



**IANGV, NGVA Europe CALL FOR ASSISTANCE
NGV STAKEHOLDERS:
OEMs and CONVERSION SYSTEM DEVELOPERS AND INSTALLERS
*April 2009***

**FOR YOUR URGENT ATTENTION – THE VIABILITY OF YOUR NATURAL GAS VEHICLE
BUSINESS COULD BE AT RISK!**

The International Association for Natural Gas Vehicles (IANGV) and NGVA Europe are participating in efforts to change the United Nations regulation 115 to exclude the total hydrocarbon limit value (THC) or, alternatively provide a methane emissions limit which is reasonable considering both costs and environmental aspects. This action ultimately is tied into further actions that would be aimed at changing European Union emission regulations (Euro 5/6), which today has both a THC and NMHC limit values.

Unless an NMHC is recognized without the imposition of a separate THC limit value, the result of this action is that aftermarket (retrofit) conversions of petroleum vehicles, which represent at least 90% of the 9 million NGVs worldwide, functionally can be prevented from entering the market or be excluded from various national fiscal incentives established for so-called clean cars.

We currently need help from NGV stakeholders (globally but European particularly), both OEMs and conversion system developers and installers, to provide emissions data for their NGVs, both conversions and OEMs, specifying the appropriate emissions test cycle used and if a methane catalyst was used. This data can be provided confidentially to the IANGV but we would like to collect and distribute the unattributed data (i.e. to maintain confidentiality of the company and vehicles) to the European Commission, which is key to the success of this attempt to make current emissions limit values more favorable to the market development of NGVs.

The Issue

Though natural gas vehicles (NGVs) are able to reduce ozone-forming, reactive hydrocarbon emissions by 85% over a typical, current generation petrol vehicle, the total hydrocarbon (THC) emissions of an NGV *tend* to be higher than the emissions limit values in European Emission Directives, also which are mirrored in United Nations Regulations (UNECE).

This is due to the methane (CH₄) emissions which generally constitute about 90% of the THC emissions of a NGV. Methane is not reactive, hence normal catalysts are less effective in treating its molecule.

Though methane is a recognized global warming gas, current generation NGVs reduce global warming emissions over current generation gasoline cars by 20-25%. In the scope of global methane emissions from natural sources and manmade (anthropogenic) sources, the methane output of even millions of NGVs on the road is in the one thousandth of a percentage increase of the overall worldwide output of methane. Thus, the environmental damage of NGVs methane (or CO₂) emissions is far outweighed by their emissions benefits.

The new Euro 5/6 regulations include a non-methane hydrocarbon (NMHC) emissions limit value of 68 mg/km, however, the THC limit value of 100 mg/km was maintained from the Euro 4 limit which, practically, negates the purpose of an NMHC limit value for NGVs. These limit values also will serve as the basis of third countries use of UNECE regulations.

It is common knowledge that the methane conversion efficiency of present day three way catalysts is not as good as expected or desired. To meet the Euro-4, 5 or 6 THC limits without excessive petrol running time (for bi-fuel vehicles), OEM NGV-manufacturers have already adopted sophisticated and costly solutions. Meeting the THC limit imposes significant additional costs that do not translate into a net environmental benefit. Expensive methane catalysts have been added to factory-built NGVs (cost ranges from manufacturers are in the €200-€400 Euro range) but this increases the cost of the vehicle at a time when the industry is trying to make NGVs more economically attractive for customers. In either case, factory made or aftermarket retrofit, the marginal improvement in methane emissions is so infinitesimal that the requirement to add a methane catalyst on a vehicle to meet the THC standard defies scientific and policy logic.

Since EU legislation has a strong and direct impact on UN regulations, Contracting Parties to UN treaties would be subject to the same requirements. Other countries use UN regulations as a model for their national regulations. Hence, a regulatory solution is required that can both meet the needs of environmental control yet does not force out of business the bulk of the suppliers of the world's NGVs.

As for the impacts upon OEMs, a change in EU regulations could be a favorable move for their NGV technology programs. It may be possible to reduce the cost of methane catalysts and it would harmonize the regulations with those in the United States (including California) as well as Japan. With changes in both Regulation 115 and adjustment of the Euro 5/6 to both use NMHC only, there should be no competitive advantage or disadvantage to either OEMs or system retrofitters.

Progress of the Amendment: Data Required

An amendment for adopting an NMHC in Regulation 115 was proposed by the Netherlands in January 2009. This then was modified and improved due to further input from NGV stakeholders. (See below, references to GFV-04-06 and later versions GFV-05-02 and GFV-05-03. But in the January meeting of the Informal Group on Gaseous Fuelled Vehicles (GFV), the European Commission, which previously has questioned the abandonment of the THC, requested emissions data from NGV conversion system companies and OEMs in order to determine if the NGV industry's arguments and proposed changes of the emission limit values could be substantiated. Without such data available by this past March, when the newly adapted NMHC provisions in the proposed R115 amendments were sent back to the United Nations for consideration in June 2009, the Commission requested that the NMHC amended language be removed until data is provided to substantiate the industry's arguments and proposed limit values.

We now need emission testing data from NGV stakeholders to substantiate the proposed amendments to Regulation 115 and, later downstream, to support further changes in Euro 5/6 to enforce an NMHC emissions regulation instead of a THC limit value. It would be most useful to have this **by early May** so that it might be possible to forward an informal document to the UN for immediate debate and in the hopes of saving time.

Documents are Available

The IANGV documents submitted to the United Nations are available by visiting:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/gfv04.html> .

The key documents are:

- GFV-04-06: Proposed amendment to NMHC provisions in Regulation 115 (original)
- GFV-04-07: Discussion draft for NMHC
- GFV-04-08: Powerpoint presentation of the discussion draft, presented to the Informal Group Gaseous Fuelled Vehicles (January 2009).

And, for the most recent proposals to adapt the NMHC please visit
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/gfv05.html> and download documents GFV-05-02 (Netherlands re-draft) and GFV-05-03 (NGVA Europe proposal), which have been crafted into the last version of the proposed NMHC changes.

Data should be sent as soon as possible to:

Brett Jarman, Executive Director, IANGV: bjarman@iangv.org (ph +61 2 6608 0011)

IANGV will collate the data and will remove commercial references if you request, prior to submitting it to the EC.

For direct questions or concerns, you also may call or Martin Seifert +41 44 825 5700, Flavio Mariani +39 02 520 41957 or Brett Jarman +61 2 6608 0011.