

**UN ECE - INFORMAL GRPE WORKING GROUP**  
**HYDROGEN FUEL CELL VEHICLES**  
**H<sub>2</sub>FCV SUBWORKING GROUP ENVIRONMENT (SGE).**  
**3<sup>rd</sup> MEETING - REPORT**  
**UNECE, Palais des Nations, Geneva, Room No.12 (14:30-17:30)**

**Executive Summary**

The SGE, meeting for the first time since the development of the AC3 Action Plan, agreed to prepare technical reports for each of an agreed list of environmental topics.

These technical reports would include a conclusion on the need and possibility for world-wide harmonisation of each topic, which could then lead to an overall conclusion about the detail of work towards a Hydrogen gtr, in the Environmental field.

Individual members were assigned responsibility to begin the preparation of these reports and the group agreed to work towards preparation of a status report to GRPE and WP29/AC3 at their June 2008 sessions.

**Detailed Report**

*(Note: Names shown in **bold type** indicate assigned responsibility for action.)*

**1. ADOPTION OF THE AGENDA – ORGANIZATIONAL INFORMATION**

The draft Agenda was adopted without comment. The Chairman declared that his objective for the meeting was to reach a point where work could begin in small groups on technical reports for each subject.

**2. TOUR DE TABLE – INTRODUCTION OF EXPERTS TO THE GROUP**

Delegates introduced themselves and a contact list was circulated. See annex I

**3. UPDATE ABOUT THE WP.29 / AC.3 DECISIONS**

Mr. C. Albus, Germany – HFCV Project Leader, reported on the strategy agreed by AC3. The work on a possible Hydrogen and Fuel Cell Vehicle gtr is to be carried out by 2 principal sub-groups (Safety and Environment) with a Project Manager to coordinate and report to AC3. An Action Plan had been drafted and adopted by AC3 in June 2007 and is available on the WP29 website as ECE/TRANS/WP29/AC3/17. Mr Albus said that the action plan mainly addresses safety but recognised the necessity for a close relationship between the two sub groups. He will report on the progress of both groups at the March 2008 session of WP29/AC3.

**4. REVIEW OF THE WORKING PAPER TABLED BY THE CHAIRMAN**

**(H2SGE-03-IP01: ITEM LIST TO BE ADDRESSED BY SGE, ISO, MATRIXES ...)**

The Chairman introduced the working paper and gave some explanations, showing the slides in informal document H2SGE-03-IP02, which recalls the previous work done by the group and lays out the topics for consideration. In particular he mentioned the necessity to decide whether Auxiliary Power Units (APUs) should be considered or not, as these may in fact be the first real automobile applications of Fuel Cells, in advance of any full scale motive power application. He also mentioned that the group has to establish the need for further research, which must be identified early, to minimise delay in light of the time necessary for research projects. Looking ahead to item 5 of the Agenda, he said that Technical Reports are very good tool to asses the tasks facing the group. Each topic listed in the table should be examined and a technical report prepared, including a recommendation on the possibility to harmonise in the context of a gtr. The group accepted the document without comment and it was agreed to proceed with discussion of the technical reports.

## 5. TECHNICAL REPORT: RESPONSABILITIES (WHO? BUDGET?) AND THE PROCEDURE TO DRAFT THE TECHNICAL REPORT

The Chairman explained the intended content of each technical report:

- a) *explanation and specification of the issue*
- b) *overview of the existing Regulations / Standards and explanation of the possible existing links*
- c) *overview of the state-of-art*
- d) *ongoing/finalised research activities stating references on both cases; finalised projects and ongoing ones*
- e) *if further research is still needed, then specify what and why*
- f) *assessment of the harmonization:*
  - *is it needed?,*
  - *specify the harmonisation,*
  - *is it foreseeable (explain why),*
  - *reference list.*

He then asked the group if the list in the table in IP01 is correct and complete.

Mr Albus said that he thought the list gave a good overview and could be used as the basis to begin work, although there may be some additional items later.

On the specific question of the inclusion of APUs, he said that they had not been included in AC3's action plan.

Regarding EMC he mentioned that this subject is discussed in GRE for conventional vehicles and he therefore suggested to ask GRE to assess need for any action.

In response to a question from Mr M Steen, European Commission/JRC, on the need to synchronise the group's schedule with the Safety Sub-Group, to give a complete report to AC3, Mr Albus said that SGE needs to reach conclusions on the question "is harmonisation possible and to what extent?", This question has already been answered for safety so it may take more time for SGE to complete that task and report.

The group then examined each item on the list in order to plan the work on technical reports:

Fuel Consumption: The Chairman informed the group that Mr Brusaglino (ISO/FUEVA) has volunteered to work on a technical report covering measurement of Fuel Consumption, Maximum Speed, and External Electricity Consumption of Hybrid Vehicles. This would be based on ISO23828, the latest Regulation 101 amendment proposal and the work of ISO/TC22/SC21/WG2. There was some discussion between the Chairman, Mr Albus, Mr U Klein, OICA, and Mr K. Narusawa, Japan, over the need and possibility to harmonise these items. It was agreed that harmonisation of test cycles is not the work of this group but that harmonisation of specific measurement procedures could be – albeit that much if not all of the work has already been done by ISO. The Chairman clarified that this discussion should be part of the technical report preparation and it was therefore not necessary to have it in the SGE meeting.

Mr Klein suggested that action under the 1958 Agreement (Regulation 101) might be more appropriate for this item and asked if the SGE's mandate permits it to work on Regulation 101. Mr Albus said that, at the moment, the mandate is for a gtr and it is important to make progress drafting a technical report. This should point out where world-wide harmonisation is possible and where it makes sense to address national and regional regulations instead. At that point, SGE could ask GRPE and WP29 for an extension to the mandate.

SGE agreed to accept the offer of **Mr Brusaglino** and the Chairman asked for other members to contribute to the work. **Mr S. Showler**, OICA, said that OICA would want to be involved and undertook to identify a representative or representatives.

#### CO<sub>2</sub>, Pollutant, Hydrogen and Water Emissions

Again there was some discussion about the need to address these issues. Mr D Mizza, ISO, commented that if hydrogen consumption is measured, the amount of water produced is known so no measurement should be necessary.

**Mr Albus** agreed to investigate whether Germany could undertake to prepare a paper on these topics and he will confirm later.

He stressed that in some cases the technical reports could be expected to be rather short and to quickly conclude that harmonisation is not possible, not necessary or outside the scope of SGE. However the technical reports must clarify the situation and give a justified proposal on how to deal with each topic. SGE needs to address these items and explain to GRPE which can or cannot be acted upon and why.

#### Engine Power

No volunteers to work on this topic were identified.

#### Reference fuel specification

It was generally agreed that Reference fuels are needed and that it is highly desirable to harmonise them if possible.

Mr Albus pointed out that Reference Fuel had proved a difficult issue in previous emissions gtr work and having been identified as an issue late in the process, had delayed completion of the work. It is therefore important to address this early.

Mr Steen pointed out that for Fuel Cells in particular, the quality of the fuel is absolute critical. Mr Albus raised the question of whether a single Reference Fuel could cover all cases. No answer to this question was offered.

Mr Mizza said that an ISO standard is already in development, and this could be a useful basis for the work of the group.

**Mr Steen** agreed to investigate whether the European Commission could undertake to work on this topic.

#### Recycling and Disposal

It was generally considered that this topic is outside the scope of UN/ECE so the technical report could be rather short.

In the absence of specific volunteers **the Chairman** said he would contact members from the different regions to ask them for information on existing regulations, which he would compile into a short report.

#### EMC and Noise

Mr T. Stoffels, Netherlands, reminded the group that these topics are the responsibility of other ECE groups (GRE for EMC and GRB for Noise)

Mr Albus agreed, saying that the technical report can conclude that SGE cannot harmonise these items and refer them to the relevant expert groups.

In conclusion the Chairman said that SGE is now ready to start work. He asked the volunteers (highlighted above) to begin getting the information together. The format and editing of the reports could be agreed later.

#### 6. FURTHER ACTIONS: TIME SCHEDULE; NEXT MEETING(S) LINKED WITH GRPE OR SCHEDULED OTHERWISE? ETC.

The Chairman proposed the objective to have at least a first draft and status report for the June 2008 session of WP29.

Mr Albus said that, as Project Leader, he would want to present the report to GRPE before taking it to WP29, so we should aim for the June 2008 GRPE meeting.

The Chairman proposed to hold a meeting of a smaller group in May2008, to discuss the work on technical reports and the preparation of the status report to GRPE and WP29. The date and place could be agreed later once progress on the individual topics can be assessed. Possible locations include Ispra (JRC) and Paris (OICA).

It was agreed that there should be no need for a full SGE meeting in connection with the June GRPE meeting and that the next SGE meeting, which might be held in the autumn of 2008, would depend on the outcome of the work on technical reports.

#### 7. ANY OTHER BUSINESS (WEBSITE HOSTING OF HFCV)

The Chairman asked if SGE documents could be made available on the UN/ECE website.

Mr R. Hubert, ECE Secretariat said that every Informal Group under WP29 has the possibility to have a site on ECE Vehicle Regulations website.

The Chairman commented that previous SGE documents have been hosted on external websites and this had led to some problems.

It was agreed to place all the documents together on the ECE website, and that **the Secretary** would liaise with Mr Hubert to accomplish this.

Finally the Chairman commented that the need for further research had not been discussed but that this would likely be influenced by the outcome of work on Technical reports. He thanked the SGE members for their contributions and closed the meeting.

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