

Informal document No. GRPE-57-35
(57th GRPE, 13-16 January 2009,
agenda item 5)

Non Road Mobile Machinery Engines Global Technical Regulation

Complete Informal Document 57-21

NRMM WG 2009.01.15

Scope

This regulation applies to the determination of the emissions of pollutants of compression-ignition (C.I.) engines with a maximum power not smaller than 19 kW and not larger than 560 kW to be used:

- (a) in category T vehicles,
- (b) in non-road mobile machinery.

NRMM gtr

- Harmonised test protocol for non-road mobile machinery engines
- Including representative test cycles
- Specifically the non-road transient cycle developed between 2000 and 2002 by an international task force

Technical and Economic Feasibility Impact of gtr

- Alignment of different national legislations
- Adaptation to technical progress
- Benefit to the environment and efficient use of energy by using a single test protocol for emission control.
- Economic advantages to manufacturers of engines and equipment by facing consistent requirements throughout the global market

Background

- 2002 NRMM identified as priority item at WP29
- 2003 Start of NRMM working group
- Study of regulations in place
- Identification of all requirements and differences
- Development of work plan

Background 2

- 2005 Proposal to develop gtr adopted by AC.3
- Development of structure based on WP.29 guidelines and work in other gtrs
- Development of gtr text harmonising elements of reference legislations.
- 2007 Progress report adopted by AC.3
- 2008 Completion of review of gtr text

References

- ECE Regulation R 96
- EU Directive 97/68/EC as amended
- US 40 CFR parts 1039 and 1065
- ISO 8178 series and ISO 16183
- GRPE – WHDC gtr
- ECE Regulation R 120

Harmonisation Challenges

- Different concepts and methodologies
- Differences in technical requirements
- Type approval and certification
- Strict legal language and plain language
- Different legislative development

- Part A. Technical rationale and justification
- 1. Technical and economic feasibility
- 2. Anticipated benefits
- 3. Potential cost effectiveness
- Part B. Text of regulation
- 1. Purpose
- 2. Scope
- 3. Definitions, symbols and abbreviations
- 4. General requirements
- 5. Performance requirements
- 6. Test conditions
- 7. Test procedures
- 8. Measurement procedures
- 9. Measurement equipment
- A. Annexes

Outcome of 2009.01.13 Meeting

- Informal draft gtr accepted by the experts
- Observations received:
 - Technical issues
 - Questions to GRPE

Technical issues

- Dilution air temperature of CVS and PFD
 $T > 15^{\circ}\text{C}$ (EU) or $20 < T < 30^{\circ}\text{C}$ (USA)

Proposal:

1) $T > 20^{\circ}\text{C}$

Mr. Charmley will verify a possible compromise

- Mr. Stein will check the transcription of equations from WHDC and ISO into Annex 8

Questions to GRPE

- Options in gtr:
 - Hot soak period (5 or 20 min)
 - Cold start weighing (5% or 10%)
- Does the guidance document have to follow the same administrative procedure as the legal document?

The legal text and the final report can be finalised in time for 20 March 2009

Many thanks to all the Experts who contributed actively to the gtr document as presented today