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Background Report: ISO Cooperation with the UN ECE GRPE ad hoc group on Hydrogen Vehicles – Onboard Storage Systems

The European Integrated Hydrogen Project (EIHP) is a partnership between the European Hydrogen Industry and the European Commission. This consortium was created to provide inputs for regulatory activities on a European and global level to facilitate harmonized procedures for the approval of hydrogen fuelled road vehicles. In the first phase of its project, EIHP developed two drafts for new ECE regulations: one for liquid hydrogen road vehicles and one for compressed gaseous hydrogen road vehicles. These drafts were presented to the German Ministry of Transport with the request that they be presented to World Forum for Harmonization of Vehicle Regulation (WP.29) of the United Nations Economic Commission for Europe (UN ECE) for their adoption as ECE regulations.

These two draft regulations were first presented by Germany during the 123rd session of WP.29. At that meeting, it was agreed to follow the recommendation of the Administrative Committee of WP.29 (WP.29/AC.2)¹ and examine the interests in establishing these new draft regulations. The two draft regulations were then presented to GRPE, one of the subsidiary bodies² of WP.29.

At that 42nd session of GRPE, the members supported the initiative from Germany. It was noted that the relevant expertise was not readily available and, besides that, GRPE would not be able to complete the project of both regulations within reasonable time. To resolve the question, it was proposed to form a GRPE ad hoc group under the German leadership and entrust it with the work on both projects. The Chairman of GRPE agreed to convey the decision to WP.29 and ask for endorsement. WP.29 endorsed the proposal at its 124th session.

¹ The Administrative Committee of WP.29 is composed of the Chairperson and the Vice-Chairperson of WP.29, the Chairperson and the Vice-Chairperson of the Administrative or Executive Committee attendant to each Agreement (1958 and 1998 Agreement), representatives of the European Community, Japan and the United States of America as well as the Chairperson and the Vice-Chairperson of each subsidiary body of WP.29 (GRPE, GRSG, GRRF, GRE, GRSP, GRB).

² The subsidiary bodies of WP.29 include the Working Party on Pollution and Energy (GRPE), the Working Party on General Safety Provisions (GRSG), the Working Party on Brakes and Running Gear (GRRF), the Working Party on Lighting and Light-Signalling (GRE), the Working Party on Passive Safety (GRSP) and the Working Party on Noise (GRB).



The first meeting of this ad hoc group was held on 29 November 2001 in Bonn, Germany. At that meeting, it was agreed to:

- Develop the draft regulations for liquid and gaseous hydrogen fuelled vehicles and present them for ECE regulations as a first step (1958 Agreement)³;
- In a second step, develop a process to apply to global technical regulations (GTR) under the 1998 Agreement⁴.
- Try to develop closer relationship between ISO and the GRPE ad hoc group.

At the meeting of the GRPE ad hoc group on 19 February 2002, it was recognized that there was a need to identify the conflicting requirements between the draft regulations prepared by EIHP and **ISO WI 13985 Liquid hydrogen – Land vehicle fuel tanks** and **ISO WI 15869 Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks**.

As a result, ISO/TC 197 and ISO/TC 22 co-operated in producing an ISO report in preparation for the GPRE ad group meeting on 4-5 June 2002 in Nabern, Germany. This report was comprised of seven parts. Parts 1 and 2 were the comparison between the EIHP draft regulations and the ISO drafts standards with technical input provided mainly by the USA.

At the GPRE ad group meeting on 4-5 June 2002, the group recognized the need to resolve the differences between the EIHP draft regulations and the ISO draft standards. This is why this two-day meeting will be held to resolve the technical differences between the EIHP draft regulations and the ISO draft standards on 29-30 July 2002 in Munich. The experts from both the GRPE ad hoc group and the ISO/TC 197 working groups are invited to participate.

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³ The 1958 Agreement has 37 Contracting Parties, of which 33 are European ECE member countries. Other Contracting Parties include the European Community (regional economic integration organization), Japan, Australia and South Africa.

⁴ The 1998 Agreement entered into force on 25 August 2000. Contracting Parties are: Canada, the European Community, France, Germany, Italy, Japan, the People's Republic of China, the Republic of Korea, the Republic of South Africa, the Russian Federation, the United Kingdom and the United States of America.