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**CONSIDERATION OF AMENDMENTS TO THE CONVENTION ON
ROAD SIGNS AND SIGNALS, 1968**

Note by the secretariat

1. At its fifty-seventh session the Working Party on Road Traffic Safety (WP.1) requested the secretariat to prepare an amendment proposal concerning the inclusion of the signing for compressed natural gas (CNG) and liquefied petroleum gas (LPG) into the Convention on Road Signs and Signals, 1968 (as proposed in document ECE/TRANS/WP.1/2008/9/Rev.1).
2. WP.1 also requested the secretariat to invite member countries to submit additional amendment proposals to the Convention on Road Signs and Signals, 1968, and have them as a package to be submitted for consideration at its fifty-eighth session (ECE/TRANS/WP.1/122, paragraphs 49-50).
3. The present document is submitted by the secretariat, based on proposals received from Norway, Spain and the International Association for Natural Gas Vehicles (IANGV) and the European Liquefied Petroleum Gas Association (ELPGA).

I. Proposals of Norway and IANGV/ELPGA

A. Background

4. Compressed natural gas (CNG) and liquefied petroleum gas (LPG), as economic, environmental fuel alternatives in the transport sector are gaining commercial acceptance in a growing number of countries around the world. The natural gas vehicle (NGV) industry estimates current growth rates to yield 65 million users of alternative fuels by the year 2020, with a vast potential for more widespread use.

5. In 2005, WP.1 having already recognized this potential, decided to adopt and include a signage design for both CNG and LPG fuelling stations in the Consolidated Resolution on Road Signs and Signals (R.E.2).

6. Encouraging the use of alternative fuels, especially low- or zero-emission fuels such as hydrogen (H₂), has become a global priority. Although vehicles using hydrogen and fuel-cell vehicles at present have limited use, there is potential for more widespread use. Many manufacturers will produce about 100 fuel cell vehicles a year for fleet demonstrations, and regular mass production of H₂ and fuel-cell vehicles is expected by 2015, when fuelling stations will rise at a rate of about two to four a month worldwide, with an expected \$500 billion infrastructure development.¹

7. In order to facilitate the use of such vehicles and to provide Governments with safety and environmental regulations, the World Forum for Harmonization of Vehicle Regulations (WP.29) has already included "Hydrogen and Fuel-Cell Vehicles (HFCV)" on its agenda, with a view to regulating on this subject, especially on systems for compressed and liquid hydrogen and related electric safety issues. The World Forum estimates that a global technical regulation on hydrogen and fuel-cell vehicles could be available by 2014.

8. It can be expected that an increasing number of vehicles using these alternative types of fuel will cross borders. Appropriate international standardized signs would simplify the task of vehicle drivers seeking to refuel with CNG, LPG and hydrogen gas. It might also encourage both the use of vehicles using alternative fuels and the growth of fuelling stations offering these types of fuel.

9. Other reasons for which CNG, LPG and H₂ fuelling station signage should become part of the Convention on Road Signs and Signals, 1968, are:

- (a) To help clarify the difference in the fuels, with safety as a primary concern;
- (b) To help legitimize the CNG, LPG and H₂ not just as alternative fuels but as fuel alternatives to petrol and diesel now and in the future; and
- (c) To help legitimize and promote related government policies for clean air and energy, and for reduced global warming.

¹ "Global Market for Hydrogen Energy, Fuel Cells, and Related Nanotechnology Expects to Reach \$14 Billion by 2014"
<http://www.azonano.com/news.asp?newsID=12224> June 23, 2009.

B. Proposals

10. In light of the above, it is proposed that previously accepted signage for CNG and LPG fuelling stations in section 1.13 and Annex 6 to the Consolidated Resolution on Road Signs and Signals (R.E.2) and the signage for H₂ fuelling station as an equally standardized indicator shall be further incorporated into the larger body of the Convention on Road Signs and Signals, 1968, part I, annex 1, section F, and annex 3.

11. The specific manner of execution shall be to:

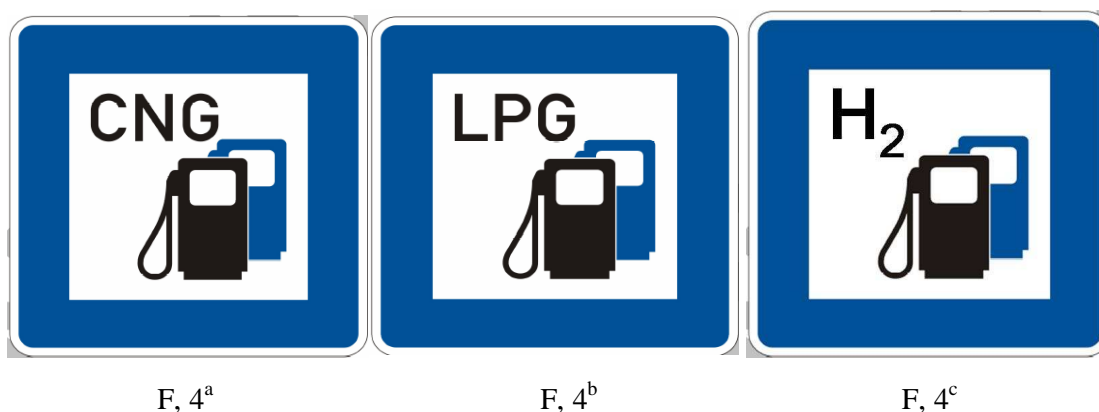
(a) Amend the text of part I, annex 1, section F, item 1, to read as follows:

“1. “F” signs shall have a blue or green ground; they shall bear a white or yellow rectangle on which the symbol shall be displayed. **Whenever the sign contains text indication, it should be the English name or acronym in black lettering identifying the type of facility. The sign may be completed, if necessary, by an additional panel indicating the corresponding name or acronym in the language of the country in question.**”

(b) Adopt and include the signage for alternative fuels in annex 3:

The pictogram is composed of the existing service station symbol F, 4 in black, with the same symbol in blue in the background, shifted diagonally to the right. It shall be completed by the English acronyms CNG, LPG or H₂ in black lettering to indicate the type of fuel available in the fuelling station (see Figure 1 below). This sign may be completed if necessary by an additional panel indicating the corresponding acronym or name in the language of the country in question.

Figure 1



12. With the introduction of these signs into the Convention, any on-site or approaching indication of alternative fuel stations will bear the same format so as to be clear and comprehensive. The addition of alternative fuel provisions into the Convention further promotes the established goals of WP.1 and appropriately adapts to the innovative and harmonious nature of road traffic safety both now and in the future.

II. Proposal of Spain

A. Background

13. In 2003, France and Spain presented a review of road signs available in the Convention on Road Signs and Signals, 1968, addressing the issue of the current heterogeneity of Variable Message Signs (VMS) displays.

14. Out of this review and after evaluation by WP.1, a “Small Group on VMS” was created by France, Germany, The Netherlands and Spain, to “prepare the introduction of variable message signs into the Vienna Convention on Road Signs and Signals. This should include a definition of the signs, a list of signs already in the Convention as well as a list of new signs and pictograms that could be used in VMS, as well as on the legal value of signs and messages on VMS in relation to existing fixed signs and on the content and structure of the messages to be transmitted via VMS”. The result of the group’s work was a set of proposals which were included in the R.E.2.

15. The status of the VMS changed significantly as a consequence of their introduction in the R.E.2, “patching” some evident needs concerning signing and VMS in the UNECE member countries. It should be noted, however, that the VMS section in R.E.2 contains criteria and information that were already consolidated during the last two decades of the twentieth century.

16. Road signs are decreasingly considered as something linked exclusively to a metal post. Variable (electronic) signs are increasingly used to communicate special but temporary road/traffic circumstances on real time. As such they are closely linked to the need to optimize mobility and road safety via special and specific traffic management procedures: on different VMS types, but also displayed in-vehicle, on navigators, on the Internet, on road kiosks, etc.

17. At international level, there are several ongoing initiatives concerning VMS harmonization and interoperability, such as the Task 09 of the Conference of European Directors of Roads (CEDR) or the European Union’s EASYWAY.

18. Currently, the Convention on Road Signs and Signals, 1968, contains in article 8, paragraph 1 (bis) only very general principles relating to VMS. In this era of Intelligent Transport Systems, when the electronic signing technology and the applications for road traffic and safety management are evolving extremely fast in terms of both quality and number, this may prevent the Convention from being the international tool for harmonization that it was meant to and could be.

B. Proposal

19. The current structure of the 1968 Convention integrates the historical evolution of road signs:

- (a) Road markings: aimed at segregating the available space on the road (what is road, and what is not; what type of road we drive by, etc.), and also to help the visual cues that build a perceptual flow of continuous information, to structure the roads, etc.

- (b) Road (fixed) signs: aiming to identify essential permanent spots on the road deserving special attention. This part is reflecting the traditional signing functions: regulatory, danger warning and informative.

20. In light of the above, it is proposed that WP.1 consider adding to the Convention a third part to include Variable Message Signing, in addition to the existing two parts.

21. To this end, WP.1 may wish to establish an ad-hoc group of experts on road signing and new technologies, particularly concerned with visual displays, named the “Expert Group on VMS”. The expert group should be given mandate to work on a proposal in order to modify the structure of the Convention on Road Signs and Signals, 1968.

22. The “Expert Group on VMS” would continue the work of the “Small Group on VMS” done between 2003 and 2008 in order to analyse and study several proposals that would update and improve signing elements (pictograms, design rules specific for VMS) present within the 1968 Convention. It would focus on how the development of the visual code that is inherent in road signs can be projected into different systems for presenting visual information: posted, VMS, in-car, internet, mobile phones, etc.

23. Taking into account the interest for the subject, internationally, nationally and by private industry, it is most likely that this group would integrate a large number of countries in order to make the most of their experience and build from scratch a stronger consensus basis (e.g., Italy, Sweden, and United Kingdom).

24. The “Expert Group on VMS” would contribute to improving United Nations knowledge centre role by structuring and proposing a new vision for WP.1 concerning road signs and new technologies in the twenty-first century, including, if needed, re-thinking the Convention on Road Signs and Signals, 1968.
