

Submitted by the Expert from the United States of America  
Informal Group on the World Heavy-duty Cycle (WHDC)

These comments are made in reference to GRPE/WHDC/25, the meeting minutes of the 25<sup>th</sup> WHDC meeting held in Beijing, China in October 2008.

Specifically, in section 4.2 as regards reference fuel, we want to reiterate our support for the ongoing effort to collect data pertinent to the fuel specification issue. That said, we consider fuel specifications as primarily an emission limit issue rather than a test procedure issue. While we do not know at this time, we can foresee an outcome whereby the WHDC gtr would be allowed as an option for demonstrating compliance with US emission limits while tested using either the WHDC or the US reference fuel. While a manufacturer may demonstrate compliance using the WHDC reference fuel, EPA would retain the right to conduct confirmatory and other compliance testing using the current or future US reference fuel. Similarly, any in-use testing conducted in the US would use US fuels. The data being collected may well influence the emission limit to which WHDC tested engines are judged, but we do not necessarily foresee a change to US reference fuels at this time for engines tested using the WHDC procedure as the WHDC gtr currently does not include emission limits.

Specifically, in section 4.4 as regards cold start weighting, the United States has made clear that an important issue for the US is to avoid back sliding from current levels of control. The US has not conducted a formal review of the procedure put forward in Tokyo by our Japanese colleagues because the issue for us is not to determine what is representative, but what provides us with equal control. Our lack of response to the Japanese proposal should not be interpreted as agreement or disagreement, but only as a lack of formal review.

Specifically, in section 4.5 as regards PM sampling, the United States wishes to make the following comments.

- As regards sample filter size, we support the decision to eliminate the 70 mm option. As regards filter material, we propose that the WHDC gtr be amended such that PTFE membrane filters be the required filter material unless PM emissions are above 0.13 g/kW-hr. We believe that, provided the membrane filters are handled properly, they provide a better and more repeatable PM result for low PM engines than do the coated glass fiber filters.
- As regards filter face velocity, we are unclear as to the decision to include a minimum velocity of 0.9 m/s. We are concerned that, for some engines, the filter loading may exceed 400 µg which would dictate a lower dilution ratio. If the gtr should accommodate testing of such engines, we may want to consider allowing for lower dilution ratios. If no one sees a need to accommodate such engines, we can support this change. For example, the WHDC gtr could be amended such that the requirement be to set the filter face velocity between 0.9 and 1.0 m/s, unless filter overloading (i.e., greater than 400 µg) dictates a lower velocity. This would ensure a

repeatable and minimized artifact contribution, while still remaining within the pressure drop and efficiency limits of the filter. If filter loading exceeds 400  $\mu\text{g}$ , the filter face velocity could be decreased as low as 0.5 m/s and, if that is not enough to lower the filter loading, then the minimum dilution ratio could be increased.