

Memorandum

To: Megan Beardsley, EPA

From: Lesley Stobert, EC/R Incorporated

Subject: Comments from MOVES September 25, 2012 workgroup meeting

Date: November 26, 2012

At the conclusion of the September 25, 2012 MOVES workgroup meeting, John Koupal asked the members to submit any comments on the information presented at that meeting and also any comments regarding evaporative and non-road emissions and the vehicle miles traveled variable by day and by hour in MOVES. EC/R received two sets of comments. One comment was from Matt Barth of the University of California (UC) – Riverside regarding the use of test data in the continuing development of MOVES. The other was from Chengfeng Wang of the California Air Resources Board (CARB) regarding several aspects of the MOVES data and assumptions. The full comments are presented below.

Comment from Matt Barth, UC-Riverside:

Additional Data Sources:

As MOVES continues to evolve, it is clear that it needs to take advantage of all available test data for model development, calibration, and validation. During the discussion at the last workgroup meeting, it was mentioned that there are several additional data sources that may be available to support MOVES. For example, there are several research programs being carried out in California with support from the California Air Resources Board (CARB), California Department of Transportation (CALTRANS), and the South Coast Air Quality Management District (SCAQMD). There have been a number of testing programs for light-duty vehicles, heavy-duty vehicles, construction and other off-road equipment, port applications, marine vessels, and other sources. This has also included data on different fuels, including biodiesel compressed natural gas (CNG), different vehicle/engine technologies, including hybrid technologies, and operating conditions or cycles. It is strongly suggested that these data be integrated into the MOVES development process. This will require acquiring permission for use of the data from the data owners, compiling the various data sets, and possibly preliminary analysis before they can be used for MOVES development.

Comment from Chengfeng Wang, CARB:

Analysis of Recent Heavy Duty Vehicle Emission Test Programs

- In-use compliance data vs. MOVES - It would be useful to show CO₂ in addition to NO_x. This could give insight as to whether the general under prediction is due to

under prediction of load. This is possible since the model predicts a little better for the light and medium heavy classes.

- In the MOVES estimates, do they use the default assumptions of operating parameters, or do they use the actual values of the in use compliance/drayage fleets?

GHG Emissions

- The long-haul fleet fraction that does business in California is subject to improvements in trailers.
- The rule distinguishes the heavy class by tractor height. Is this reflected in the adjusted coefficients? Does the regulation penalize the taller tractors, even though they may be more aerodynamic in combination with a trailer?
- Claiming NOx and PM benefits associated with aerodynamic improvements may not be appropriate, especially for vehicles with exhaust after treatments like SCR/DPF. What test data do you have that demonstrate criteria pollutant benefit caused by aerodynamics for 2007 and 2010 standard trucks?
- The modeling of the APU is a good idea, but necessitates a conscious estimate of how many already use truckstop electrification and/or choose the idle NOx certification option.

CNG Transit Buses

- The California fleet has a much higher usage of CNG. It has been the majority of sales for many years now. Also, the CNG fleet is much newer.