

February 9, 2007

Robert Okamoto  
Industrial Section  
Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95814  
Via email to : [rokamoto@arb.ca.gov](mailto:rokamoto@arb.ca.gov)

Dear Robert:

The Engine Manufacturers Association (EMA) is providing the following comments regarding the "Proposed Biodiesel Research (December 5, 2006 Draft)" distributed by the Air Resources Board (ARB) at its December 15, 2006 Workshop (the "Research Plan").

ARB's research should answer the following questions:

- Is there an effect on California's emissions inventory from using biodiesel fuel blends?
- If there is an effect from biodiesel use, is this effect influenced by the saturate level of the biodiesel, the biodiesel blend level, and / or the petroleum diesel fuel utilized?
- If biodiesel adversely affects emissions, is there a maximum acceptable blend level for use in California?
- Are biodiesel emission effects found to be consistent when different engine emission control technologies are compared; e.g. pre-2004, 2004-2006, and 2007-2009 on-highway; or Tier I, Tier II, Tier III non-road?
- Are biodiesel emission effects found to be consistent when measured over different emission test cycles?

EMA appreciates ARB's efforts to integrate the proposed Research Plan with similar plans currently being developed by the U.S. EPA. It is very important that these two activities are coordinated in a meaningful way.

In addition, EMA encourages ARB to review the results of test programs recently conducted by the National Biodiesel Board (sponsored Tier II toxics program), U.S. military, U.S. Department of Energy, and the National Renewable Laboratory Energy Laboratory.

EMA recommends that the ARB research program utilize (i) petroleum diesel fuels commercially available in California and the surrounding states; and (ii) biodiesel fuels meeting the current ASTM D6751 parameters, with feedstock selection to include a full range of saturates. The biodiesel blend ratios selected should provide ARB with the information necessary to determine acceptable levels for use in California. EMA recommends including B0, B5, B20, and B100 levels. In addition, the tests should be structured so that an initial screening program to identify significant factors is followed by a focused program, including the necessary

replicates. Such an approach should provide the statistical certainty required. Laboratories selected should have experience with similar testing.

It is also important for ARB to select test engines which will provide an accurate representation of the emissions impacts of biodiesel in California. Typical, commercially available products including new and retrofit variations based on 2010 and 2020 emission inventory contributions, are recommended. The engine test program should utilize existing ARB/U.S. EPA emission test cycles, including the FTP, SET, UDDS, 8-mode, and non-road transient for the applicable engine / vehicle. Only regulated pollutants and fuel efficiency effects should be evaluated and reported.

Finally, EMA recommends that research regarding the science of NO<sub>x</sub> formation and mitigation be dropped from ARB's Research Plan. Such matters are more appropriate for study by academia and/or commercial interests.

EMA looks forward to working with all interested stakeholders on ARB's Research Plan. In the meantime, please let me know if you have any questions or need additional information regarding these matters.

Sincerely,

Roger T. Gault  
Technical Director

Cc: Susan Feingold Carlson  
Jed Mandel