WG 6 *Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks*

Progress report presented during the 12th plenary meeting of ISO/TC 197 on 4 September 2003 in Grenoble, France

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ISO/CD 15869

ISO 15869 for Land Vehicle Fuel Tanks (WG 6) is a joint working group between TC 197 on Hydrogen Technologies and TC 58/SC 3 on Gas Cylinders – Design. In 2001 the P-members of both Technical Committees agreed to the circulation of a Committee Document as a Draft International Standard by an acceptance vote of 80% by TC 197 members and 71.4% by TC 58/SC 3 members. All comments received during the balloting process were reviewed at a meeting in Paris in October 2001.

At this point, further progress in the development of the ISO standard was delayed due to the activities of the European Integrated Hydrogen Project.

EIHP

The European Integrated Hydrogen Project (EIHP) has been involved in developing draft regulations for compressed hydrogen vehicle systems, including fuel tanks. At a meeting of WP29/GRPE (Working Party on Pollution and Energy [GRPE] of the World Forum for Harmonization of Vehicle Regulation [WP 29] of the United Nations Economic Commission for Europe [ECE]), the EIHP proposed to undertake the development of ECE regulations for hydrogen-fuelled road vehicles and equipment. The eventual objective would be to develop a UN Global Technical Regulation.

WP29/GRPE requested EIHP to harmonize their proposed regulation with ISO working groups. As a result, a UN-ECE/GRPE ad hoc Working Group "Hydrogen Vehicles – Onboard Storage Systems" was established in June 2001 to undertake this harmonization. The secretaries from TC 22 (Road vehicles), TC 58 (Gas cylinders) and TC 197 (Hydrogen technologies) were requested to nominate experts to the GRPE ad hoc Working Group. The secretaries of both TC 58/SC 3 and TC 197 nominated the convener (myself) of the Joint TC 58/TC 197 Working Group 6 to participate in the GRPE ad hoc Working Group.

Harmonization

Numerous meetings between the GRPE ad hoc Working Group and the Joint TC 58/TC 197 Working Group 6 (also known as the GRPE/ISO group of experts) have been held over the last year with the objective of combining the best of both proposed documents to produce a harmonized text. The Joint TC 58/TC 197 Working Group 6 is composed primarily of cylinder manufacturers, gas suppliers and regulatory agencies, while the

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GRPE ad hoc Working Group is composed primarily of vehicle manufacturers and regulatory agencies. As a result, there is an interesting difference in perspective between the cylinder manufacturers and the vehicle users, with the regulatory agencies in the middle.

Due to a difference in philosophies between the 2 groups, it was determined that complete harmonization of the 2 documents could not be achieved on a specific item concerning the design of all-metal storage tanks. It was therefore believed that the harmonization process had proceeded as far as possible at this time. Consequently, the ISO/CD 15869 has been modified such that the technical requirements are identical to those in Revision 11 of the Draft ECE Compressed Gaseous Hydrogen Regulation, except for the issue regarding the all-metal storage tanks.

Since the completion of the harmonization process, Revision 12 of the Draft ECE Compressed Gaseous Hydrogen Regulation has been issued, adding stainless steels and welded manufacturing processes. However, there is a need to move ahead with the ISO process, thus these issues will be reviewed by the Joint TC 58/TC 197 Working Group 6 at some future date.

The incorporation of the harmonized changes from Revision 11 into ISO/CD 15869 has been complicated by the fact that both documents have completely different formats. The revised draft of ISO/CD 15869 has now been provided to the Secretariat of ISO TC 197 to move forward to DIS status.

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