

SIXTH MEETING OF THE GRPE INFORMAL GROUP ON HEAVY DUTY HYBRIDS (HDH)

Geneva, 06 June 2011

MINUTES OF THE MEETING

Venue: Palais des Nations, Geneva

Chairman: Petter Åsman (European Commission)

1.- WELCOME AND INTRODUCTION

The Chairman welcomed the participants.

2.- ADOPTION OF THE DRAFT AGENDA

(Working paper HDH-06-02)

The draft agenda was adopted.

3.- DRAFT MINUTES OF THE FIFTH MEETING

(Working paper HDH-05-13)

The draft minutes of the 5th meeting were approved.

4.- PRINCIPLES OF HYBRID CERTIFICATION

4.1 Summary of 5th meeting

(Working paper HDH-06-03)

The Secretary gave an overview of the results from the 5th meeting. The meeting took place from 16 to 18 March 2011 at EPA in Ann Arbor and was dedicated to an exchange of information with EPA and to the discussion of the offers from potential research institutes. EPA indicated that the HILS procedure is not advanced enough to go into the final GHG (greenhouse gas) rule, but they are very interested in the progress of the HDH group. Environment Canada and Cummins presented their view on the most appropriate methods for hybrid certification. Japan presented the open source model proposed as input to the HDH activities. The open source model was developed by JAMA/JARI, since the current HILS certification model used in Japan can not be disclosed due to intellectual property rights. A fluid coupling and torque converter model are under development.

4.2 Presentation from TNO

(Working paper HDH-06-04)

Mr. Dekker presented an overview of the TNO project activities within the HCV (Hybrid Commercial Vehicles) project run under the 7th EU framework program. HCV is an EU-

funded initiative for reducing the emission of climate gases and other emissions in urban areas. The HCV project aims to enhance the further reduction of fuel consumption and to decrease the cost of a hybrid system.

TNO will mainly contribute to the drive cycle development and validation of test procedures. Measurement data are from one city bus and two distribution trucks and are analyzed with a cycle generator. The resulting cycle is intended for chassis dyno testing.

5.- ROAD MAP AND PROJECT PLANNING

5.1 General framework

(Working paper HDH-06-03)

The Secretary reviewed the task list for the research program. He then presented the project plan developed on the basis of the offers by the research institutes and the decision taken at the 5th meeting that all three institutes should be involved in the research program. The proposal is as follows:

- TU Vienna will cover tasks 1 and 2; budget by OICA
- TU Graz will cover tasks 4 and 5; budget by EU COM
- Chalmers will cover task 3 and contribute to tasks 1, 4 and 5; budget shared between OICA, Sweden and Swedish Hybrid Center (SHC)
- TRL will coordinate the program

After discussion of the institutes' presentations in section 5.3, the group approved the proposed project plan and research program.

5.2 Budget

The total budget of 265 k€ was approved. A detailed overview of the different tasks is shown in the table below.

Task	TU Vienna	TU Graz	Chalmers
1	40 k€	10 k€	4 k€
2	45 k€	-	-
3	-	-	47 k€
4	-	28 k€	2 k€
5	-	41 k€	3 k€
Travel	15 k€	15 k€	15 k€
TOTAL	100 k€	94 k€	71 k€
Budget by	OICA	EU-COM	OICA: 25 k€ Sweden: 19 k€ SHC: 27 k€

5.3 Presentations by research institutes

5.3.1 TRL

(Working paper HDH-06-05)

Mr. Lester presented the work program for the European Commission contract. TRL and Ecorys have been tasked by the Commission to coordinate and oversee the research programs. This is referred to as task 0 in the presentation. An overview of the tasks is given on page 7 of the presentation.

5.3.2 TU Vienna

(Working paper HDH-06-06)

Mr. Schneeweiss presented the work program of the Institute for Powertrains & Automotive Engineering (IFA) at the TU Vienna. After a general overview of the institute and its core competences, he emphasized IFA's experience with simulation models and hybrid drivetrains. He then explained the project approach in detail.

5.3.3 TU Graz

(Working paper HDH-06-07)

On behalf of Prof. Hausberger (TU Graz), Mr. Schneeweiss presented the work program of the Institute for Internal Combustion Engines and Thermodynamics (IVT) at the TU Graz. After an introduction about the institute, he gave an overview of the project approach. Tasks 5.1 (analysis of typical profiles for vehicle speed and propulsion power) and 5.3 (elaboration of options to use the HILS method in HDV CO₂ procedures) will ensure the link to the EU HDV-CO₂ project.

5.3.4 Chalmers University of Technology

(Working paper HDH-06-08)

Prof. Fredriksson presented the work program of the Department of Signals and Systems at Chalmers University of Technology, Göteborg. After an introduction about the institute, he gave an overview of the project approach. The major part of the work program is focused on non-electrical hybrids, but contributions to tasks 1, 4 and 5 are also included.

5.4 Timeline

(Working paper HDH-06-03)

Currently, the work program is slightly behind schedule w/o jeopardizing the approved roadmap. It was therefore agreed to not change the roadmap.

5.5 Discussion

The participants agreed that a close liaison between the research institutes and the Japanese experts is essential for the success of the work program. Mr. Narusawa indicated that any comments on the open source model presented at the 5th meeting are welcome. He also confirmed that component testing is part of the Japanese regulation. The Chairman emphasized the importance of the Japanese contribution to developing a global technical regulation for HD hybrid vehicles. Mr. Narusawa invited the group to hold the spring meeting 2012 in Japan.

6.- NEXT MEETINGS

The next HDH meetings will take place, as follows

- 7th HDH meeting: 12 to 14 October 2011, Vienna, Austria
- 8th HDH meeting: 17 January 2012, Geneva
- 9th HDH meeting: March 2012, Japan (date and place to be confirmed)

7.- SUMMARY AND CONCLUSIONS

(Informal document GRPE-62-08)

The Secretary summarized the meeting as follows:

- The TNO contribution was appreciated as an additional source of input to the overall HDH scope
- Roadmap, project planning and budget were agreed and are designed to deliver the input needed to develop the gtr
- The project is slightly delayed but still within the overall timeline
- A kick-off meeting of the research institutes will take place on 30/06/11
- A close collaboration between the institutes and Japan will be essential for a successful work progress
- Discussion on chassis dyno and powerpack testing will be resumed at the next meeting

8.- OTHER BUSINESS

None.
