



Informal Group on Gaseous Fuelled Vehicles (GFV)

Report 66th GRPE June 2013



Meetings GFV Group

- 25th GFV meeting
 - **13 and 14 March 2013 Rome**
- 26th GFV meeting
 - **23 May 2013 Brussels**
- 27th GFV meeting
 - **04 June 2013 Geneva**



GFV items

- **Heavy Duty Dual-Fuel Task Force (HDDF-TF)**
 - R.49 rev 6 suppl. 1 to 06 (Euro VI with Dual-Fuel)
 - Adopted WP.29/2012/103 + corr .1
 - Date of entry into force → 15-07-2013
 - R.85 suppl. 6 (net power with Dual-Fuel)
 - Adopted WP.29/2012/106
 - Date of entry into force → 15-07-2013



GFV items

Heavy Duty Dual-Fuel (HDDF)

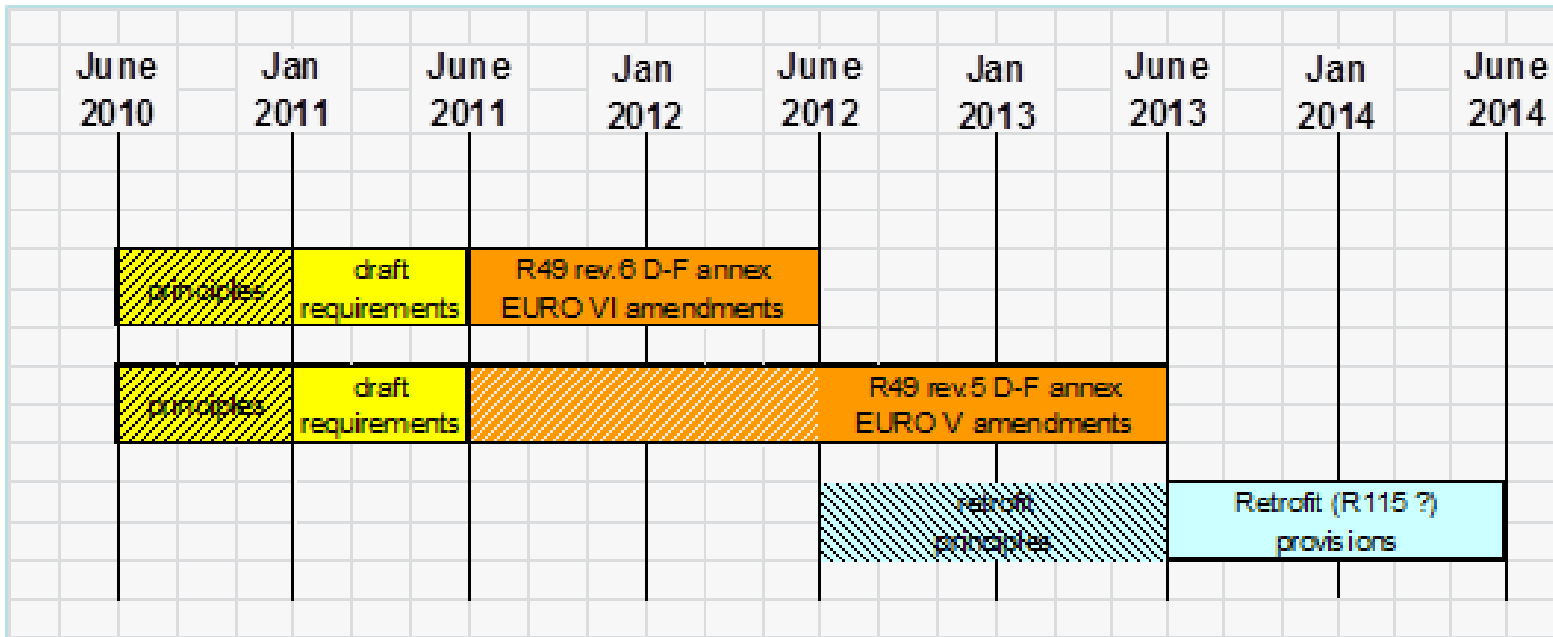
Amendments to rev.5 Regulation 49 (EURO V) with the introduction of Dual-Fuel.

- The drafting work completed
- An informal document in 65th GRPE
- Working document GRPE/2013/7 and an informal document GRPE-66-25 was agreed at the 27th GFV meeting and is now submitted to this

June 2013 GRPE session with the request for approval

- Planning to submit proposal to November 2013 WP29

GFV items





GFV items

HDDF retrofitted engines and vehicles

Regulatory options/strategies

- Earlier identify three possible regulatory approaches
 - Including in HD REC (retrofit emissions control devices)
 - Regulation 115
 - Completely new regulation



GFV items

HDDF retrofitted engines and vehicles

- Discussion in 65th GRPE on the principles of retrofit Dual-Fuel system (and in workshop 13 December 2012)
- OICA
 - In favor of a modular approach of retrofit applications for HD vehicles and engines.
 - First set clear general definitions and retrofit principles before starting any work on dual-fuel retrofit (in GFV/HDDF)
 - Consider separately TA of an engine retrofit from TA of a vehicle retrofitted with an approved engine. (like in R49)
 - Ensure a fair competition among the possible manufacturing processes and do not generate loop holes (no relaxed route).
 - Prefer the development of a new Regulation for specifying Dual-Fuel retrofit (likely less time demanding, more consistent regarding the split HDV-LDV).
- Retrofit manufacturers and some CP were not convinced at that time and prefer an amendment of R.115.



GFV items

HDDF retrofitted engines and vehicles

- Further developments in GFV meetings (25, 26 and 27th)
 - AEGPL agreed with the OICA approach to develop a complete new regulation on Heavy Duty retrofit of Dual Fuel and prepared information and documents in this direction.
 - Furthermore, was a request from stakeholders in the group to work on a modular system, with the possibility to expand at a later stage the scope to NRMM and agricultural tractors.
 - The GFV group was open for these further developments based on a modular approach but the group strongly indicated to first start with on-road (DHV) applications.
 - The HDDF-TF will resume its work on this issue as soon as possible
 - The GFV will give the directions on how to proceed for retrofit.
- Request to the GRPE to approve further work on a **new Regulation** for HDV Dual-Fuel retrofit (diesel-gas).
- Scope of R115 should, in this case, be changed to apply only to LDV retrofits.



GFV items

○ Amendments of R115 (correction to R115)

- AEGPL prepared an amendment of the formula in Annex 6A and 6B of R115, concerning the fuel consumption, to correct the *FC mean* into *FC norm* and to make it in line with Regulations R83 and R101.
- The GFV agreed with this amendment (inf. document GRPE-66-19) and ask the GRPE to approve it.

○ Improvements of R115

- Update R115
- e.g. family definition, COP and ISC issues



GFV items

- **Definitions for Gaseous Fuelled vehicles**
- The GFV stakeholders will be involved in the activity of the Vehicle Propulsion System Definition (VPSD)
- **NG/Biomethane Fuel Specification in Europe**
 - NGVA Europe informs the GFV about the standardization for a quality specification for NG & biomethane for vehicles.



GFV items

o **Task Force on Liquefied Natural Gas (LNG)**

- LNG TF received approval by GRSG in April 2013 for an amendment for LNG systems in the CNG regulation R110; and this will be followed by WP29 in November 2013.
- Information about LNG Vehicles for GRPE at the request of the GRSG (informal document GRPE-66-20 and GRPE-66-27)

o **Additional information from GRSG concerning R67 and R110 and response GFV**

- Stop-start systems and the control of the automatic valves of the gas systems.
- Fuel selection systems in conjunction with the LPG direct injection systems



Next steps GFV

o Next meetings

- GFV meeting September 2013 Brussels (TBC)
- GFV meeting in Netherlands or Spain October 2013 2013 (TBC)
- GFV request GRPE for a ½ day meeting during the 67th GRPE
- HDDF TF meetings (retrofit) scheduled by the Task Force
- LNG TF meeting is finished with thanks for the chair Paul Dijkhof and co-secretariats Jeff Seisler (NGV Global) and Jaime Del Alamo (NGVA Europe)



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