

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

Geneva, 10 January 2011

MINUTES OF THE MEETING

Venue: European Commission, Brussels

Chairman: Bernardo Martinez for Petter Åsman (European Commission)

1.- WELCOME AND INTRODUCTION

The Chairman welcomed the participants.

2.- ADOPTION OF THE DRAFT AGENDA

(Working paper HDH-04-01)

The draft agenda was adopted.

3.- DRAFT MINUTES OF THE THIRD MEETING

(Working paper HDH-03-10)

The draft minutes of the 3rd meeting were approved with the following corrections:

- section 5.4 "Mr. Morita gave..."
- section 6.4 "...was released on 25/10/10."
- section 6.4 "...published by 30 July 2011."

The revised minutes will be circulated as document HDH-03-10rev1.

4.- PRINCIPLES OF HYBRID CERTIFICATION

4.1 Summary of 3rd meeting

(Working paper HDH-04-02)

The Secretary gave an overview of the results from the 3rd meeting. The terms of reference and the proposal for work program, as laid down in documents GRPE/60/11 and GRPE/60/12, were confirmed. First step is to investigate the HILS approach, but other test methods, such as powerpack testing and chassis dyno testing will be assessed in parallel.

4.2 Review of the mandate

(Working paper HDH-04-05)

In his presentation, Mr. Martinez reviewed the possible options on a gtr for hybrid vehicles. He indicated that CO₂ emission is not within the scope of gtr n°4, but the measurement procedure for CO₂ is included. Since HILS provides an engine based test procedure, it might be appropriate to add HILS as an amendment to gtr n°4. For other test methods, such as

chassis dyno testing, this path would not be possible. He recommended to the informal group that an amendment to gtr n°4 should be considered as the first option. In case the informal group determines at a later stage that an amendment would not be appropriate, the group would report back to GRPE, accordingly.

4.3 Presentation by India (Working paper HDH-04-04)

Mr. Chaudari presented working paper HDH-04-04. He indicated that chassis dyno specifications are needed anyway for the HILS verification. He concluded that chassis dyno testing provisions do not require additional work and consequently the chassis dyno procedure is considered a feasible alternative.

4.4 Discussion

OICA fully supported the Chair's proposal of an amendment to gtr n°4 as the first option. The proposal was accepted, and the Secretary was asked to inform GRPE about this decision.

UK indicated some sympathy for the Indian proposal. The procedure should be flexible enough for both HILS and chassis dyno testing.

OICA was in favor of HILS and asked Japan to state why HILS has been chosen for type approval of hybrid vehicles in Japan. The goal of industry is to get an efficient, but cost effective test procedure for the yet small number of hybrid vehicles.

Based on Japanese hybrid certification experience, the chassis dyno procedure is not suitable for all kinds of hybrid vehicles, according to the Japanese expert. The HILS procedure is superior with respect to accuracy and repeatability. Also, real world operation of hybrid vehicles is best reflected by HILS.

Mr. Martinez questioned if development of two methods in parallel is feasible with the limited amount of budget and resources.

5.- ROAD MAP AND PROJECT PLANNING

5.1 Draft work program and timing (Working paper HDH-04-02)

The Secretary proposed the roadmap and timing for the work program. The total duration of the project is anticipated to be 2.5 years between January 2011 and June 2013. With this ambitious timeline, WP.29 adoption is foreseen for March 2014. The work program starts with five HILS work packages to be conducted by the potential contractors:

- HILS model verification
- HILS component testing verification
- WHVC weighting and scaling factors
- extension to non-electrical hybrids
- PTO operation

Upon conclusion of the work packages, 3 validation test programs are planned. Drafting of an amendment to gtr n°4 is planned to take 9 months, and should be finalized by March 2013 for GRPE adoption in June 2013.

In parallel to the work packages, chassis dyno and powerpack method will be assessed.

Information on the open source model by Japan was distributed as working paper HDH-04-03. Japan will present the paper in more detail at the 5th HDH meeting.

5.2 Proposal of research institutes

The Secretary informed that the following institutes had been contacted and would be interested as contractors in conducting the work program.

- Technical University Graz
- Chalmers University Gothenburg
- INSIA (University Institute of Automobile Research) Madrid (Spain)
- Technical University Vienna (Austria)

The institutes will be contacted by the secretary and asked for quotes.

5.3 Budget

OICA confirmed availability of a budget of 200.000 €. The EU Commission is considering to contribute, too, but other contributions have not yet been indicated by the Contracting Parties. Given the complexity of the issue, chair and secretary are asking CP's to seriously consider contributions (budget or testing facilities), if not for now then for the validation test programs in 2012.

6.- NEXT MEETINGS

The next HDH meetings will take place, as follows

- 5th HDH meeting: 16 to 18 March 2011 in Ann Arbor, USA
- 6th HDH meeting: 06 June 2011 at 14:30 in Geneva
- 7th HDH meeting: Oct./Nov. 2011 in Japan (date and place to be confirmed)

7.- SUMMARY AND CONCLUSIONS

(Informal document GRPE-61-16)

The Secretary summarized the meeting as follows:

- Amendment to gtr 4 as first option, as proposed by the Chairman, has been agreed; development of a separate gtr will be re-assessed and the conclusions reported back to GRPE at a later stage
- Roadmap and project planning as presented by the Secretary have been agreed with minor modifications
- The open source model provided by Japan will be evaluated
- 4 research institutes expressed interest in conducting the work program, and will be asked for quotes
- OICA will provide 200 t€ budget, COM contribution is pending

8.- OTHER BUSINESS

None.
