



Informal document No. **WP.29-132-8**
(132nd WP.29, 9-12 March 2004
agenda item 9.3.)

HARMONIZATION OF GASEOUS FUEL STANDARDS

As the gaseous fuels industries and technologies have matured over the past two decades and more, many standards have been developed to support the overall commercialization effort. Standards have been developed to ensure minimum safety requirements for equipment, testing, installation and usage. The standards have been developed by organisations that span different operating levels worldwide, be they international, national or those representing specific industry stakeholders. These include: at the *international level* the United Nations (which creates enforceable regulations based upon standards), and the International Standards Organisation (ISO); *regional standards institutions* such as the Committee of European Normalisation (CEN); *individual countries* where gaseous fuels have experienced active commercialization (Italy, United States, etc.); and *organisations specializing in equipment and components*, such as the Society for Automotive Engineers and the Compressed Gas Association in the United States, and others. Though there are numbers of similarities and even compatibility in the various standards, there remains a complex system of confusing and diverse technical requirements specifying natural gas vehicle (NGV) and hydrogen (H₂) equipment development, performance requirements, and testing that present a major challenge to the international market expansion of these technologies. The more diverse these standards and regulations are, the more expensive and challenging a process it is to sell different equipment worldwide. Ultimately this results in higher prices for equipment suppliers and consumers and takes longer for products to be altered for different markets.

Contributing to the challenge is the fact that private sector, commercial companies cannot always afford to send experts to all the meetings that occur internationally. There is a need, therefore, to have international institutional and national government support to foster the worldwide harmonization of gaseous fuel standards.

The Group of Experts on Pollution and Energy (GRPE) within the United Nations has taken a leadership role in 2003 to begin a process to harmonize hydrogen vehicle standards. The Committee on European Normalisation (CEN) has created in 2003 a new Technical Board (BT) 149 Liquid and Alternative Gaseous Fuels to begin looking at harmonization of new fuels standards in Europe. The International Standards Organisation continues its work (TC22/SC25) to harmonize its natural gas vehicle standards with the United Nations Regulation 110. ISO also has created a joint hydrogen working group (ISO 15869) to harmonize hydrogen vehicle standards. Even in the effort to harmonize standards there seems to be overlap and even some confusion as to "who will harmonize the harmonizers?" One organisation should take responsibility for the

leadership and, working in consortium with other leading standards *stakeholders*, develop an overall process that will work on a global basis.

The worldwide harmonization strategy likely would involve a number of important steps, such as (not necessarily in the order mentioned):

- Bringing representatives of the various standards organisations and groups together to create a worldwide harmonization strategy. This might best be done through a Worldwide Conference on the Harmonization of Gaseous Fuels Standards (*gaseous fuels* due to the overlap of existing and newly developing standards, also considering the links to hydrogen and hydrogen vehicles). The goal would be to create the first step action plan.
- Identify the structure of the standards groups internationally and at the different country levels and industry levels;
- Compare the substance of the standards to identify what exists and what standards remain to be completed;
- Attempt to assign institutional responsibility for specific harmonization actions;
- Identify the experts required to do the work, forming subgroups by topic area;
- Develop a tentative schedule for various meetings of subgroups working on specific tasks.
- Fund the experts to participate in a regular process to work toward international harmonization.

Government involvement and financial support is an essential aspect to the success and long-term sustainability of this process. Consideration also must be given to the financial implications of equipment suppliers who will be involved in this process, to develop techniques (electronic and ‘virtual’ communications, for example) that can save time and money but still facilitate the process that can streamline the market entry of new fuel technologies on a global basis.

This briefing paper was prepared jointly by the European Natural Gas Vehicle Association (ENGVA) and the International Association for NGVs (IANGV) as an informal document, accompanied by a Powerpoint presentation for the United Nations World Forum for Harmonization of Vehicle Regulations (Working Party 29). For more information, please contact ENGVA at: 813A Kruisweg, Hoofddorp, 2132NG The Netherlands, 31.23.554.3050 or info@engva.nl , www.engva.org or the IANGV at iangv@iangv.org, www.iangv.org