Informal Group on Gaseous Fuelled Vehicles (GFV)

Report to 60th GRPE June 2010
Meetings GFV Group

- 9th GFV meeting
  - 28 April 2010 Brussels (CLEPA)

- 10th GFV meeting
  - 08 June 2010 Geneva
Agenda items GFV

- NMHC + CH4 versus THC in R.115
  - Retrofitted NG vehicles
- Dual-fuel (diesel-gas) HDV
  - Test requirements R.49 (OEM)
  - Requirement R115 (retrofit)
- Mixed-fuel (petrol-gas) LDV
- Improvements of R.115
NMHC + CH4 versus THC
Retrofitted NG vehicles

- CH4 correction factor for Retrofit NGV justified?
- 2 small evaluation studies performed:
  - TNO: 4 vehicles – JRC: 2 vehicles
  - To determine the CH4 conversion of
    - a methane optimized catalyst
    - a petrol optimized catalyst
Result test programme

- CH4 efficiency Methane Catalyst: ~ 97%
- CH4 efficiency Petrol Catalyst: ~91%

\[ THC = K \cdot MHC + NMHC \]

The factor K could be calculated as

\[ K = \frac{1 - \eta_{CNG}}{1 - \eta_{GASOLINE}} \]

- Average K factor = ~0.31
- Applicability under consideration
  - Legal aspects EC
Dual-Fuel (diesel-gas) HDV

- Growing interest for Dual-Fuel HDV
  - Workshop 30-31 March 2010 Brussels
- OEM requirements → R.49
- Retrofit provisions → R.115 and R.49
- Dual Fuel approaches for NRMM

- Proposed actions in GFV group:
  - Investigation of the different Dual-Fuel types and test-procedures needed
  - Task-force for HD-DF
    - starting with R.49
    - Parallel provisions for R.115 will be investigated.
Mixed-fuel (petrol-gas) LDV

- No emission requirements for petrol-gas (bi-fuel) vehicles who can use gas and petrol not only separately but also at the same time: “mixed fuel types”.
- First proposal for the calculation of THC and CO2 emissions.
- A special task-force will investigate technologies and test procedures.
Improvements R115

- Ongoing activity in the GFV group to update and improve the R.115 text.
- A separate proposal for clarification in R115 concerning the applicability of Euro 5 TA vehicles was tabled in the 10th GFV.

  - In existing situation will R.115 suppl. 4 (retrofit) be applicable for Euro 5 from August 2010.
  - The proposal for more clarification resulted in a fundamental discussion on retrofit versus OEM gas vehicle solutions of Euro 5 vehicles.
  - Discussion will continue in GFV group
Next GFV-meetings

- GFV meeting planned in October 2010 (no date/place confirmed yet)
- Request for a half-day meeting in conjunction with 61th GRPE.

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