

Proposal for the Terms of Reference of the Informal Group on HDH

1. The objective of the informal group on HDH (Heavy-Duty Hybrids) is to establish an amendment to Global Technical Regulation (gtr) n° 4 (WHDC) with respect to pollutant emissions and CO₂ emission from heavy duty hybrids under the 1998 Global Agreement. The informal group will also consider if the scope of (gtr) n° 4 is appropriate or if a separate gtr should be considered. The group shall report to GRPE on its conclusions on this matter at the 61st session of GRPE in January 2011.
2. The informal group shall investigate the HILS (Hardware-in-the-Loop simulation) approach, which starts from a vehicle cycle and simulates powertrain and vehicle components to result in a hybrid specific engine cycle for pollutant emissions and CO₂ testing and measurement, and which is based on the test cell environment, data evaluation procedures and emissions calculations specified in gtr n° 4. The engine cycle (speed/load pattern) created by HILS will be verified against the engine cycle resulting from a chassis dyno test.
3. As a starting point, the vehicle speed pattern of the WHVC vehicle cycle will be used.
4. Modifications to the WHVC with respect to using subsets of the cycle in combination with appropriate weighting or scaling factors will be investigated for specific hybrid vehicle designs (e.g. city buses).
5. The final procedure shall result in outputs that are quantifiable, verifiable, and reproducible and that provide a method for assessing real world compliance broadly and on a case by case basis, shall be capable of incorporating updated information and new data to produce the most accurate outputs, and shall be appropriately transparent as to allow governmental entities the latitude to easily assess its performance and ensure accuracy and a level playing field.
6. During the course of this work the feasibility of a chassis dynamometer based emission test procedure will be assessed as an alternative to HILS. The result of this activity will be reported to GRPE.
7. The informal group shall submit the milestones, the roadmap and the necessary budget for step 1 of the future work program to GRPE for consideration, at its 61st session in January 2011.
8. The informal group shall submit the final report of the investigation on HILS for consideration to GRPE at its 65th session in January 2013.
9. The target completion date for the work of the informal group on HILS shall be the 163rd session of WP.29 in June 2014.
10. This target completion date and the necessity of a chassis dyno test as a second step will be reviewed by WP.29 at its 160th session in June 2013 taking into account the assessment by GRPE of the final report on HILS.

Proposal for Rules of Procedure

1. The informal group is open to all participants of GRPE. A limitation of the number of participants from any country and organization to participate in the informal group is actually not foreseen.
2. A Chairperson and a Secretary will manage the informal group.
3. The official language of the informal group will be English.
4. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format, preferably in line with the ECE guidelines in advance of the meetings. The group may refuse to discuss any item or proposal which has not been circulated 5 working days in advance of the scheduled meeting.
5. An agenda and related documents will be circulated to all members of the informal group in advance of all scheduled meetings.
6. The work process will be developed by consensus. When consensus cannot be reached, the Chairperson of the informal group shall present the different points of view to GRPE. The Chairperson may seek guidance from GRPE as appropriate.
7. The progress of the informal group will be routinely reported to GRPE orally or as an informal document by the Chairperson or the Secretary.
8. All working documents shall be distributed in digital format. A specific HDH website will be created and the URL will be noticed to all related parties.

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