Working paper No. HDH-02-06

TO: UN ECE Informal Working Group on Heavy Duty Hybrids (HDH)

FROM: Cleophas Jackson,
U.S. Environmental Protection Agency

DATE: June 2010

SUBJECT: Comments on the Terms of Reference

The purpose of this memorandum is to provide initial feedback to the workgroup regarding the discussion during the first informal meeting on Heavy Duty Hybrids held in Brussels, April 19, 2010.

With respect to the terms of reference, for a system or methodology that would be used for certification, it is important that the following be considered:

1) A system that results in outputs which are quantifiable, verifiable, and reproducible
2) A system that results in outputs that provide a method for assessing real world compliance broadly and on a case by case basis
3) A system that is capable of incorporating updated information and new data to produce the most accurate outputs
4) A system that is appropriately transparent as to allow governments and their representatives / agents the latitude to easily assess its performance and ensure accuracy and a level playing field

Additionally, with respect to Item 2 in the Terms of Reference that discusses the HILS approach, we have some concerns. The potential use of separate duty cycles for criteria pollutant evaluation versus CO2 / GHG pollutant evaluation may need to be revisited as the performance evaluation needs to be conducted in the context of the operation of the complete system. At this time, we do not believe the use of separate and distinct duty cycles to be the appropriate approach. We believe additional discussion is needed prior to taking this decision. For items with native intelligence, it is important to accurately reflect the level of interaction that occurs within the fully integrated system of the vehicle if the tool is to be used to address certification / type approval and compliance.

With respect to the description of the proposed regulation (Section B of the document with the title of "Proposal for an Emissions Test Procedure for Heavy Duty Hybrid Vehicles"), to ensure PTO operation is effectively addressed in the HILS scenario, the following text should be inserted. "Non-tractive or Power Take-Off (PTO) operation should be considered, as much of the benefit associated with the use of hybrid technology is associated with the use of recovered energy for extended PTO operation." This may require a duty cycle to address this operation as it is not currently represented in the activity being evaluated. Beyond inclusion of PTO operation for the full system evaluation, unique duty cycles for engine certification (one for GHG pollutants and a separate cycle for criteria pollutants) seems counterproductive.

Cc: Karl Simon
Maureen Delaney
William Charmley
Byron Bunker
Todd Sherwood
Michael Olechiw