

December 15, 2005

Ms. Tracy Babbidge, Assistant Director  
State of Connecticut  
Bureau of Air Management  
79 Elm Street  
Hartford, CT 06106

Dear Ms. Babbidge:

The Engine Manufacturers Association (EMA) is the trade association representing the interests of companies that manufacturer internal combustion engines. Specifically, EMA member companies manufacture and market diesel, gasoline, and alternative-fuel engines that are used in a wide array of applications such as trucks and buses, construction equipment, marine vessels, and stationary sources. Accordingly, the focus of your recent reports outlining plans to reduce diesel emissions in Connecticut directly affects EMA members' products.

EMA closely works with both the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) on emissions issues and standards for diesel engines. EMA and its members are also engaged with other stakeholders to develop policies and programs to help government and customers reduce emissions from their existing fleets. And, as you know, EMA participated in Connecticut's initial meeting to examine programs and opportunities to reduce diesel emissions.

EMA has reviewed the four draft reports that comprise the Connecticut Clean Diesel Plan. EMA's comments on each of the plans are attached for your review and incorporation into the final report. As we indicated in our initial presentation, EMA believes that there are significant opportunities to reduce emissions from Connecticut's existing diesel fleet. Emissions reductions are best achieved through the adoption of voluntary, incentivized programs that encourage and reward current owners to either replace, repower, or retrofit their vehicles and equipment through the application of the most cost-effective technology. The key to a successful program is providing sufficient funds to pay for the equipment needed to reduce emissions, and identifying funding sources should be a key component of your final plan.

In general, the draft reports provide a good basis for proceeding to develop an overall plan to reduce diesel emissions in the state. There are several concerns, particularly with the On-Road Fleets Subcommittee Report, that need to be addressed or corrected, and those concerns and issues are addressed in EMA's comments.

Please do not hesitate to call me if you have any questions for would like to discuss these topics further.

Sincerely,

Joseph L. Suchecki  
Director, Public Affairs

**Comments of the Engine Manufacturers Association  
On The  
Connecticut Clean Diesel Plan Draft Reports**

**December 15, 2005**

**1. On-road Fleets Subcommittee Report**

**Heavy-Duty Diesel Inspection and Maintenance**

Engine manufacturers have made significant improvements to reduce emissions from diesel vehicles. PM emissions from such vehicles have been reduced by over 90%, and will be reduced by another 90% with implementation of the national clean diesel fuel and engine rule starting in 2007. Achieving the emissions standards from in-use fleets is contingent on proper maintenance by the owner in order to ensure that the engine and emissions control equipment are operating at the proper performance levels.

Inspection and Maintenance (I&M) programs for in-use vehicles are a good way to help ensure that applicable emissions standards are being met. Effective I &M Programs can significantly reduce emissions if they are designed to identify and require the repair of gross emitters. Improved and enhanced I&M programs are an excellent way to help reduce diesel emissions in the state.

**Heavy-Duty Diesel Engine – Not to Exceed (NTE) Standards**

EMA understands that Connecticut and several other states adopted CARB's heavy duty emissions standards to assure that there was no "backsliding" in Model Year 2005 and 2006 heavy-duty vehicles emissions. There was a perception that engine manufacturers' would somehow increase emissions since the federal NTE standards did not take effect until 2007. DEP is suggesting that DMV enforce this requirement to ensure that vehicles registered in Connecticut have CARB certified engines.

This recommendation should be totally removed from the report. First and foremost, there are no differences in emissions between US EPA and CARB certified engines for Model Years 2005 and 2006. The engines and emissions are virtually identical so that the significant NOx reductions mentioned in the report simply do not exist. As EMA commented when these rules were being proposed and discussed in the states, the rationale for their adoption is invalid. Engine manufacturers did not redesign or re-engineer their engines to increase NOx emissions

for any US EPA certified engines. The bottom line is that NOx emissions from 2005 and 2006 model year engines are not dependent on whether the engines are certified by EPA or CARB.

Secondly, CARB never finalized or implemented NTE requirements for 2005 and 2006 model year heavy-duty engines. Connecticut, and other states, can only opt-into and adopt CA new motor vehicle emissions regulations that have been finalized and that have received a Clean Air Act Waiver by the US EPA. CARB has never applied for, nor has EPA issued, a waiver for these regulations. Consequently, there is no legally valid way for Connecticut to adopt or enforce these regulations.

Consequently, not only is there no environmental or air quality benefit from enforcing these regulations, but the regulation is not enforceable in any case since there is no final CARB NTE regulation for which a required waiver from EPA have been granted. DEP needs to remove this section from the final report.

### **Heavy-duty Diesel Engine-Chip Reflash Program**

There are many technical and legal issues surrounding the reflash program, and the discussion should be eliminated from the final report. The requirement for a chip reflash program stems from consent decrees with individual engine manufacturers in 1998. The parties involved in the consent decrees agreed to meet certain conditions as part of the settlement, and engine manufacturers have complied with all the terms of the consent decrees. Although California has adopted a regulation on this topic, that regulation is currently under litigation in the California courts on the grounds that California lacks the authority to issue such a regulation. A decision on the case is expected before the end of the year.

Regardless of the outcome of the California case, there would be significant legal issues surrounding any efforts by Connecticut to adopt a mandatory reflash program involving engines associated with consent decree agreements. In addition, this issue affect engines in the 1990s that are becoming a smaller and smaller proportion of the existing fleet. Any anticipated NOx benefits of a mandatory reflash program would be minimal.

### **Evaluation of Clean Fuel Options**

It should be noted that EPA's 2007 and 2010 emissions standards for new heavy duty engines and vehicles essentially eliminate any emissions differences between diesel and alternate-fueled engine technologies. Therefore, when discussing policy options related to new engines or vehicles, PM, hydrocarbon, and NOx emissions are no longer a significant issue. It should be pointed out that emissions from natural gas and diesel engines are essentially the same.

### **On road Strategies, A3, Near Term**

One near term strategy that should be recommended and pursued is to ensure that Connecticut take advantage of recently passed federal legislation authorizing over \$1 billion for retrofit funding. This funding will be tied to state retrofit and emissions reductions programs, and the State should ensure that it is ready and able to take full advantage of these programs. In

addition, there have been changes in the requirements and priorities for CMAQ funds that will allow additional funds for emissions reductions through retrofits. Similarly, the State should ensure that it is ready to take advantage of these funds to reduce emissions.

### **On Road Strategies, B1, B3, Mid-Term**

B1 recommends that the state concentrate on an implementation strategy for waste haulers. Although waste haulers are often considered a priority because many are involved in government operations or contracts, EMA recommends that the state reconsider addressing this sector as a first priority. First, waste haulers are a relatively small fleet and while they do operate in residential areas, they do so infrequently (once per week) and for a very short time in any given area. Consequently, any exposure to emissions from waste hauling vehicles is very small. Secondly, there have been a number of technical issues regarding implementation of the mandatory waste hauler rule in California. Because of their duty cycle and mode of operation, there are few verified retrofit devices available, and CA has had to issue numerous exemptions to address this issue. Based on the above, action on waste hauling vehicles should not be given such a high priority.

The draft report also discusses mandatory retrofits for waste haulers. Such a mandatory approach through state legislation or regulation is likely to be challenged on preemption grounds under the Clean Air Act. The state should avoid attempts to implement mandatory programs and should instead seek emissions reductions through voluntary incentivized programs.

B3 recommends a Chip Reflash rule. As noted above, there are many legal and procedural issues with adoption and implementation of such a rule. In addition, the benefits of a mandatory rule in terms of NOx emission reductions is questionable. EMA recommends that Connecticut not pursue this course of action.

### **On-road Strategies, C1,C2, Long-term**

Locomotives and marine vessels are regulated by US EPA and/or International emissions regulations. Consequently, Connecticut does not have the authority to regulate emissions from these sources. Any efforts in these areas must be through voluntary, incentivize programs.

## **2. Transit Sector Subcommittee Report**

### **Fleet Retrofit, Replacement and Retirement Options**

Transit fleets provide an excellent opportunity to reduce diesel emissions since transit fleets are government operated, centrally fueled, and the emissions controls technology is well developed. Efforts to retire older buses with new clean 2007 technology and to add diesel particulate filters for buses that will remain in service for several years is a good strategy. The primary issue that must be addressed is providing funding for any modernization or retrofit program. Connecticut needs to identify the source of funds to complete this effort.

## **Clean Fuels, Compressed Natural Gas**

Although it was historically true that natural gas-fueled buses emitted lower emissions compared to traditional diesel vehicles, that is no longer the case. New diesel vehicles will be as clean or cleaner than natural gas vehicles, so that the emissions distinction between diesel and natural gas vehicles is no longer important in the purchasing decision for new transit buses.

The statement in the report that CNG buses are virtually toxic-free is also incorrect. In fact, California has demonstrated that CNG buses have higher emissions levels of certain air toxics compared to diesel buses that comply with the new 2007 emissions standards. This error in the text should be corrected.

### **Option 1 Retrofits**

The data analysis presented in the report indicates that the costs to retrofit or replace the state's transit fleet is very high with a cost-effectiveness figure of nearly \$451,000 per ton of PM reduced. Connecticut must evaluate whether the large costs to reduce the amount of PM for such a program is justified.

## **3. Construction Equipment Subcommittee Report**

### **Construction Subcommittee Action Items**

Construction equipment is extremely variable and offers a significant retrofit challenge. Construction equipment is often specialized which requires the use of many different engines and powertrains as well as an extremely variable duty cycle. Because there is so much variability, there currently are few available verified retrofit technologies.

Because of this fact, mandatory requirements are problematic, and any retrofit program must be based on voluntary incentives that encourage emissions reductions where technically and economically feasible.

Of the options listed, EMA recommends that the State continue to encourage emissions reductions through voluntary and incentivized programs. Such programs allow owners of equipment that can be retrofitted to do so in a cost-effective manner. Such programs also minimize administrative costs.

### **Clean Fuels Options**

The comments regarding natural gas and diesel vehicles discussed above also apply to construction vehicles. Once the Tier 4 emissions standard are effective, diesel and natural gas equipment emissions will be comparable. Also, it is incorrect to state that natural gas engines and equipment is free of air toxics emissions.

The option to convert or retrofit construction equipment to operate on natural gas fuels is not feasible. This should be clarified in this section.

## **CT Clean Air Construction Initiative**

Although there are some merits to developing specifications and contract provisions for construction equipment, the development and implementation of such a program needs to be done carefully. Such programs can inadvertently provide advantages to certain fleets and exclude others, especially small contractors. Any such efforts must involve the general contractors in the development of specifications and program details to avoid such problems.

### **4. School Bus Sector Report**

As in the other sector reports, EMA recommends that a nonmandatory approach be used. Since school buses are used primarily by, or for, government agencies, virtually all agencies are likely to endorse the rapid transition to the purchase of new clean diesel technology buses as long as adequate funding is available. Therefore, the State's major role regarding school bus issues should be focused on providing local school districts with funds to complete the transition.

One recommendation of the report is to install closed-crankcase retrofits on school buses to reduce in-cabin emissions. The source of any in-cabin emissions remains a controversial issue since there are a number of emissions measurement studies with varied results. Additional studies are either underway or planned to determine the source of diesel emissions within the passenger compartment of the bus. Additionally, some efforts to install crankcase controls on in-use buses have been unsuccessful. We recommend that Connecticut not proceed with programs to control crankcase emissions until the above issues are resolved.