Minutes of the 5th meeting of the GFV informal group on Gaseous Fuel Vehicles
Held 4-5 March 2009 in Brussels

The GRPE informal group on Gaseous Fuelled Vehicles (GFV) held its fifth meeting in Brussels, on 4-5 March 2009 under the chairmanship of Mr. André Rijnders (Netherlands).All working papers of the informal group are publicly available at the GRPE website at: http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/gfv05.html

I. WELCOME

1. The Chairman opened the fifth informal group meeting by thanking the European Commission for offering the facilities and welcomed all participants.

2. The Chairman recalled that the aim of the meeting is to submit a consolidated formal amendment before the 20th March 2009 (deadline for formal documents to GRPE).

II. REVIEW AND ADOPTION OF THE AGENDA

Documentation: Working paper GFV-05-01.

3. The Secretary, Mr. Duvielguerbigny, introduced a revised agenda (GFV-05-01), which was adopted by the informal group.

III. CHANGE OF MEETING MINUTES THIRD MEETING

Documentation: Working paper GFV-03-02-Rev.1, GFV-03-02-Rev.2, GFV-04-15-Rev.1 and GFV-04-15.

4. Mr. Rijnders indicates that there is still a mistake in the minutes of third meeting of the GFV (GFV-03-02-Rev.1) related to the effective limit of NMHC. This mistake has not been corrected properly via the paragraph 4 of the minutes of fourth meeting (GFV-04-15).

5. Mr. Asman asks for additional review time before adopting the final changes. Mr. Rijnders will provide an additional week to make the final changes in previous meeting minutes.

6. The GFV secretary will reissue the minutes of the third and fourth meetings accordingly (Working paper GFV-03-02-Rev.2 and GFV-04-15-Rev.1).

IV. FEED BACK FROM THE GRPE 57TH MEETING (16-17 JANUARY 2009)

7. The chairman recalled the main elements of the last GRPE 57th Meeting.

V. BRIEF PRESENTATIONS

8. No new work items were presented at this time.

VI. NON-METHANE HYDROCARBON

Documentation: Working paper GFV-05-02, GFV-05-03 and GFV-05-04.

9. Mr. Rijnders presented a new draft Amendment with two options for HC emissions limit values (Working paper GFV-05-02).

10. Mr. Radzimirski notes that there is no single clear methodology/test procedure to measure NMHC. A measurement specification is required. For Euro 4 vehicles the measurement is of HC (understood at THC). Euro 4 methodology has some different versions; Euro 5 is more specific.

11. Mr Bassi presented the NGVA Europe option for discussion (Working paper GFV-05-02).

12. The informal group agreed upon a merging of Mr.Rijnders and the NGV Industry languages on par. 6.1.2.3., 6.1.2.5.1.1., 6.1.2.5.1.3., 6.1.2.5.1.4.2., 6.1.2.6., 6.1.3.3., 6.2.2.3. 6.2.2.5.1.1, 6.2.2.5.1.3, 6.2.2.5.1.3.1, 6.2.2.5.1.3.2., 6.2.2.5.1.4.2., 6.2.2.6.

13. Mr. Rijnders indicates that the choice of the factor used for the calculation could be questioned. May be it is worth collecting more data on efficiency of methane catalysts, emissions data, etc. to justify the factor agreed upon.

14. Mr. Radzimirski indicates inconsistencies in the test procedures for NMHC between Regulation 89, Regulation 49, EC 692/2008 and the ISO standard. R.49 uses propane as the basis to calibrate NMHC and the others use methane, as well as different formulae to make the calibrations. These need to be made consistent. Mr. Rijnders suggests that the possible inconsistencies in these regulations and procedures, while very important and need to be made consistent, is a separate issue and needs to be checked further. If needed an additional amendment might be provided by Mr. Radzimirski.

15. *Following the meeting, the expert from the European Commission, Petter Asman, sent the Working paper GFV-05-04, regarding the need for data related to the proposed NMHC amendments. Since no data was provided to support the proposed concept associated with the NMHC emission values, the language agreed upon has been removed from the document submitted to the GRPE. The NMHC proposal will be reconsidered once the NGV emissions data is received and evaluated.*

VII. CHANGES IN R115 FOR LPG (AND CNG)

Documentation: Working paper GFV-05-02, GFV-05-05, GFV-04-02, GFV-04-03, GFV-04-04, GFV-04-05, GFV-04-10, and GFV-02-04.

Exclusions to conversions (R.115; par. 1.4.)

16. Mr. Duvielguerbigny from AEGPL begins the discussion on the Scope of R115 and proposed to turn the exceptions into a positive description of the application field, including an explicit reference to EC Regulations and Directives.

17. Mr. Rijnders prefers to specify the group of vehicle exceptions to the Scope (Working paper GFV-05-02).

18. The informal group agreed on the proposal from the chairman; that is to say the exclusion list.

Functioning on petrol: Maximum time allowed (R.115; par. 6.1.2.5.1.4.1.)

19. AEGPL presented the proposal introducing a switch over time period for Euro 3-4 and post Euro 4 vehicles.

20. The informal Group agreed upon the proposal (GFV-05-05)

RESUMING OF THE MEETING ON 5th MARCH 2009.

Emissions test procedure: Non-intrusivity definition.

21. AEGPL proposes to introduce for retrofit systems a more precise definition to specify what is considered an 'intrusive' and 'non-intrusive' retrofit system (GFV-04-03 and GFV-04-10). The intention is to demonstrate that the conversions do not negatively affect, for example: the fluid dynamic properties of the air/petrol feeding system; the electrical/electronic characteristics of the air/petrol feeding system; that the petrol system of the parent vehicle is almost the same without the LPG retrofit system.

22. Mr. Radzimirski proposed to delete the definition of 'intrusive systems' in the name of simplicity, lower cost, and suggested that the AEGPL proposed clarification on the test procedure that potentially would be time consuming.

23. The informal group agreed to delete the differences between non-intrusive and intrusive systems. The requirements for intrusive and non-intrusive should be the same, based on performance requirements and not on prescriptive requirements. AEGPL agreed to undertake the drafting of the amendment for both light duty vehicles and heavy duty vehicles and for LPG and CNG. (GFV-05-05).

Chassis Dynamometer Setting (R.115; par. 6.1.2.5.1.2.)

24. The expert from AEGPL presented the documents GFV-04-04 and GFV-04-10. For both CNG and LPG, the mass of retrofitted vehicles is increased with new fuel tanks installed. With tank completely filled the additional weight is 60kg for LPG and 160 kg for CNG[1]. In the absence of manufacturer's data, gas conversion system designers have to use the table values from R83 and Commission Directive 96/44/EC. For passenger cars, in particular, the use of those values gives a higher load compared to the use of coast down data from car manufacturers. In addition, taking into consideration the weight/mass of the conversion system, the vehicle now qualifies at the next higher reference mass class (although its aerodynamics is unaffected). The added weight of the gas retrofit system would likely change the pollutant and CO2 emissions in the chassis dynamometer test.

25. The AEGPL presented several solutions in relation with the above mentioned issue.

26. The informal group agreed upon the following solutions according to the situation:
    - In case coast-down coefficients of the original vehicle are used[2], the coast-down data from the manufacturer before retrofit must be used, with f0 corrected, together with corresponding ECE inertia + gas retrofit system weight;
    - If not, use of ECE table values before retrofit with f0 corrected; together with corresponding ECE inertia + gas retrofit system weight.

27. The expert from AEGPL will check the agreed language with R83 (GFV-05-05).

Newt items related to correction of errors, fixing of unclear provisions etc:

Clarification of the use of "manuals" wording (R.115; Par. 2.1.1. and 2.1.2.)

28. The group agreed on the AEGPL proposal (GFV-05-05).

Introduction of a "Safety device" definition (R.115; new Par. 2.x.x.)

29. Replying to the comment from Mr. Radzimirski on the absence of Safety Device definition, the Mr Piccolo strongly recommends keeping the R67 and R110 wording.

30. Mr. Rijnders indicates that further consideration is needed on this topic as "safety device" is written on the plate of the retrofit system. More information (from component manufacturers) is needed before rewriting the definitions and the information present on the plate.

Introduction of an "original vehicle/engine" definition (R.115; new Par. 2.x.x.)

31. The Informal group agreed that there is a need to define original vehicle/engine.

[1] Mr. Mariani stated that the OEMs might be adding as much as 160kg due to additional stone shields, brackets, etc., however, for retrofit the added weight more appropriately should be about 100kg.

[2] It is worth recalling that Euro 5-6 regulation and Commission regulation 692/2008 provides access to vehicle information for gas conversion system designers.

32. Based on the wording proposed by Mr Radzimirski, the experts will seek agreement on this definition via email before the 20th March deadline.

Introduction of a "Gas injection device" definition (R.115; new Par. 2.x.x.)

33. The Informal group agreed that there is a need to define "gas injection device" since it is used several times in the regulation.

34. Mr Piccolo stresses that consistency with R67 and R110 should be kept.

35. The experts worked on this new definition but for CNG more checks are needed.

Clarification of the "type" meaning and 'same manufacturer' definition (R.115; Par.2.2.)

36. Mr. Piccolo agreed that "type" has two different meanings in this paragraph. Sometimes 'type' has to be understood as administrative type and sometimes as technology type. Moreover, the "same manufacturer" definition is too vague.

37. Mr Piccolo will try to work on a new wording.

Clarification of the Vehicle Family (R.115; Par. 2.5.1. and 2.5.1.1.)

38. The Informal Group proposed an amended text of par.2.5.1.

39. Starting from the proposal from Mr Radzimirski (GFV-02-04); Mr Piccolo will try to propose a revised par.2.5.1.1. and new par. 2.5.1.x. (GFV-05-05).

VIII. OTHER ITEMS

40. No other items were discussed.

IX. NEXT MEETINGS

41. Mr. Rijnders concludes: A new version of the document with corrections will be provided to the GFV members by 12th March. The deadline for the written comments on the existing text is 18th March. Mr. Rijnders will spend a day with the AEGPL co-secretariat to rectify and respond to the comments. This document will be distributed just before or on Friday morning, 20th March, at latest, for final comments from the group. Later on Friday 20th March the final document will be sent to the Secretariat of the GRPE for consideration in the June session of GRPE.

42. The next meeting of the GFV was scheduled in Brussels for 8th April 2009 from 10.00-17.00 to deal with slight amendments that could be sent as informal documents to the next

GRPE session. *However, after the meeting it was determined by the Chairman to change the date to be closer to the June GRPE. Separate communications will be provided regarding this change, however, one possibility would be Wednesday, 20th May 2009 in Brussels.*

X. CLOSING OF THE SESSION

43. The chairman thanked all the experts for their active participation and asked the group for their continued involvement in order to complete a final document by the 20th March deadline.

Annex 1

List of working papers (GFV-05-…) of the 5th Informal group meeting on Gaseous Fuelled Vehicles

No.	Transmitted by	Agenda item	Title
01	Secretariat	II	Agenda for the 5th meeting of the GRPE informal group on Gaseous Fuelled Vehicles (GFV)
02	The Netherlands	VI & VII	Proposed amendments to R115 scope and introduction of NMHC requirements
03	NGVEurope	VI	Proposed amendments for the introduction of NMHC requirements
04	European commission	VI & VII	Comments to the NMHC proposal and switch overtime proposed provision
05	Secretariat	VI & VII	Consolidated version of the proposed amendments sent to GRPE

Annex 2

Participants 4-5 March 2009

- André Rijnders, Chairman (NL. RDW)
- Jeff Seisler. Co-secretariat (IANGV/Clean Fuels Consulting)
- Arnaud Duvielguerbigny, Co-secretariat (AEGPL)
- Petter Asman (DG Enterprise, European Commission)
- Jose-Pedro Laguna-Gomez (ES, Ministry of Defense)
- Stanislaw Radzimirski, (PL. MTI)
- Aldo Bassi (ISO)
- Henk Dekker (TNO)
- Jean-Francois Renaudin (Volvo) (4th March)
- Flavio Mariani (ENI)
- Salvatore Piccolo (5th March)
- Antonio Erario (IT, MIT) (4th March and 5th March until paragraph 24)
- John May (AECC)