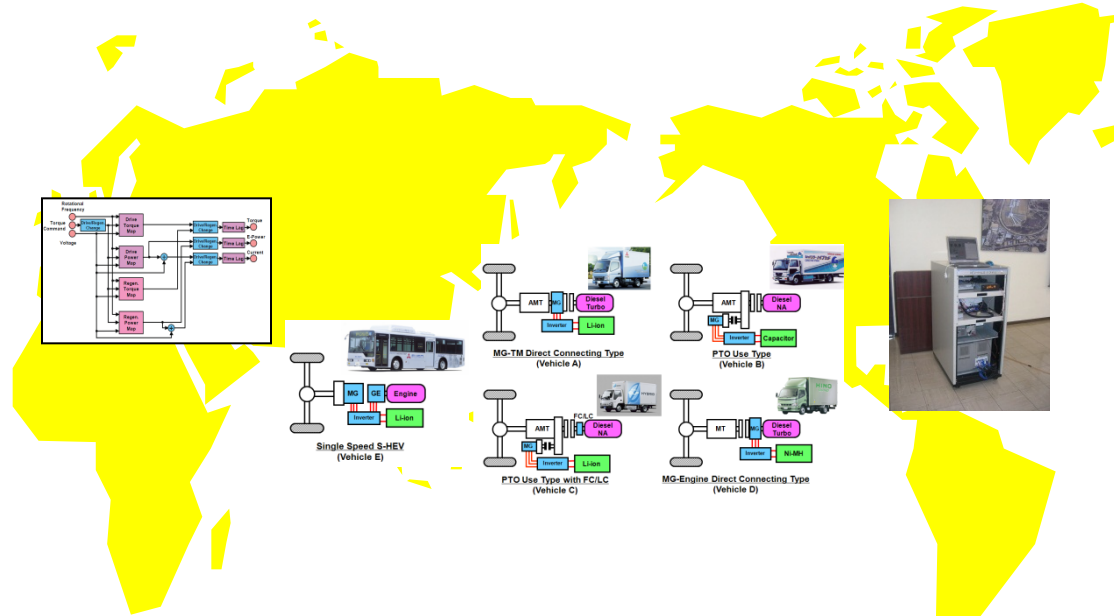




UNITED NATIONS

Working Paper No. HDH-17-08e  
(17th HDH meeting, 08/09 April 2014)



# GRPE Informal Working Group on Heavy Duty Hybrids

17th HDH, Madrid, 08 to 09 April 2014



# Contents

- **Summary of 16th HDH meeting**
- **Topics for 17th HDH meeting**
- **Status of drafting group**
- **Roadmap & project planning**
- **Next meetings**



# Summary of 16th HDH Meeting

- **The results of the 16th meeting in Geneva on 07 January 2014 are summarized, as follows:**
- **Model version 0.5 was released and some comments received; still minor improvements necessary**
  - **Chassis dyno testing will not be included in this gtr amendment**
  - **Evaluation of validation test program 2 will continue until April 2014 (details see page 5); EPA asked for a transparent validation process incl. availability of detailed test results**
  - **As regards the drive cycle, institutes and JASIC have agreed on the fixed slope minicycle approach; implementation is ongoing with final approval foreseen at 17<sup>th</sup> HDH meeting**
  - **Definition of rated power for a hybrid system still under discussion**
  - **US EPA raised concerns with the timeline of the current mandate, while Japan supported November 2014 WP.29 adoption in order to have time for transposition into the post-JP09 regulation planned for 2016; EU COM also supported November 2014 adoption, but indicated that further discussion is needed on EU implementation**
  - **Approval procedure for OEM specific models must be defined more clearly**
  - **Discussion on hardware control functions (master ECU) will continue**
  - **While Japan and OICA support total system work as basis for emissions calculation, other CPs have not finalized their position yet. EU-COM and some EU CPs raised reservations; discussion among EU CPs will follow.**
  - **Provided that the ongoing activities deliver according to the expectations, the group expects that the timeline can still be met**
  - **Due to the open issues (details see page 6), there remains a risk that the work program<sub>3</sub> will not be finalized in time**



# Topics for 17th HDH Meeting

- **Evaluation of validation test program 2**
- **WHVC road gradients (to be agreed)**
- **HILS verification criteria**
- **Approval procedure for OEM specific models**
- **Basis for brake specific emissions calculation (system work vs. engine work)**
- **Rated power**
- **Definition of hardware hybrid control functions or master ECU**
- **Hybrid system family concept**
- **HILS testing**
- **Cold start**



# Drafting Group

## ➤ Status

- Two meetings in March and May 2013 w/o technical secretary
- Technical secretary was installed in September 2013
- The 3rd meeting was held on 22 and 23 October 2013 in San Francisco
- The 4th to 6th meetings were held in November/December 2013 as web meetings
- The 7th meeting was held on 18 December 2013 in Brussels
- 3 web meetings (n° 8, 9, 11) were held between January and March 2014
- The 10th meeting was held on 18/19 February 2014 in Tokyo
- The formal document of the gtr was submitted to GRPE on 10 March 2014

## ➤ Further procedure

- The 12th meeting will be held on 10/11 April 2014 in Madrid
- The drafting group will continue to work until May 2014



# HDH Timeline

- **GRPE approved the following timeline proposed by the HDH IWG:**
  - **Informal document GRPE-68-12 was presented to GRPE 68 for consideration; it included text finalized by December 2013**
  - **The formal document for GRPE 69 was based on informal document GRPE-68-12**
    - ❖ **Document number: ECE-TRANS-WP.29-GRPE-2014-11e**
    - ❖ **it includes the drafting progress and those items of the open issues list resolved by 01/03/2014**
  - **An informal document will be submitted to GRPE 69 by 15/05/2014, which will**
    - ❖ **include the drafting progress after March 2014 and the remainder of the open issues list**
    - ❖ **complement the formal document ECE-TRANS-WP.29-GRPE-2014-11e**
  - **After adoption of both documents by GRPE 69, a consolidated document will be provided to WP.29 for approval**
  - **The technical report will be submitted as an informal document to GRPE 69, since the work program was not completed by March 2014**
- **HDH agrees that the timeline can be met**



# Roadmap & Project Planning

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Activity	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	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12					
HILS model verification																																																												
Component testing verification																																																												
Extension to non-electric hybrids																																																												
PTO operation																																																												
WHVC weighting & scaling factors																																																												
Assessment of chassis dyno procedure																																																												
Assessment of pow erpack testing																																																												
7th meeting				X																																																								
8th meeting								X																																																				
9th meeting									X																																																			
Interim report																																																												
Validation test program 1																																																												
10th meeting																																																												
11th meeting																																																												
Validation test program 2																																																												
Drafting text for gtr n°4																																																												
12th meeting																																																												
Evaluation & conclusions																																																												
13th meeting																																																												
Final report																																																												
14th meeting																																																												
15th meeting																																																												
16th meeting																																																												
17th meeting																																																												
GRPE adoption (18th meeting)																																																												
WP.29 adoption																																																												



# Next Meetings

- **The next HDH meetings are scheduled as follows:**
  - **The 18th meeting will be on 03 June 2014 in Geneva**
  
- **The next drafting group meetings are scheduled as follows:**
  - **The 12th meeting will be on 10 and 11 April 2014 in Madrid**
  - **The 13th meeting will be on 24 April 2014 (web meeting)**
  - **The 14th meeting will be on 08 May 2014 (web meeting)**