct operation of NOx control measures |
| Annex 12 | CO2 emissions and fuel consumption |
| Annex 13 | Type-approval of replacement pollution control devices as separate technical unit |
| Annex 14 | Access to OBD Information |

Parallel activities

- If agreed include proposed amendments to R49 Annex 9B and C as proposed by official document: **ECE/TRANS/WP.29/GRPE/2011/16** and informal **GRPE-62-09**
- If agreed and time aligned introduce GFV-Dual Fuel requirements as developed by the GFV informal group
- include latest adopted amendments from EC Regulation No 595/2009 (Euro VI) and corresponding implementing regulation
- Alternative approvals using "Euro 6" LD OBD and NOx control will be introduced after introduction in Regulation 83

Scope

- **Regulation No. 49**
 - ...”**compression-ignition engines** for use in vehicles, and the emission of gaseous pollutants from **positive-ignition engines fuelled with natural gas or liquefied petroleum gas** for use in vehicles”
- Euro VI Reg (EC) No 595/2009
 - ... ”**on type-approval of motor vehicles and engines with respect to emissions from heavy duty vehicles (Euro VI) ”**
 - Euro VI covers all C.I. and all P.I. engines (petrol and E85)
- **Proposal to transpose complete Euro VI scope into R49-06 series and aligning with scope of R83**

Euro VI-”phase in requirements”

| Character | NO _x OTL ⁽¹⁾ | PM OTL ⁽²⁾ | Reagent quality and consumption | Implementation dates: new types | Implementation dates: all vehicles | Last date of registration |
|-----------|--|---------------------------------------|---------------------------------|---------------------------------|------------------------------------|---------------------------|
| A | Row "phase-in period" of tables 1 and 2 | Performance Monitoring ⁽³⁾ | Phase in ⁽⁴⁾ | 31.12.2012 | 31.12.2013 | 1.9.2015 |
| B | Row "phase-in period" of tables 1 and 2 | Row "phase-in period" of table 1 | Phase in ⁽⁴⁾ | 1.9.2014 | 1.9.2015 | 31.12.2016 |
| C | Row "general requirements" of tables 1 and 2 | Row "general requirements" of table 1 | General ⁽⁵⁾ | 31.12.2015 | 31.12.2016 | |

Key:

- (1) 'NO_x OTL' monitoring requirements as set out in table 1 and 2 of Annex X.
- (2) 'PM OTL' monitoring requirements as set out in table 1 of Annex X.
- (3) 'Performance monitoring' requirements as set out in point 2.3.3.3. of Annex X.
- (4) Reagent quality and consumption 'phase-in' requirements as set out in points 7.1.1.1 and 8.4.1.1. of Annex XIII.
- (5) Reagent quality and consumption 'general' requirements as set out in points 7.1.1. and 8.4.1. of Annex XIII.

Euro VI-”phase in requirements”

- Options on how to transpose Euro VI stages:
 - Transpose all (A, B and C) into R49-06
 - With dates for A only
 - With all dates as in Euro VI
 - Transpose only A now and make supplement or new series at appropriate later date
 - Transpose only C
 - There are uncertainties due to revision clauses in Euro VI

Topics under discussion

- Scope of R49-06 (including P.I. petrol/E85 engines)
- Euro VI “phase in requirements”
- How to implement In-service conformity (ISC) and In-use performance ratio (IUPR) requirements

Timeline

- 61st GRPE January 2011 informal document GRPE-61-18
- 62nd GRPE June 2011 1st draft of Reg 49-06
- 63rd GRPE January 2012 final proposal as formal document
- If adopted by GRPE submitted to WP29 November 2012 for adoption

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