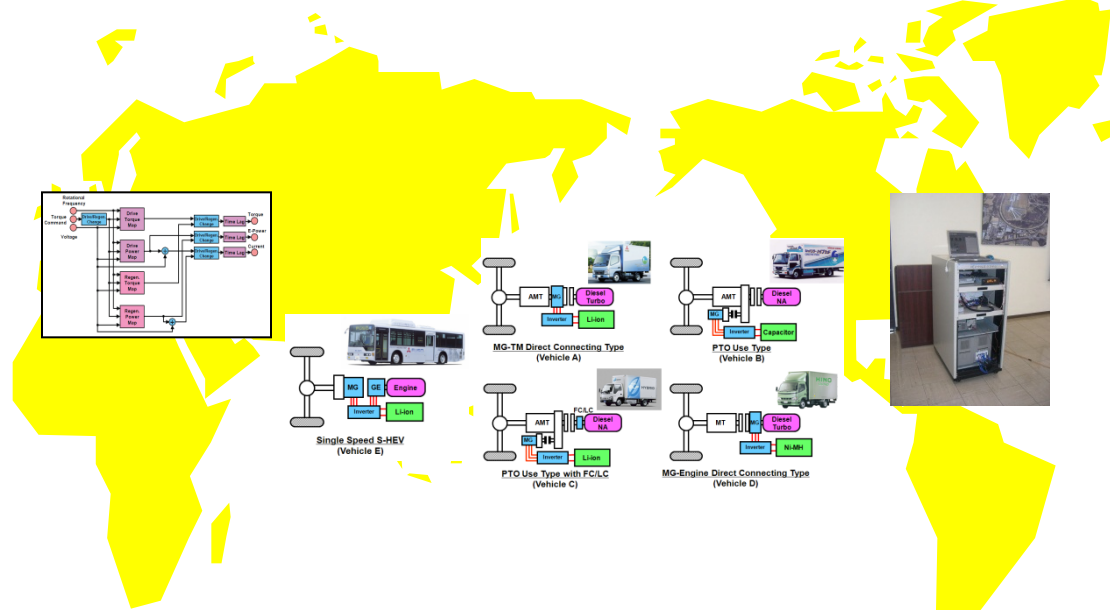




UNITED NATIONS

Working Paper No. HDH-12-06e
(12th HDH meeting, 15 January 2013)



GRPE Informal Group on Heavy Duty Hybrids

12th HDH, Geneva, 15 January 2013



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Summary of 11th HDH Meeting

- **The results of the 11th meeting in Ottawa on 10 to 12 October 2012 are summarized, as follows:**
- **Validation test program 1 has been started by the universities with the development of driver models and a first proposal of thermal models**
 - **The budget for validation test program 1 is shared between OICA and EU COM**
 - **Sweden will provide budget for the development of the component library**
 - **Concerns have been raised that the thermal models might complicate the simulation process; simple solutions are preferable over very accurate modelling**
 - **OICA announced the availability of at least 2 vehicles for validation test program 2**
 - **The universities were asked to establish regular exchange of information with JASIC**
 - **The revised roadmap and project planning were agreed**
 - **A drafting group will be established at the beginning of 2013; nomination of experts should be communicated at the 65th GRPE**
 - **The Japanese regulation Kokujikan 281 will be the basis for the gtr**
 - **PTO operation will be excluded from the current work program**
 - **Acceptance criteria for validation test program 2 need to be agreed upon**



Items for 12th Meeting

- **The following items need to be discussed:**
 - **Discussion of validation test program 1**
 - **Proposal of HVs for validation test program 2**
 - **General principles for validation test program 2**
 - **Laboratories/institutes interested in HDH validation test program 2**
 - **for example, powerpack testing and vehicle testing**
 - **Establishment of drafting group**
 - **Nomination of experts**
 - **Drafting group technical secretary**
 - **Adoption of revised roadmap and project planning**
 - **Current HDH mandate ends in June 2014**
 - **2013 meeting dates**



Status of HDH Work Program

➤ Validation test program 1

- Validation test program 1 based on SILS (Software-in-the-loop simulation) started in June 2012
- Development of driver models has been completed
- Several meetings with OEMs took place
- Simple thermal models are being developed
- Drive cycle investigations are under work

➤ Next steps

- Discussion on chassis dyno and powerpack testing will continue on the basis of input from ongoing programs at the Contracting Parties
- Validation test program 2 with real HVs will start around March 2013
- Establishment of drafting group



HDH Terms of Reference & Timing

➤ Terms of reference (ECE/TRANS/WP.29/GRPE/60, Annex III)

- The informal group shall submit the final report of the investigation on HILS for consideration to GRPE at its 65th session in January 2013
- The target completion date for the work of the informal group on HILS shall be the 163rd session of WP.29 in June 2014
- 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

➤ Timing (Inf. Doc. GRPE-60-12)

Item	Time
IG meeting (timing & budget)	10/2010
Report to GRPE	01/2011
2 years work program	
IG final report to GRPE	01/2013
GRPE adoption	01/2014
WP.29 adoption	06/2014



Updated Roadmap & Project Planning

Activity	2 0 1 1				2 0 1 2				2 0 1 3				2 0 1 4																	
	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11
HILS model verification	[Purple bar]				[Purple bar]																									
Component testing verification	[Purple bar]				[Purple bar]																									
Extension to non-electric hybrids	[Purple bar]				[Purple bar]																									
PTO operation	[Purple bar]				[Purple bar]																									
WHVC weighting & scaling factors	[Purple bar]				[Purple bar]																									
Assessment of chassis dyno procedure	[Yellow bar]				[Yellow bar]																									
Assessment of powerpack testing	[Yellow bar]				[Yellow bar]																									
7th meeting				X																										
8th meeting					X																									
9th meeting						X																								
Interim report							[Checkered flag]																							
Validation test program 1																														
10th meeting								X																						
11th meeting										X																				
Validation test program 2																														
Drafting text for gtr n°4																														
12th meeting												X																		
Evaluation & conclusions																														
13th meeting													X																	
Final report																														
14th meeting														X																
15th meeting																														
16th meeting																														
GRPE adoption (17th meeting)																														
WP.29 adoption																														

➔ Final report to GRPE delayed to 67th session, GRPE adoption to 68th session

➔ Timing for WP.29 adoption delayed to 164th WP.29 (11/2014)



Next Meetings

- **The next meetings are scheduled as follows:**
- **The 13th meeting will be on 21/22 March 2013 in Borlänge, Sweden**
 - **The 1st meeting of the Drafting Group will be on 19/20 March 2013 in Borlänge, Sweden**
 - **The 14th meeting will be on 04 June 2013 in Geneva (to be confirmed)**
 - **The 15th meeting will be in October 2013 (San Francisco, week 43 (October 21) is proposed)**
 - **The 16th meeting will be in January 2014 in Geneva (to be confirmed)**