## HDH 13<sup>th</sup> - Summary

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- The universities and JARI presented methods for matching the work of the WHVC with the WHTC but smoothing the instantaneous power to remove unrealistic grade.
  - The universities proposed match the work over mini-cycles by adding constant grade for each section.
  - JARI present two options. The first was to match the work over the full cycle by adding a constant grade for the full cycle. The second option was to add a 30 second moving average to the instantaneous grade.
- It was discussed if the torque interrupts during shifting should ignored.
  Current Japanese HILS method ignores the shifting events, but EPA
  expressed concern that this would not allow the test to recognize the
  benefit of advance transmission like dual clutch transmission since AMT's
  would also be test as if they have no torque interrupt.
- EPA presented on their current work evaluating different powertrain test procedures and cycles. EPA also reiterated that the powertrain method could be used to validate the HILS model just like it is done in Japan.

## HDH 13<sup>th</sup> – Summary Continued

- Validation phase 2 was discussed.
  - OEM will work with the universities to build a model for each vehicle.
  - Universities will work on creating drive cycles for chassis testing of each vehicle.
  - May through July, JRC will chassis test the two parallel hybrid vehicles (Volvo bus and Iveco truck) and one serial hybrid vehicle (MAN bus).
  - Universities will run SILS to create engine cycles.
  - OEM will perform engine test with engine cycles created with SILS.
  - OEM's will setup HILS test and validate that the cycles generated with SILS and HILS are identical.

## **HDH Status**

- 2<sup>nd</sup> drafting meeting, June 3<sup>rd</sup> in Geneva or May 29<sup>th</sup> in Brussels
- 14<sup>th</sup> HDH meeting, June 4<sup>th</sup> in Geneva
- 15<sup>th</sup> HDH meeting, October 22<sup>nd</sup> in San Fransico
- Draft GTR by December 2013
- Final GTR by mid-March 2014