

Day 1, Agenda Item 3, Update of Heavy-Duty Hybrid working group (HDH) as provided by Mr. Petter Asman:

- As some background, the HDH working group is developing a test procedure for Heavy Duty Hybrid vehicles and power packs. The procedure builds on the Japanese regulation for heavy duty vehicles based on hardware in the loop simulation (HILS). The HDH is working on a draft procedure with the objective of presenting proposal as a new annex to GTR no 4 for the next GRPE meeting in January 2014, with the aim of eventual adoption at WP.29 in November 2014.
- The working group recently held its 14th HDH meeting June 2013. Highlights of the meeting include:
 - The results of validation test program 1 with the new model structure were presented by the institutes; the new model structure includes a comprehensive component model library, a new signal naming convention and restructured vehicle models
 - The models will be further developed based on feedback from stakeholders
 - The drive cycle investigations resulted in different road gradients from the two calculation methods; application of road gradients to WHVC needs further investigation during validation test program 2 including the use of road gradients fixed in the gtr
 - Validation test program 2 at JRC started in May, and the details of the test program were defined between JRC and the participating OEMs
 - OICA confirmed that individual members will arrange for HILS testing at EPA and will start discussions with EPA on the most suitable approach
 - OICA informed that they will provide budget for model verification by the institutes during validation test program 2
 - EPA requested to include powertrain verification in the gtr, and to validate the HILS method with emission results, and confirmed to take part in validation test program 2
 - The proposal by the Chair and Secretary to use the HILS CO2 result as input to regional CO2 regulations was agreed
 - The HDH drafting group has been established and had two meetings, so far; the Technical Secretary has not yet been appointed, but it is hoped that the budget will be available soon
- The next HDH Working Group meetings will occur as follows:
 - 15th HDH meeting: 24 and 25 October 2013, San Francisco, USA
 - 16th HDH meeting: 07 January 2014, Geneva
 - 17th HDH meeting: March 2014, Europe (date and place to be confirmed)
 - 18th HDH meeting: June 2014, Geneva (date to be confirmed)
- There are some areas of overlap with the EVE Group:
 - The most likely area of overlap involves the definitions and other changes and appendix for gtr n° 4 that the HDH group is proposing. Given that the mandate of the EVE group includes heavy-duty vehicles, the revised gtr n° 4 may be of interest for fully electric HDV, even if they do not have conventional combustion engines on-board.
 - Another area of interest for the EVE group may be the HDH group's work in assessing the amount of negative work to be included in a given test cycle. Given that the advantages of hybrid and electric vehicles show the greatest benefit during times when they can take advantage of technologies like regenerative braking, appropriate duty cycle selection is proving to be extremely important during work of the HDH WG, and the EVE WG may be interested in the HDH WG's experiences in this area.
 - In the last meeting it was also mentioned that ACEA/ OICA intend to present a proposal including plug-in hybrids, which are in the scope of the HDH group's work in revising GTR No.4.