

Informal document No. GRPE-58-22
(58th GRPE, 8-12 June 2009,
agenda item 6(b))

Informal Group on Gaseous Fuelled Vehicles (GFV)

Chairman: André Rijnders
The Netherlands

Meetings of GFV

5th GFV meeting

- 4/5 March 2009 in Brussels (EC)

6th GFV meeting

- 26 May 2009 in Brussels (EC)

7th GFV meeting

- 8 June 2009 in Geneva

Meetings of the GFV special Task-force on HD-OBD

3rd TF OBD HD meeting

- 3 March 2009 in Brussels, (EC)

4th TF OBD HD meeting

- 17/18 March 2009 Brussels (EC)

5th GFV meeting

4 and 5 March 2009 in Brussels

Main agenda items:

REGULATION 115 (retrofit LPG and CNG systems)

▪Scope

- Discussion to make R115 only applicable for ECE and EC vehicle type-approvals for Euro 3 and later

5th GFV meeting

CH₄ (methane) and NMHC (non-methane HC)

$$THCe = K * CH_4 + NMHC$$

$$K = \frac{1 - \eta_M}{1 - \eta_G} \quad \text{where:}$$

η_M = is methane conversion efficiency of a Methane Optimized Catalyst

η_G = is methane conversion efficiency of a Gasoline Optimized Catalyst

The value of K should be determined according experimental tests with internal combustion engine fuelled with methane, alternatively equipped with Methane Optimized Catalyst and with Gasoline Optimized Catalyst

Proposal of $K = [0,55]$ *Factor value to be checked*

5th GFV meeting

▪ **Calibration NMHC (with NMC)**

- Inconsistency in calibration procedures of NMHC/CH₄ measurement in R49 (correction proposed in R49 - WHDC)

▪ **Dual-fuel**

- No type-approval possible for R115 because there are no provisions for dual fuel gas systems
- Waiting for proposals

▪ **Switch over time limit from petrol-to-gaseous fuel (90/60 sec)**

- Limit in using petrol in test cycle when measuring gas emissions.
- 90 sec for Euro 3 and 4
- 60 sec for Euro 5 (as proposed in R83.06)

5th GFV meeting

▪ **Emissions test procedure:**

- Deletion of the 'non-intrusive' retrofit systems
- Clearer procedure on fulfilling the emission limits

▪ **Chassis dynamometer setting**

- Clarification of vehicle mass with the retrofit gas system:
 - using the coast-down coefficients of original vehicle or
 - using the table values

5th GFV meeting

Outcome of the work in the GFV group resulted in:

Formal document to GRPE ECE/TRANS/WP.29/GRPE/2009/19
GRPE agenda item 6(f)

Draft amendments to Regulation No. 115 (retrofit LPG/CNG)

Revision 1.

- Issues included concerning: scope, dual-fuel, switch time petrol 60/90, emission test procedures and chassis dynamometer settings.
- Not included:
 - The NMHC issue: data should be delivered to justify the proposed CH₄ factor.
 - The NMC: correction proposed in R49 (WHDC)

6th GFV meeting

26th May 2009 in Brussels (EC offices)

Main agenda items

▪ **Progress on NMHC testing (factor)**

- Two initiatives to deliver emissions data on CH₄ (methane) and NMHC (non-methane HC) issue, both anticipated at the end of July 2009:

- Test program of IANGV/NGVA Europe and JRC

- Test program of NL(RDW) with TNO/Teleflex-GFI

▪ **Discussion on document GFV 06-02 (Poland) on different issues amending R.115**

- GFV 06-02 contains fundamental issues and editorial issues
- Some agreed editorial proposals are set in document GFV-07-02

7th GFV meeting

9th June 2009 in Geneva

Main agenda items:

- Information from the chairman on document
 - R115: ECE/TRANS/WP.29/GRPE/2009/19
 - R49 : ECE/TRANS/WP.29/GRPE/2009/14 (OBD)
- Work program for coming GFV meetings

7th GFV meeting

Outcome:

- Work program
- Agreement to use a spreadsheet identifying the issues as they relate to substantive changes, editorial or structural changes to R.115 in document GFV-06-02 and set priorities for work

TEMPLATE FOR RANKING PRIORITIES AND DEVELOP A WORK PROGRAM					
title of the amendment	type of amendment (substance, structure or editorial changes)	paragraphs concerned	current problems / potential benefits	PRIORITY 1 2 3	author
clarification of the same manufactuer definition	substance	2.2.2 till 2.2.7	unclear provisions	?	polish delegation
definition or deletion of the control strategy wording	substance	2.2.8.	unclear provisions	2-3?	polish delegation
correction of a minor error	editorial	6.1.2.4.1.4		3	GFV secretariat

The way forward

Next GFV meetings (TBC):

- 28 September 2009, Brussels (or the week before)
- (October 2009)
- The GFV group asks for a half day meeting in conjunction with the 59th GRPE session in June 2010

Draft agenda of the next GFV meeting:

- Results of the two test programs on CH₄/NMHC
- Issues as they relate to changes Regulation 115

*All the information is available on the WP29/GRPE website, under
« informal group on GFV »*
