

MEETING MINUTES
28th Meeting of the Informal Group on Gaseous Fuelled Vehicles (GFV)
12th September 2013
DG Enterprise Brey Building, Brussels
Room 5A
10.00-17.30

I. Welcome and introductions

1. Mr. Rijnders welcomed the GFV.

II. Agenda for today (changes/additions)

2. Mr. Rijnders asked if there are changes to the agenda. There are none. The early departure of Mr. Renaudin from today's meeting was noted, to ensure that issues of importance to ACEA are considered in a timely fashion.

III. Adoption of minutes of the 27th GFV on 4th June 2013 (GFV-27-05)

3. Mr. Rijnders indicated that the minutes of the 27th GFV meeting represent a comprehensive discussion of the meeting. There are no comments and the minutes are adopted.
4. Minutes of the 26th meeting of the GFV (23rd May in Brussels) were provided to 27th GFV with very short notice, so Mr. Rijnders asked to 're-approve' the minutes of that meeting. These minutes were approved without comments as well.

IV. Update on dual-fuel retrofit regulation progress GFV 28-02e and GFV 28-03e) Alberto Castagnini, (AEB)

5. Mr. Castagnini began his presentation of document GFV 28-02 (PowerPoint format). He outlined the state of play of the current regulatory situation of the R.49 amendments for Euro V and Euro VI. The regulations apply to both CNG and LPG
6. Mr. Renaudin indicated that he is unable to discuss the substance of the materials being presented because they were put on the website only the night before the meeting. He also indicated that he cannot speak on substantive elements of the proposal. He can give personal comments on the text but nothing official from ACEA/OICA. He said that there are sensitive political issues that need to be resolved in principle before technical concepts and details can be discussed or resolved. He also indicated there are some good elements in the existing text that he has reviewed preliminarily, however, his sponsoring organizations have not been able to provide feedback or instructions to him but certainly we can brainstorm about the content of Mr. Castagnini's proposal. Mr. Renaudin expected to be able to craft a first text together with other stakeholders and then start the real drafting work. He felt at this late stage elements of text presented today create a precedent to which ACEA has to react. Mr. Renaudin indicated formally that he (nor OICA) want to be in a negative position reacting to a text but really want to contribute to a text from the very beginning. Mr. Renaudin will not discuss the substance of text now.
7. Mr. Castagnini responded that the text is a work in progress and represents only a preliminary view of the proposed amendments and includes the agreed principles discussed since 25th GFV - Rome, March 2013.

8. Mr. Rijnders recognized the situation and the late timing of the documents on the website. Mr. Rijnders felt it was fair to have a free and open discussion of the important issues listed in the presentation from AEGPL in this GFV session today.
9. There was a general discussion among the participants about Mr. Renaudin's concerns, whether a text can be discussed or only principles can be discussed. Mr. Martinez (European Commission) suggested that some of the principles already have been discussed and it is reasonable to discuss aspects of the text. Mr. Del Alamo (NGVA Europe) said that the text was produced in order to speed up the process. Mr. Seisler (NGV Global) supported this comment indicating that the text is a (English term) 'straw man' text for discussion only. Mr. Piccolo (AEGPL) added that there was no intention to by-pass any of the stakeholders by preparing a preliminary text. He indicated that the text is an opportunity to look at what is in the presentation of AEGPL/Mr. Castagnini. He said that the current drafting effort was an exercise to support brainstorming.
10. Mr. Rijnders concluded that: 1) there still are some principles to be discussed, for example if the regulation would apply to non-road vehicles; and 2) there is a draft text and that the group should look at what can be used that will contribute to a common view and asked Mr. Castagnini to continue his presentation
11. Mr. Castagnini continued his presentation. He clarified that the text is a brainstorming exercise that represents a lot of work in order to get the drafting process started. It was agreed in the last GFV meeting to have the structure of a text for a new regulation. Many elements not presented also can be added in subsequent meetings of stakeholders. Mr. Castagnini recognized that they would want to consider approving a retrofit system installed on an existing vehicle as well as a retrofit of an engine that has been prepared and approved as a 'retrofitted dual fuel engine'.
12. Further general discussion: Mr. Renaudin asked (Slide 3 of the presentation) if there are changes in the OEM engine that are included in the dual-fuel system. He referred in the presentation to the point 1) approval of a HDDF retrofit system versus point 2) approval of a retrofitted HDDF engine as a separate technical unit (as requested by OICA). There is a discussion amongst participants. Mr. Dekker suggested that there might be two levels of changes; one might be a change of components versus operational changes. Mr Piccolo proposed to focus only on changes (either material or operational) that can have an impact on diesel-mode, that can be regulated via performance tests aimed at ensuring that emissions in diesel mode remains compliant with the original emission stage. Mr. Renaudin made a distinction between the retrofit of an engine approved for dual-fuel operation versus an engine that is not been prepared (or type approved) for dual-fuel operation. Changes in the injection system, for example, might have dramatic consequences on the diesel operation. He felt that the type approval possibilities must be clarified and then we could look at the retrofit applications available to comply with the approval procedure and how the retrofit system will be added to the existing engine.
13. Mr. Martinez indicated that care must be taken that a retrofit engine/vehicle is not used to circumvent existing regulations (i.e. R.67) on a 'new' engine/vehicle, which is in agreement with comments of Mr. Renaudin. Mr. Seisler added that, in principle, the regulations must not be constructed so that the dual-fuel system suppliers are confronted with barriers so high that they cannot remain in business, still assuming that the converted vehicles are in full compliance with the emissions and other regulations. A principle is discussed (questioned) if the

retrofitter becomes responsible for in-service conformity once the vehicle has been converted.

14. Mr. Castagnini (slide 4) said that two annexes to the regulation are planned: one for the retrofit system itself (currently drafted text) and one for the retrofitted engine (to be drafted later).
15. There is further discussion of a legal framework as to which company is required to be responsible for the vehicle once the engine is converted. Mr. Renaudin is concerned that the rules at the Euro VI level must be discussed. But it may make sense to develop the rules and legal requirements for Euro IV and V first, and then progress to Euro VI. There is agreement on this principle. Mr. Martinez suggested that the D-F retrofit topic be raised at an upcoming Motor Vehicle Emissions Group (MVEG) meeting. Given that the exclusion of vehicles from in-use conformity vehicle sampling refers to any type of major modifications, Mr. Piccolo asked to deal with this issue for any type of after-market modifications, thus, with all the representatives of this industry in the Motor Vehicle Emissions Group (MVEG) within the European Commission.
16. Issue of what D-F engine type would the retrofits be applicable. After discussion the general feeling is that the D-F retrofit would be applicable to Type B engines (not specifying categories 1,2 or 3).
17. Engine family: emissions tests shall be carried out on one or more engines (parent engine) of an engine family sharing pre-determined criteria. There is a broad discussion about type approval and being able to find an engine that already complies with the emission limits. But the converter will have to ensure that the converted vehicle is type approved. This may be a problem particularly for an older or out-of-date engine. This is a difficult issue to resolve at this time; and one that could continue to plague conversion system suppliers. The issue is left open for future consideration.
18. How to proceed with the development of the new regulation? Should the document structure be proposed first and then move to develop the text, or can they be done in parallel, in the first instance? The first concept is that the text will be in alignment to the UNECE regulatory style (as opposed to considering at first the European regulations). Mr. Rijnders suggested to Mr. Renaudin that he propose a structure, giving consideration to the work already provided by AEGPL (GFV-28-03). Mr. Castagnini added that the text they prepared reflects the content of his presentation today. It would be desirable to use or consider which text might be appropriate for future use. But the forward progress will rely on a first draft of a structure, considering some of the basic principles already discussed (and for future discussion), with ACEA/OICA suggesting appropriate text that also might take advantage of some of the AEGPL work that already has been done. At the next meeting of the HDDF TF we will start the writing of the new document, possibly considering useful elements of what already has been produced.

V. Update on European Commission 'potpourri amendments' progress.

19. Mr. Martinez. The inter-service consultation has begun and the amendment for THC (total hydrocarbon and optional methane-equivalent limit values) is part of the package. The normal process is on-going and it is not known if there will be any concerns expressed by member states about the methane proposal. Because the amendment must go through the Council and Parliament (co-decision), probably at the beginning of next year, then if there is disagreement it

could go for a second reading. Depending upon the 'route' of the regulation it could be another 1 ½ to 2 years in completion.

VI. Updating Regulation 115

20. Mr. Rijnders has mentioned previously the possibility of updating R.115. Now that there will be new dual-fuel regulations added the scope of R.115 may need to be specified as pertaining to light duty vehicles while heavy duty applications in R.115 might have to be removed (in light of a new dual-fuel regulation that would incorporate heavy duty vehicles). It may make better sense to postpone the re-evaluation of R.115 until after the new retrofit document has been prepared.
21. There is general agreement by the group that there are other priorities for the various members and it is not so urgent that this should be tackled now.

VII. Update on other UN regulatory activities related to safety

22. *R.110 proposed amendment (CLEPA) 'Valve Control Stop-Start.* (GFV 28-04) and (GFV 28-05) (No discussion for lack of representation. See the GRSG document referenced as GFV 28-04)
23. *Brief report on LNG-TF amendment on Automatic Valve* (GFV 28-06)
Mr. Seisler explained that there was a question from the Dutch delegation about the use of an automatic valve mounted on an LNG tank, specified in the amendments to R.110. After much discussion among the LNG Task Force principals it was agreed to provide an amendment to the LNG regulations specifying the need for an automatic shutoff valve on each LNG tank, directly at the fuel outlet so that there is no chance of LNG being captured in any of the piping network outside of the fuel tank. Adoption of this resolution should be concluded at the October 2013 GRPE and will move forward to the WP 29 as part of the proposed and approved amendments.
24. *Update on UN WP15 (Carriage of Dangerous Goods) and ADR regulatory issues regarding CNG and LNG safety on ADR-regulated trucks.* Mr. Seisler explained a new situation with the European Agreement Concerning the International Carriage of Dangerous Goods by Road Vehicles (ADR) regulations that relate to over-the-road carriage of dangerous goods. There is a conflict in the regulation that currently prohibits gaseous fuels as a propulsion fuel on ADR-certified trucks. On the one hand, the ADR provides an exemption related to the carriage of gases so long as the gas is used for propulsion or operating on-board equipment (Annex A: 1.1.3.2) The provisions in ADR do not apply to the carriage of gases contained in the tanks of a vehicle, performing a transport operation and destined for its propulsion or for the operation of any of its equipment (e.g. refrigerating equipment).

On the other hand, another provision in the regulation specifies that any fuel leaked from the fuel tank should drain to the ground. (Methane (CNG/LNG) is lighter than air and dissipates upward into the atmosphere. LPG fumes are heavier than air but also dissipate relatively quickly.) Annex A: 9.2.4.3 **Fuel tanks** indicates that: The fuel tanks for supplying the engine of the vehicle shall meet the following requirements: (section a) In the event of **any leakage, the fuel shall drain to the ground** without coming into contact with hot parts of the vehicle or the load;

The chairman of the LNG Task Force, Paul Dijkhof (KIWA) working with, in particular, NGV Global, will organize a series of safety presentations to the WP 15 task force associated with these ADR vehicles on 22-23 October in Delft. If the WP15 can be made to feel comfortable with the safety of LNG, in particular related to diesel fuel, then they will likely create an amendment the ADR rules that will eliminate the regulatory contradiction in order to allow ADR-registered gaseous fuel vehicles on the road.

VIII. Other Items. (Presentation NGVA Europe on CEN work on gas quality.)

25. Update on biofuel quality (NGVA Europe) (GFV 28-07). Mr. Del Alamo updated the group on the current activities of CEN TC408, to fulfil the mandate of the European Commission to create a regulation covering the use of bio-methane as a vehicular fuel as well injecting bio-methane into the pipeline network. The scope thereafter also was broadened to include fossil natural gas as well (as a vehicular fuel).
26. One of the challenges is that there are many actors with specific and different (sometimes conflicting) concerns: pipeline industry; local gas distribution companies; and vehicle manufacturers.
27. Other main points include: water content/dew point (national limits at different temperatures will be incorporated by individual countries); hydrogen sulphide and oxygen limits (related to potential corrosion); hydrogen blend and effects on embrittlement and other aspects; siloxanes from landfill gas (for which there is no suitable measurement technique or test methods to determine its content); calorific value and methane number; and sulphur, one of the biggest remaining problems due to the gas industry injecting mercaptan as an odorant. (Odorization of gas is a nationally legislated issue so this complicates the opportunity to introduce a new and different odorant.)
28. A new report is being developed for consideration by the national participants in the CEN process. In one year there could be some agreement, depending on the reaction of the national standards organizations. If there is no agreement then resolution on these complex issues will take longer.

IX. Planning upcoming Meetings of GFV & Task Forces

29. Next meeting will be in the Netherlands on half day Tuesday, 3rd December devoted to HDDF retrofit followed by a full day meeting on Wednesday, 4th December of the GFV, in either Delft or Den Hague.
30. A meeting of HDDF is being planned for one of the days of 28, 29, 30th January 2014, likely in Brussels. Mr. Martinez will see if a room is available at DG Enterprise.

X. Closing

Mr. Rijnders closed the meeting, wishing everyone safe travel to their destinations.

Attendees

André Rijnders (Chairman) (RDW-NL)
Jean-Francois Renaudin (Volvo/ACEA)
Salvatore Piccolo (AEGPL)
Jeff Seisler (NGV Global/ Clean Fuels Consulting)

Francesco Cagnoloti (Landi Renzo)
Alberto Castagnini (AEB)
Jaime Del Alamo (NGVAE)
Ivan Pollak (KTI-Hungary)
Gyorgy Szabados (KTI-Hungary)
Henk Dekker (TNO-NL)
Walter Bleuler (Federal Ministry Transport-Germany)
Bernardo Martinez (European Commission, DG Enterprise)

Attending by telephone:

Mr. Visput (ARAI)
Harry Schuele (Continental)
Joseph Gillingwater (Hardstaff)
Mark Matchett (Hardstaff)