

*Meeting of the GRPE/ISO group of experts  
on 29-30 July 2002 in Munich*

**Cooperation between the  
UN-ECE/GRPE ad hoc WG on  
Hydrogen Vehicles – Onboard Storage  
Systems and ISO**

# *First phase of the European Integrated Hydrogen Project (EIHP)*

- **Development of two drafts for new ECE regulations:**
  - **One for liquid hydrogen onboard storage systems**
  - **One for gaseous hydrogen onboard hydrogen systems**

# ***123rd session of WP.29 6-9 March 2001 in Geneva***

- **The EIHP draft regulations were presented by Germany to the World Forum for Harmonization of Vehicle Regulations (WP.29)**
- **WP.29 agreed to examine the interest in establishing these new draft regulations and forwarded the information to one of its subsidiary bodies, the Working Party on Pollution and Energy (GRPE)**

# *GRPE meeting June 2001 in Geneva*

- **GRPE made the decision to form an ad hoc WG to write ECE regulations for on-board hydrogen storage systems (liquid and gaseous) based on EIHP drafts**

# *First meeting of the GRPE ad hoc WG 29 November 2001 in Bonn*

## **The ad hoc WG :**

- **Started working towards the completion of the draft regulations which would be presented as ECE regulations first and then as Global Technical Regulations (GTR) as a second step**
- **Agreed to try to develop closer relationship with ISO**

# **Second meeting GRPE ad hoc WG 19 February 2002 in Munich**

## **The ad hoc WG:**

- **Made request to ISO to study the differences between draft regulations and the following ISO drafts standards:**
  - **ISO 13985 Liquid hydrogen – Land vehicle fuel tanks**
  - **ISO 15869 Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks**

# ***Third meeting GRPE ad hoc WG 4-5 June 2002 in Nabern***

- **ISO/TC 22 and ISO/TC 197 prepared an ISO report that was submitted to the GRPE ad hoc WG prior to the meeting.**
- **This report was comprised of seven parts. Parts 1 and 2 were the comparison between the EHP draft regulations and the ISO drafts standards with technical input provided mainly by the USA.**

*Third meeting  
GRPE ad hoc WG  
4-5 June 2002 in Nabern*

- **The ad hoc WG recognized the need to resolve the differences between the EIHP draft regulations and the ISO draft standards**
- **No decision was made on whether the ISO standards will be called out in the GRPE regulations**



# **Meeting of the GRPE/ISO group of experts 29-30 July 2002 in Munich**

- **The purpose of this meeting is to resolve the technical differences between the EHP draft regulations and the ISO draft standards**
- **Experts from both the GRPE ad hoc group and the ISO/TC 197 working groups were invited to participate**
- **Experts from ISO/TC 22 *Road vehicles* and the Society of Automotive Engineers (SAE) were also invited to participate for wider consensus**

## ***29 July meeting– Liquid hydrogen Documents to be used***

- **The GRPE draft regulation on liquid hydrogen onboard storage systems, rev.11, dated 29 August 2001**
- **The ISO/DIS 13985-1 and ISO/DIS 13985-2 draft standards, dated 31 July 2001**
- **The compilation of the comments received and the results of the comparison of both documents (working document N02, dated 12 July 2002)**

# ***30 July meeting Documents to be used***

- **The GRPE draft regulation on gaseous hydrogen onboard storage systems, rev.9, dated 6 May 2002**
- **The ISO/CD 15869-1 to ISO/CD 15869-5 draft standards, dated June 2002**
- **The results of the comparison of both documents (working document N01 pt.A, dated 23 July 2002)**
- **The compilation of the comments received (working document N03, dated 23 July 2002)**

# ***What needs to be done during these meetings?***

- **Resolve the technical differences between the EIHP draft regulations and the ISO draft standards based on a consensual approach**
- **In order to do so, go through all the items listed on working documents N01 and N02**
- **Three codes have been used in working documents N01 and N02:**
  - **C : original comparison between the EIHP draft regulations and the ISO draft standards**
  - **E : comments pertaining to the EIHP draft regulations only**
  - **I : comments pertaining to the ISO draft standards only**

# *Results of the meeting*

- **The decisions made during the meeting will be recorded in working documents N01, N02 and N03**

## *Next steps*

- **Should there be not enough time to go through all items listed on working documents N01 and N02, another meeting should be scheduled before closing the meeting.**
- **This meeting should be held before the next meeting of the GRPE ad hoc WG, which is to take place on 14-15 November 2002**

## *Next steps*

- **The decisions made during the meeting should be circulated for comments among the GRPE and ISO members that could not attend the meeting**
- **These comments should be resolved by correspondence by 30 October 2002**

# *Preparation for the next GRPE ad hoc WG meeting*



- **All agreed changes should be integrated in both the GRPE draft regulations and ISO draft standards.**



# *Preparation for the next GRPE ad hoc WG meeting*

- **The following documents should be made available for the next meeting of the GRPE ad hoc WG on 14-15 November 2002**
  - **The working documents N01, N02 and N03 incorporating the decisions that were made by the GRPE/ISO group of experts,**
  - **The revised GRPE draft regulations**
  - **(The revised ISO draft standards)**

## *Ultimate goal*



- **After this exercise, the technical content of the GRPE draft regulations and the ISO draft standards should be identical.**