



June 22, 2006

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Re: Comments on the California ARB Draft Suggested Biodiesel Policy

To Whom It May Concern:

The American Trucking Associations, Inc.¹ (“ATA”) submits these comments in response to the California Air Resources Board (“ARB”) suggested biodiesel policy (hereinafter the “draft biodiesel policy”).² As the national representative of the trucking industry, ATA is vitally interested in matters affecting truck fleets, including the supply, price and specifications of diesel fuel. ATA’s membership is directly affected by the diesel fuel specifications enacted by various states and has a substantial interest in the ARB biodiesel policy

Diesel fuel is the lifeblood of the trucking industry. Our industry consumes more than 36 billion gallons of diesel fuel annually and is on pace to spend almost \$100 billion on diesel fuel this year. For most motor carriers, the cost of fuel is their second highest operating expense – after labor expenses – and for many long-haul carriers fuel equals as much as 25 per cent of total operating costs.

In addition to the cost of diesel fuel, diesel’s performance characteristics directly affect the trucking industry’s ability to deliver more than 70% of the freight transported in the United States. Diesel specifications directly affect truck productivity, emissions, and the ability to store and distribute fuel. For these reasons, ATA appreciates the opportunity to help inform ARB on the impacts of biodiesel upon the trucking industry.

¹ ATA is a united federation of motor carriers, state trucking associations, and national trucking conferences created to promote and protect the interests of the trucking industry. Directly and through its affiliated organizations, ATA encompasses over 37,000 companies and every type and class of motor carrier operation.

² The comments set forth herein are based upon a 7-slide presentation posted on the CARB website. See http://www.arb.ca.gov/fuels/diesel/altdiesel/052406arb_prsntn.pdf

The high cost of petroleum-based diesel fuel, coupled with the desire to eliminate the United States' dependence upon foreign sources of oil has resulted in renewed interest in the production and use of biodiesel. Based upon these interests, ATA's environmental policy and technical and engineering committees conducted a thorough review on the impact of biodiesel upon the trucking industry. As a result of this review, ATA's Board of Directors recently revised ATA's biodiesel policy as follows: ATA supports the *voluntary* use of biodiesel in blends of up to five percent (B5) as a reasonable means to extend the supply of diesel fuel. ATA remains opposed to state biodiesel *mandates* and is concerned that any biodiesel blended into on-road diesel complies with certain quality standards.

A. Ensuring Biodiesel Quality is Critical.

The ARB draft biodiesel policy attempts to address the biodiesel quality issue by referencing a requirement that any biodiesel used for blending meet the ASTM 6751 specification. This is critically important to ensuring that end users will be able to operate their vehicles on biodiesel. In addition to ensuring that the neat biodiesel complies with the ASTM specifications, ARB also should consider requiring the finished blend to comply with the ASTM 975 standard for diesel fuel. The failure to use fuel that complies with the ASTM 975 specification could harm the engine and invalidate any warranty claims. The ARB policy seems to require the neat biodiesel and base fuel to meet certain specifications, but does not appear to require the actual blended product to meet an accepted quality specification.

The recent experience in Minnesota (the only state with a fully-implemented biodiesel mandate) highlights the importance of ensuring biodiesel quality. Earlier this year, shortcuts taken by certain biodiesel producers resulted in a biodiesel blend that did not meet the ASTM specifications. This poor quality fuel found its way into the on-road diesel supply and caused numerous trucks to malfunction and become stranded. To prevent this situation from being repeated, government must require all biodiesel used in on-road engines to be tested and certified to be in compliance with the ASTM 6751 standard and also ensure that the finished blend meets the appropriate specifications.

B. Biodiesel Emissions

In addition to the perception of energy security, biodiesel advocates have long touted the environmental benefits of biodiesel. Indeed, biodiesel use reduces particulate and hydrocarbon emissions; however, biodiesel use also results in a measurable increase in nitrogen oxide emissions. The ARB draft biodiesel policy seems to ignore the potential increase in nitrogen oxide emissions that would result from widespread biodiesel use. Considering the fact that California has one of the most significant ozone attainment problems in the country, it is difficult to explain why the

ARB draft biodiesel policy does not address the issue of increased nitrogen oxide emissions.

The trucking industry has been very vocal in its opposition to California's CARB-diesel fuel mandate. This boutique fuel has resulted in the highest diesel fuel prices in the nation and has been harmful to the trucking industry. The trucking industry has repeatedly been told that CARB-diesel is necessary to reduce nitrogen oxide emissions, so we are confused as to why ARB would turn a blind eye to the potential nitrogen oxide emissions caused by biodiesel use.

The issue of increased nitrogen oxide emissions is not well settled; however, there is enough evidence on both sides of the issue to warrant additional testing on various biodiesel blends. This testing should occur prior to enacting a policy that embraces biodiesel use. In addition, the recently enacted Energy Policy Act of 2005 requires, among other things, a detailed assessment of the environmental impacts of biodiesel.³ ARB should review this study and conduct its own tests concerning the blending of biodiesel with California's unique diesel fuel, prior to finalizing any policy on the use of biodiesel.

C. Biodiesel Blend Limits

The ARB draft biodiesel policy would consider blends of up to twenty percent biodiesel as California fuel. The ARB presentation also references the Governor's executive order, calling for escalating biofuels production targets over time.⁴ At this time, ARB should not authorize the use of biodiesel in on-road diesel engines in blends that exceed five percent (B5). Low percentage blends of biodiesel that meet the ASTM specifications should perform comparably to today's petroleum-based diesel fuel; however, blends exceeding five percent present operational challenges for the trucking industry. We discuss these operational challenges below:

1. Fuel Economy and Cost Differentials

High percentage blends of biodiesel cost more than petroleum-based diesel fuel and have a lower energy value, requiring more fuel to be purchased to perform an equivalent amount of work.

The existence of generous federal and state tax incentives should make the price of biodiesel roughly equivalent to the price of petroleum-based diesel. Notwithstanding these subsidies, a review of the March 2006 Clean Cities Alternative Fuel Price Report revealed the following price differentials between a twenty percent biodiesel

³ See Energy Policy Act of 2005, Public Law 109-58, § 1823(b) (enacted August 8, 2005).

⁴ The Governors Executive Order S-06-06 sets California biofuels production targets. These production targets escalate over time and approach 75% in 2050.

blend (B20) and petroleum diesel. The prices set forth in the chart below are retail prices that include federal, state and local taxes:

Location	Diesel Fuel	Biodiesel (B20)	Price Differential ⁵
New England	\$2.64	\$2.80	16 cents
Lower Atlantic	\$2.46	\$2.50	4 cents
Midwest	\$2.42	\$2.51	9 cents
Gulf Coast	\$2.46	\$2.44	2 cents
Rocky Mountains	\$2.46	\$2.65	19 cents
West Coast	\$2.60	\$2.82	22 cents
National Average	\$2.47	\$2.64	17 cents

Another economic factor that must be considered is that, neat biodiesel (B100) has a lower energy content than No. 2 diesel. No. 2 diesel fuel typically contains about 140,000 BTUs per gallon, while biodiesel made from vegetable oil typically contains about 130,000 BTUs per gallon, which results in an energy reduction of approximately seven percent (7%). There is insufficient data on the impact that low percentage blends of biodiesel have upon fuel economy.

2. Cold Weather Performance

High percentage blends of biodiesel gel at a higher temperature than petroleum-based diesel and may cause trucks to become stranded in cold weather. Petroleum diesel fuels have both pour points and cloud points (the temperature at which a cloud or haze of wax crystals first appears and separates from the fuel) well within the range of cold temperatures at which they might be used. Biodiesel has the same issues, but at even higher temperatures. The cloud point for biodiesel will vary based on the type of feedstock used. Whereas No. 2 diesel typically gels at 16°F, soy-based biodiesel gels at 32°F, and biodiesel derived from animal fat gels at 68°F. Users of a 20 percent biodiesel blend (B20) will experience an increase of the cold flow problems (cold filter plugging point, cloud point, pour point) of approximately 5°F. Anti-gelling products, heating systems for fuel tanks and blending with No. 1 diesel fuel have been used to prevent gelling, but each of these options adds to operating costs.

⁵ See U.S. Department of Energy, Energy Information Administration, Office of Energy Efficiency and Renewable Energy, *Clean Cities Alternative Fuel Price Report* (February 2006).

3. Engine Performance and Manufacturer Warranties

High percentage blends of biodiesel could create difficulties with manufacturer warranty claims – most heavy-duty truck engine manufacturers do not recommend biodiesel in blends exceeding B5.

High percentage biodiesel blends can cause a variety of engine performance problems, including filter plugging, injector coking, piston ring sticking and breaking, elastomer seal swelling and hardening/cracking, and severe engine lubricant degradation. Additional testing is needed to determine whether these operational issues are present at low percentage blends used over an extended period of time. According to the Engine Manufacturers Association (“EMA”), biodiesel blends up to a maximum of B5 should not cause engine or fuel system problems, provided the biodiesel used in the blend meets the requirements of ASTM 6751. EMA recommends that the conditions of seals, hoses, gaskets, and wire coatings should be monitored regularly when biodiesel fuels are used. Older trucks (pre-1994) may require upgraded components to ensure trouble-free operation.

Individual engine manufacturers determine what implications, if any, the use of biodiesel fuel has on the manufacturers’ commercial warranties. Engine manufacturers warrant their engines for “materials and workmanship.” An engine company will cover a fault with an engine part or with engine operation within the prescribed warranty period, if the fault is due to an error in manufacturing or assembly. Typically, an engine company will define what fuel the engine was designed for and will recommend the use of that fuel to their customers in their owners’ manuals. While truck and engine manufacturers do not warrant the fuel, most indicate that biodiesel blends of up to B5 (providing the quality specifications are met) should not create operational issues for their products. If higher percentage blends of biodiesel are used and engine malfunctions can be traced back to the use of biodiesel, then the manufacturers will deny warranty claims. This results in a transfer of risk to the end-user, who may have refueled at various locations and not know where the off-spec or poor quality fuel was purchased. If ARB enacts the proposed biodiesel policy authorizing blends of biodiesel that exceed five percent by volume, then the end-user will bear the financial risk of any malfunctions caused by the biodiesel, even though most end-users would be unable to control the amount of biodiesel they use.

The manufacturers’ warranty issue, in conjunction with some of the operational challenges of using high percentage blends, highlights the need for ARB’s policy to address the pump labeling issue. In light of the potential financial impact on warranty claims and other operational challenges (discussed above), ARB’s biodiesel policy should require fuel dispensers to be labeled with the quantity of biodiesel being dispensed.

4. Solvent Issues

Another operational challenge presented by biodiesel is that biodiesel blends that exceed five percent tend to act like a solvent and may dislodge sediment that naturally accumulates in truck fuel systems, requiring an unanticipated fuel filter change in advance of regularly scheduled maintenance. This could be a significant issue for over-the-road trucks, which are often located far from their base of operations. Although this issue is not related to air emissions, ARB should consider operational impacts that flow from its policy decisions.

5. Distinguishing On-Road and Off-Road Vehicles

It is important to distinguish between off-road diesel fuel, which is used in vehicles that do not travel far from their base of operations, and on-road diesel fuel, which is used by the commercial trucking industry in vehicles that travel hundreds of miles away from their base of operations. Cold weather performance and unscheduled fuel filter changes are manageable issues for most off-road engine applications; while over-the-road trucks using on-road diesel fuel may have difficulty overcoming the operational challenges presented by biodiesel blends that exceed B5. For these reasons, we request that ARB draw a distinction between on-road and off-road diesel fuel and impose a five percent cap on biodiesel used in on-road vehicles.

The five percent biodiesel cap for on-road diesel fuel may be waived for state and municipally owned vehicles. Much like off-road engines, these vehicles seldom travel far from their base of operations and are much better equipped to confront the operational challenges posed by biodiesel blends that exceed five percent. Moreover, these vehicles do not have to operate in a competitive environment similar to over-the-road trucking, where increases in the price of diesel fuel could drive companies out of business.

6. Practical Limitations on Biodiesel Production

Last year the trucking industry consumed more than 36 *billion* gallons of diesel fuel. Other modes and off road engines also consumed billions of gallons of diesel fuel. In 2005, the biodiesel industry produced only 75 *million* gallons (0.2% of the total on-road diesel fuel used by the trucking industry). Most of this production occurred outside of California. This year the biodiesel industry is expected to produce 150 million gallons (0.4% of the on-road diesel fuel used by the trucking industry). With the continuation of financial incentives, the biodiesel industry may reach a billion gallons by 2015, but even at a billion gallons biodiesel would account for only a few percentage points of the diesel fuel consumed by the trucking industry alone. As such, there is no reason to allow on-road blends of biodiesel that exceed B5.⁶ A five percent cap on on-road biodiesel blends will protect the trucking industry from

⁶ Higher percentage blends of biodiesel may be permitted for off-road vehicles and state and municipally-owned vehicles, which seldom travel far from their base of operation.

operational problems and will ensure that the biodiesel industry can continue to grow for many years to come.

CONCLUSION

ARB's adoption of a biodiesel policy is an opportunity to expand the use of biodiesel within California, while ensuring that the trucking industry does not suffer the harmful effects that often accompany fuel changes. To accomplish this, ARB's biodiesel policy must include the following provisions:

- Ensure that all biodiesel distributed in the state is tested and certified to meet the ASTM 6751 standard;
- Ensure that the finished blends of on-road diesel fuel are tested and certified to meet the ASTM 975 standard;
- Ensure that the use of biodiesel will not increase nitrogen oxide emissions in ozone non-attainment areas;
- Ensure that all pumps dispensing biodiesel for on-road use are properly labeled to indicate the amount of biodiesel in the blend; and
- Ensure that on-road biodiesel blends are limited to **five percent** biodiesel.

If you have any questions concerning these comments, please contact the undersigned at 703-838-1910.

Respectfully submitted,



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