UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
AIR AND RADIATION

Dear Clean School Bus Assistance Agreement Recipient:

Thank you for participating in the National Clean Diesel Campaign's Clean School Bus USA Program and congratulations on your assistance agreement. I applaud your efforts to reduce diesel emissions from your school bus fleet.

As you move forward I would like to raise some important technical points regarding fleet maintenance. The information and guidance below is based on experience and lessons learned from our existing projects and may prove useful in achieving the greatest levels of emissions reductions. Please make sure that the transportation and maintenance managers and others involved with the Clean School Bus grant receive a copy of this letter.

1) Please consider the following practices in conjunction with your Clean School Bus project.

a) Good maintenance practices are necessary to achieve low emissions and optimal fuel economy. Replacing intake air filters and monitoring fuel and oil consumption are recommended actions. Engines with high fuel or oil consumption may need repair and should not be retrofitted until proper operation is confirmed.

b) Repair all exhaust leaks.

c) Be cautious when considering the use of fuel additives unless necessary and appropriate. An example of such would be to correct a confirmed lubricity problem or to avoid gelling in winter. Fuel additives may impact engine and emission control system durability. All fuel additives used in on-road vehicles must be registered with EPA. Information on EPA's fuel registration process and a list of registered fuel additives can be found at http://www.epa.gov/otaq/additive.htm. Registration does not imply endorsement of product safety but provides information about the content of the additive. As discussed in item 3.c., all diesel fuel sold in the U.S. since January 2005 must meet a fuel lubricity specification established by ASTM. It is not necessary for end-users to add fuel lubricity additives to highway diesel fuel.

d) If district vehicles are evaluated for retrofit technology options (such as exhaust temperature data logging required for diesel particulate filters), obtain and keep documentation of the evaluation and the results, such as copies of the exhaust temperature profile and data logging records.

e) Monitor engines and fuel systems for leaks. Prior to installing equipment or changing fuels, visually inspect the engine and fuel system to confirm system integrity. Correct fuel and or oil leaks prior to installing aftertreatment technologies. If switching to ultra low sulfur diesel (ULSD) fuel or other fuels, periodically inspect the engine, fuel pump and fuel lines, and contact your engine manufacturer representative(s) to determine if any technical service bulletins are available and applicable to your engines.

2) Please recognize the following when considering retrofit technologies.

a) Crank case emission control systems and certain aftertreatment technologies, such as diesel particulate filters (DPFs), may require periodic maintenance. Be sure to document and monitor this maintenance. Work with your technology supplier to have an adequate supply of replacement items such as disposable crankcase and fuel filters.

b) Changes in maintenance needs may be an indication of other problems that require urgent attention. For example, diesel particulate filters may mask problems with fuel injectors that might otherwise be recognized by increased levels of exhaust opacity (smoke). Consequently on a filter-equipped engine, an injector problem might be identified by an increase in fuel consumption. Similarly increased oil burning from bad valve seals or a turbocharger problem may result in the need for more frequent diesel particulate filter cleaning.

c) Particularly for vehicles with aftertreatment technologies (such as catalysts or DPFs), do not burn (bulk blend) crank case oil in your vehicles and do not use onboard oil burning systems. These systems should be removed or disconnected (not just turned off) prior to installing aftertreatment technologies.

3) Please consider the following regarding fuels.

a) If switching to a different fuel, such as ULSD or biodiesel, obtain a copy of the fuel analysis (before and after the switch) to monitor changes. The fuel analysis should include at the least results and specifications for: sulfur, cetane, aromatics, lubricity, distillation, and flash point.

b) If switching to different fuels, monitor and change fuel filters as necessary. When switching to ULSD some fleets have changed fuel filters after 2 or 3 tanks of fuel as they have been concerned with this cleaner fuel acting as a solvent to remove sediment from fuel tanks. EPA has not been able to document this as a common

occurrence, nor do we know if the issues seen are actually related to the use of ULSD. Nevertheless, it may be a practice to consider.

c) Beginning in January of 2005, all highway diesel fuel sold in the U.S. must meet a new ASTM fuel lubricity standard (ASTM D 975). Any fuel lubricity additives necessary to meet this new specification will be added by the fuel suppliers, end-users do not need to add fuel lubricity additives.

d) If you switch fuels or fuel properties, monitor engines and fuel systems for leaks, and continue to periodically inspect the engine, fuel pump and fuel lines for leaks.

e) Be sure to check with your fuel supplier and engine manufacturer for more information on recommended best maintenance practices. It's important to take the prudent steps outlined above to ensure your fleet's success when transitioning to ULSD.

f) EPA is a member of a recently formed industry-government organization named the Clean Diesel Fuel Alliance (CDFA). One of the principle goals of the CDFA is to inform the public and end-users regarding the upcoming national introduction of ULSD, which by regulation must begin no later than June 1, 2006 at refineries, and October 15, 2006 at retail stations. The CDFA has recently released a web-site which contains information regarding the introduction of ULSD, including the answer to many common questions, including questions regarding fuel lubricity and potential maintenance issues. We would encourage you to visit the CDFA web site, www.clean-diesel.org, for additional information on the use of ULSD.

We hope that by observing the above suggestions you will have a trouble free experience and successfully make a significant reduction in diesel emissions with your project. For more information please email cleanschoolbususa@epa.gov or contact your grant's EPA Project Officer.

Sincerely,

Jim Blubaugh

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