

Executive Summary of preliminary and progress report for NRMM

- Development of a global technical regulation concerning the approval of compression-ignition (C.I) engines to be installed in agricultural and forestry tractors and in non-road mobile machinery with regard to the emissions of pollutants by the engine
- Informal document (No. GRPE-53-05) adopted by GRPE at fifty-third session (ECE/TRANS/WP.29/GRPE/53, para. 16).
- Amended as recommended by GRPE, now working document ECE/TRANS/WP.29/2007/43
- Submitted to WP.29 and AC.3 for consideration

Purpose of this progress report

1. Reporting on the evaluation performed as requested under the guidelines governing the development of a gtr
2. Request to proceed with the drafting of the gtr
3. Summary of work completed

Purpose and scope of gtr

Purpose

This regulation aims at providing a world-wide harmonized method for the determination of the levels of pollutant emissions from compression-ignition (C.I.) engines used in vehicles of category T and non-road mobile machinery in a manner which is representative of real world vehicle operation. The results can be the basis for the regulation of pollutant emissions within regional type-approval and certification procedures.

Scope

This regulation applies to the determination of the emissions of pollutants of compression-ignition (C.I.) engines to be used:

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

Benefit of gtr

- 1998 Global Agreement establishes process through which countries from all regions of the world can jointly develop global technical regulations ... to continuously ... decrease environmental pollution ... of vehicles and related components and equipment
- Global reduction of emissions from non-road mobile machinery engines
- Global test procedure facilitates development and marketing of engines

Evaluation of possible impact of gtr

- As the requirements are due to be defined later, this evaluation cannot represent an impact assessment for this gtr.
- Thus the aim is to highlight the important effect which is expected from non-road machinery engine emission related legislation in selected areas of the world.

Harmonisation of national regulations

- At onset of work
 - Type approval in e.g. Europe
 - Self certification in e.g. USA
 - Differences in legal language
- Requiring
 - Review of existing regulations
 - Examination of the relevant regulations
 - Identification of relevant elements for gtr
 - Deciding on gtr's structure
 - Drafting of gtr text

Work performed prior to NRMM WG

- US-EPA and EC worked towards a good level of regulative alignment, especially in view of scope, limit values and implementation dates
- Representative real world test cycle for non-road mobile machinery compression-ignition (C.I.) engines developed by international taskforce
- Now part of US and EU regulations

Examination of existing regulations, directives and international standards

- Directive 2004/26/EC, US rule CFR 40 part 1039 and 1065, and ISO standard 8178-11 identified as main references for work
- gtr should be based on best elements of these documents in order to develop a technologically valid, harmonized procedure

Intercomparison of reference documents

- Selection of a base procedure
- This procedure used as ordered list of subjects (topics, sub-topics, characteristics). The description of each subject compared with the corresponding subject in the other reference documents (Consideration of subjects from further regulations e.g. partial flow dilution)
- Resulting in 400 page comparison document; discussed during a number of WG meetings
- Evaluation resulted in the identification of the main topics to be included in the gtr; plus list of open issues.

Structure of NRMM gtr

- TRANS/WP.29/882 - "Guidelines regarding proposing and developing of global technical regulations (gtr) ". The gtr work is strictly based on the indications contained in this document.
- Within this frame the guiding idea of WG has been to develop the test procedure in a user-friendly way and following the logical line of work of an emission test.
- Step by step this first structure was then developed and adapted to the requirements of the different regulations

Emission calculations

- The WG agreed to use molar and mass based emission calculations in the gtr
- The 2 methodologies were derived in parallel to increase the transparency of each calculation step
- Both methodologies to be included in a separate annex in the gtr

Drafting of gtr

- Based on the structure and using the defined procedure elements a first basic draft gtr text was derived
- The following meetings showed the need to respond to different requests:
 - for countries with emerging emission legislation or for previously unregulated countries, recommendations and explanations help to understand the procedure
 - US rules have to be written in plain language
 - EU directives are legal text limited to the actual requirements.
- This resulted in the definition of a guidance document (following the example of the European noise directive)

Guidance document

- The legal part (= gtr) synthesizes the requirements and some indispensable explanations. The guidelines give all additional information that will allow a laboratory with less experience to run an emission test successfully.
- Guidance document could be published either in Appendix 1 or as separate Appendix 2 to established gtr.
- the guidance document alternates legal text with the relevant recommendations, thus forming a readable document on its own

PLANNED SCHEDULE OF WORK

- Continuation of the discussion of level 2 draft gtr text (presented early 2007) and deriving at level 3 document (meetings of NRMM editorial committee in September 2007, November 2007 and NRMM WG January 2008)
- Presentation of draft gtr (as 2. progress report) to GRPE January 2008
- Meeting of NRMM editorial committee April 2008 and NRMM WG June 2008
- Presentation of gtr to GRPE June 2008