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)

\[ THCe = K \times CH4 + NMHC \]

\[ K = \frac{1 - \eta_M}{1 - \eta_G} \]

where:

\( \eta_M \) = methane conversion efficiency of a Methane Optimized Catalyst

\( \eta_G \) = 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

11/06/2009

GRPE 58th Session
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 LGP/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/NGVAEurope 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
- 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

<table>
<thead>
<tr>
<th>title of the amendment</th>
<th>type of amendment (substance, structure or editorial changes)</th>
<th>paragraphs concerned</th>
<th>current problems / potential benefits</th>
<th>PRIORITY</th>
<th>author</th>
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<tbody>
<tr>
<td>clarification of the same manufacturer definition</td>
<td>substance</td>
<td>2.2.2 till 2.2.7</td>
<td>unclear provisions</td>
<td>?</td>
<td>polish delegation</td>
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<td>unclear provisions</td>
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<td>editorial</td>
<td>6.1.2.4.1.4</td>
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<td>GFV secretariat</td>
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GRPE 58th Session
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 »

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