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State Water Resources Control Board

Division of Water Quality

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Arnold Schwarzenegger
Governor

October 20, 2009

TO: All persons who have filed a request with the State Water Resources Control Board (State Water Board) for Notice of Regulatory Action

NOTICE OF PROPOSED READOPTION OF EMERGENCY REGULATION

Pursuant to Government Code Section 11346.1, subdivision (a)(2), notice is hereby given that the State Water Resources Control Board proposes to readopt, on an emergency basis, section 2631.2 of Chapter 16 of Title 23 of the California Code of Regulations. This regulation provides an interim variance for underground storage tank systems storing certain biodiesel blends from third-party material compatibility testing and approval requirements.

Government Code section 11346.1, subdivision (a)(2) requires that, at least five working days before submitting an emergency regulation to the Office of Administrative Law, the adopting agency provide a notice of the proposed emergency action to every person who has filed a request for notice of regulatory action with the agency. After submission of the proposed emergency to the Office of Administrative Law, the Office of Administrative Law shall allow interested persons five calendar days to submit comments on the proposed emergency regulation as set forth in Government Code section 11349.6. A copy of the text of the emergency regulation and the finding of emergency are enclosed.

This is a notice of intent to readopt the emergency regulations as previously filed and to continue their current status during the completion of the rulemaking process.

Documents related to this rulemaking can be accessed at:

<http://www.waterboards.ca.gov/ust/>.

If you have any questions, you may contact Laura Fisher at (916) 341-5870 or by e-mail at lfisher@waterboards.ca.gov.

FINDING OF EMERGENCY

The State Water Resources Control Board (State Water Board) finds that an emergency exists, which calls for immediate action to avoid serious harm to the public peace, health, safety or general welfare.

This regulation, which was adopted by the State Water Board on May 5, 2009, as an emergency regulation, would authorize the storage of certain biodiesel blends in underground storage tanks (USTs) in California. Using biodiesel in vehicles provides reductions of greenhouse gas (GHG) emissions, which pose a serious threat to public health and the environment. Increased use of biodiesel can be immediately achieved if underground storage issues are resolved. Reducing GHG emissions is necessary to avoid serious harm to health, safety and general welfare. Failure to take immediate action to facilitate and expedite the use of biodiesel in California will delay reductions in GHG emissions. Further, it could hinder the emergence of the biodiesel industry in California altogether. This could lead to the limited availability of biodiesel in this state in the future, which will adversely affect the ability to reduce GHG emissions not only immediately, but in the foreseeable future.

Background

Biodiesel is a renewable fuel that can be manufactured from new and used vegetable oils, animal fat, and recycled restaurant grease. While biodiesel's physical properties are similar to those of petroleum diesel, using biodiesel reduces GHG emissions and other toxic air pollutants. (Exhibit 1.) Biodiesel can be blended and used in many different concentrations, which include B100 (pure biodiesel), B20 (20% biodiesel, 80% petroleum diesel), B5 (5% biodiesel, 95% petroleum diesel).

California statutes require that the primary containment of a UST be compatible with the stored substance (such as a fuel and/or fuel additive), and that the secondary containment is constructed to prevent structural weakening because of contact with any released substance. Current State Water Board regulations require that a UST be approved by an independent testing organization, that the UST system be made of lined with materials that are compatible with the hazardous substances stored in the UST, and that the release detection method for the UST system be tested by an independent testing laboratory and be approved to function with the substance stored. Underwriter's Laboratory (UL) is the independent testing organization that has issued approvals for USTs that are used in California.

The material compatibility testing and approval for biodiesel and biodiesel blends in USTs have not been completed and will likely not be completed for another two to three years. On January 7, 2009, UL determined that biodiesel blends up to B5 fall within the certification for petroleum diesel. (Exhibit 2.) Thus, biodiesel

blends up to B5 can be stored in USTs under existing approvals, but biodiesel blends greater than B5 cannot. Release detection methods have not been approved for functionality for biodiesel or any biodiesel blend, including B5. These testing and approval requirements have impeded and will continue to impede the use of biodiesel fuel, a low carbon fuel, in California.

In 2007, Governor Schwarzenegger signed Executive Order S-01-07. (Exhibit 3.) This executive order finds that GHG emissions pose a serious threat to the health of California's citizens and the quality of the environment, that California's transportation sector is the leading source of CHG emissions, and that alternative fuels can reduce CHG emissions. The executive order directed, in addition to other things, that a statewide goal be established to reduce the carbon intensity of transportation fuels by at least 10 percent by 2020 and that a Low Carbon Fuel Standard for transportation fuels be established.

On April 17, 2009, the United States Environmental Protection Agency (USEPA) concluded that greenhouse gases linked to climate change endanger public health and welfare. (Exhibit 4.) Technical bases for USEPA's conclusion are contained in their technical support document.¹

The federal Energy Policy Act of 2005 (Energy Policy Act) contains alternative fuel vehicle (AFV) acquisition requirements for fleets that operate, lease, or control 50 or more light duty vehicles. Fleets can satisfy some of the AFV acquisition requirements by purchasing and using B20. (Exhibit 5.)

Specific Facts Showing Existence of Emergency and the Need for Immediate Action

In January of this year, UL determined that biodiesel blends up to B5 fall within the certification for petroleum diesel. This means that biodiesel blends up to B5 can be stored in USTs under existing approvals, but biodiesel blends greater than B5 cannot. Testing and approval for USTs for the remaining biodiesel blends will take approximately two years from when materials are submitted. The estimated period for obtaining approval of release detection method is 12 months from when the material is submitted. The proposed regulation is necessary to allow for the immediate, lawful storage of biodiesel blends up to B20.

As stated above, Governor Schwarzenegger's Executive Order S-01-07 finds that GHG emissions pose a serious threat to the health of California's citizens and the quality of the environment and that using alternative fuels can reduce GHG emissions. On April 17, 2009, USEPA concluded that greenhouse gases linked to climate change endanger public health and welfare. These conclusions are consistent with previous conclusions of the United Nations Intergovernmental

¹ See http://epa.gov/climatechange/endangerment/downloads/TSD_Endangerment.pdf.

Panel on Climate Change, which concluded that immediate action is necessary to avoid harm to the public health and safety and general welfare from global climate change.²

One way to reduce GHG emissions is to displace the use of traditional vehicle fuels and increase the use of alternative fuels, such as biodiesel. In order to increase the use of biodiesel in California, proper storage of biodiesel must be resolved. The most appropriate mechanism for storing biodiesel is USTs. In some cases, biodiesel is stored in aboveground tanks. This is not feasible in many cases, however, because of physical limitations at a site. Also, many fire agencies view aboveground storage as a threat to human health and safety and will not allow the storage of flammable and combustible materials in aboveground tanks.

Unless urgent action is taken to authorize the storage of these biodiesel blends in USTs, a large portion of California's biodiesel industry may fail. This would create a significant impediment to California's overall effort to reduce GHG emissions. At this juncture, it appears that biodiesel may be the only alternative fuel compatible with existing diesel systems that could be used immediately to displace the carbon content in conventional diesel and lower California GHG emissions immediately. If the industry fails because a lack of distribution infrastructure, it could be several years before another alternative fuel becomes viable. Immediate action is necessary to avoid the potentially serious harm associated with years of additional GCG emissions associated with conventional diesel.

Facilitating the availability of B20 will also enable vehicle fleets in California to meet requirements under the Energy Policy Act. Fleets can satisfy AFV acquisition requirements by purchasing and using B20. If B20 is not widely available, then fleets will be required to purchase AFVs. AFVs are flex-fuel vehicles that run off of either ethanol (E85) or gasoline.

Specific Evidence of Need of Immediate Action

1. At the May 5, 2009 State Water Board meeting, Mr. Justin Malan, Executive Director of the California Association of Environmental Health Administrators, made the following comment regarding the urgent nature of the regulation. He stated that there is an urgent need to reduce our carbon footprint in California and the rest of the world. He questioned, however, whether the face of the climate crisis would be changed in a year or two because of the ability to store biodiesel blends in USTs. Importantly, Mr. Malan went on to state that he understands that without these regulations, that the emergence of the biodiesel industry would actually be thwarted if not stopped.

² See, e.g., <http://www.ipcc.ch/ipccreports/assessments-reports.htm>.

2. The California Biodiesel Alliance stated that the inability to lawfully store biodiesel in California USTs is “creating real harm to California’s nascent biodiesel industry, federally regulated fleets and the environment. Urgent action is required to address these harmful impacts to California’s general welfare. Without urgent action, a large portion of California’s biodiesel industry will fail, with the loss of a significant number of jobs and setting California environmental policy back years.” (Letter from California Biodiesel Alliance dated April 30, 2009.)
3. At the May 5, 2009 State Water Board meeting, Randall Friedman provided comments on behalf of the United States Navy. He stated that if B20 is not available, the only alternative under the Energy Policy Act is to purchase AFVs. He further stated that since E85 is not readily available, that fleets like the Navy fleets will be forced to run AFVs on gasoline, which defeats the purpose of the Energy Policy Act.
4. City and County of San Francisco, Department of Environment’s biodiesel program has enabled them to displace roughly 1.25 million gallons of diesel fuel per year, thereby reducing pollutants known to negatively impact public health. (Letter from City and County of San Francisco Department of Environment, dated April 29, 2009.)
5. City of Stockton reports that 141 of its diesel engines are using B20 and the proposed regulation will allow them to continue its biodiesel fueling without fear of being shut down. Biodiesel reduces exhaust emissions and particulates by more than 50 percent and sulfur up to 100 percent depending on the blend. (Letter from City of Stockton dated April 30, 2009.)
6. The City of Santa Monica has been using B20 biodiesel in all of its 87 municipal diesel vehicles and equipment since 2005. Its Big Blue Bus transit agency has also been using B20 biodiesel in about 100 buses for over two years. (City of Santa Monica letter dated April 29, 2009.)
7. PG&E’s fleet consists of 8,200 fleet vehicles, with 3,335 being diesel. PG&E hopes to be one of the pioneers in the use of biodiesel for its fleet. (PG&E Letter dated April 30, 2009.)
8. The City and County of San Francisco, Public Utilities Commission states that there are currently over 700 diesel vehicles operating successfully on B20 fueling from multiple sites across the city and extending into the Sierra’s Hetch Hetchy. These vehicles use roughly 12 million gallons of B20 annually. (City and County of San Francisco, Public Utilities Commission letter dated April 29, 2009.)

9. The City of Torrance states that it used B20 in all diesel-fueled vehicles owned by the City, with the exception of their transit fleet. The non-transit diesel fleet consists of over 190 heavy-duty vehicles. The proposed regulations will allow the City to resume its biodiesel fueling program, which will provide significant air quality improvements within their community through the reduction of harmful diesel particulate matter. (City of Torrance letter dated April 30, 2009.)
10. LC Biofuels LLC states that restricting the use of biodiesel blends to B5 has effectively cut the use of clean burning, renewable fuel by 75 percent in many city fleets, such as San Francisco's and utilities like PG&E, which typically use B20 in their fleet vehicles. This has not only set back years of progress advancing the use of renewable fuels, but has increased emissions and particulate matter in these fleets by as much as 65 percent. (LC Biofuels LLC e-mail dated April 30, 2009.)

In each of the foregoing instances, each day in which conventional diesel is used in lieu of biodiesel is an additional day of conventional CHG emissions. Those reduced emissions cannot be recovered if the regulation is delayed. Each reduction in CHG emissions assists California in avoiding the serious harm to the public peace, health, safety or general welfare associated with global climate change.

Need for Proposed Regulation to Effectuate Purpose of Statute

California statutes require that the primary containment of a UST is compatible with the stored substance, such as a fuel and/or fuel additive. See Health and Saf. Code, §§ 25290.1, subd. (c)(1), 25290.2, subd. (c)(1), 25291, subd. (a)(1). Federal regulations require that USTs be designed and constructed in a manner to prevent releases due to structure failure, corrosion, or spills and overfills. (40 CFR 280.20.) Federal regulations also require UST owners and operators to use USTs that are made of or lined with materials that are compatible with the substance stored. (40 CFR 280.32.)

California statutes require that UST systems be equipped with leak detection methods. (See Health and Saf. Code, §§ 25290.1, subd. (d), 25290.2, subd. (d), 25291, subds. (a)(6) and (b), 25292, subd (a).) Federal regulations also impose release detection requirements for USTs. (See 40 CFR, parts 280.40 through 280.45.)

To implement these requirements, existing State Water Board regulations require that:

- a) The design and construction of UST and piping must be approved by an independent testing laboratory. (Title 23, California Code of Regulations [23 CCR], § 2631.)
- b) An owner or operator must use system components made of, or lined with, materials that are compatible with the hazardous substances stored in the tank. (23 CCR 2631.1.)
- c) The components approved for the installation of a tank system, on and after July 1, 2004, must include a list of compatible products tested and the measured permeation rate of those products. (23 CCR 2631.1)
- d) The leak detection equipment must be tested by an independent third party testing laboratory and function with the fuel stored. (23 CCR 2643.)

The statutes impose general performance standards requiring UST material compatibility and functionality of leak detection methods. Existing State Water Board regulations prescribe how these standards must be demonstrated – testing and approval from independent organizations. The proposed emergency regulation allows UST owners to demonstrate compliance with the statutory performance standards by means other than third-party testing and approval. The regulation is necessary to provide this alternative method of demonstrating UST compatibility and release detection functionality. The proposed emergency regulation is narrow in that it allows a variance from specific testing and approval requirements that are the obstacle to the lawful storage of B20 in USTs in California. Using an alternate method of demonstrating UST compatibility and leak detection functionality will remove the delay and allow for the immediate, lawful storage of biodiesel blends up to B20. This, in turn, will result in expeditious reductions in GHG emissions and will increase the likelihood of securing and maintaining a permanent source of biodiesel for California in the future.

Authority and Reference:

Authority citations: Sections 25299.3 and 25299.7, Health and Safety Code.
Reference citations: Sections 25281, 25286, 25290.1, 25290.2, 25291, and 25404.1 Health and Safety Code.

Informative Digest:

Summary of Existing Laws and Regulations and Effect of Proposed Action.

Chapter 6.7 of the Health and Safety Code requires that the primary containment of a UST be compatible with the stored substance, and that the secondary containment be constructed to prevent structural weakening as a result of contact with any released substance. State Water Board promulgated regulations require that: a) A UST be approved by an independent testing organization; b) An owner or operator use system components made of, or lined with, materials that are compatible with the hazardous substances stored in the UST, c) The

components approved for the installation of a UST system, on and after July 1, 2004, include a list of compatible products tested and the measured permeation rate of those products; and d) The leak detection equipment be tested by an independent testing laboratory and be approved to function with the substance stored.

With the exception of biodiesel blends up to 5 percent biodiesel (B5), USTs manufactured to date and in use in California have not received independent testing organization approvals for biodiesel or other biodiesel blends as required under the State Water Board regulations. The estimated time period to obtain independent testing organization approval is two years from when the UST manufacturer submits the product to the testing organization. Leak detection method approvals have not been obtained for biodiesel or any blend of biodiesel. The estimated time period for obtaining approval of a leak detection method is 12 months from when the material is submitted. The effect of the proposed emergency regulation is to allow for the storage of biodiesel blends up to and including B20 in USTs that have been approved for storing petroleum diesel if other certain criteria are satisfied.

The proposed action does not differ substantially from existing comparable federal law.

Policy Statement and Objectives. The State of California and the USEPA have found that GHG emissions pose a threat to human health and welfare. Using alternative fuels, including biodiesel blends, is imperative to reduce GHG emissions. Testing and approval of USTs has not kept up with the introduction of and desire to use biodiesel blends in California. The overall objective of this emergency regulation is to facilitate the use of biodiesel blends in California to combat GHG emissions. The specific objective is to provide a variance from third-party testing and approval requirements so that biodiesel blends up to B20 can be stored in USTs in a manner that does not create any significant risk of adverse impacts to water quality.

Mandate on Local Agencies or School Districts

The State Water Board has determined that the proposed regulations do not impose a mandate on local agencies or school districts.

Fiscal Impact Estimates

State Agencies: The State Water Board has determined that the regulations will involve no additional costs or savings to any state agency.

Reimbursable Cost to Local Agencies or School Districts: The State Water Board has determined that the proposed regulations will not result in any additional cost or savings to any local agency or school district that is required to

be reimbursed under part 7 (commencing with section 17500) of division 4 of the Government Code.

Other Non-discretionary Cost or Savings Imposed on Local Agencies: The State Water Board has determined that there is no cost or savings imposed on local agencies as a result of the proposed regulations.

Cost or Savings in Federal Funding to the State: The State Water Board has determined that there is no cost or savings in federal funding to the state as a result of the proposed regulations.

Adopt Section 2631.2 – Biodiesel Blends – Variance from material compatibility certification requirements

(a) This section provides for a temporary variance from certain provisions of sections 2631, 2631.1 and 2643, which will allow owners to store biodiesel blends up to 20 percent biodiesel (B20) by volume in underground storage tanks before testing by an independent testing organization has been completed.

(b) Biodiesel means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, that meets the requirements of the American Society for Testing and Materials Standard Specification D-6751, and the registration requirements of the United States Environmental Protection Agency as a fuel and as a fuel additive under the Clean Air Act (42 U.S.C. Sec. 7401).

(c) Biodiesel blend means a fuel that contains one percent to 99.99 percent biodiesel blended with diesel fuel.

(d) For purposes of this section, where a biodiesel blend is designated BX, X represents the percentage of the fuel, by volume, that is biodiesel. For example, B20 means a biodiesel blend that contains 20 percent, by volume, of biodiesel.

(e) For an underground storage tank storing biodiesel blends greater than B5 and up to and including B20, a variance from the approval requirements contained in section 2631, subdivision (b) and section 2631.1, subdivision (b) shall be provided by the local agency if all of the following requirements are satisfied:

- (1) The underground storage tank meets the construction requirements contained in Health and Safety Code section 25291, subdivision (a), paragraphs (1) – (6), inclusive and subdivisions (b) – (i), inclusive, section 25290.1 or section 25290.2, as applicable.
- (2) The underground storage tank and components are approved for the storage of petroleum diesel pursuant to section 2631, subdivision (b).
- (3) The underground storage tank satisfies and the owner or operator complies with all other applicable requirements contained in Chapter 6.7 of the Health and Safety Code, the regulations adopted to implement that chapter, and operational requirements contained in a permit issued pursuant to Section 25284 of the Health and Safety Code.
- (4) The owner provides both of the following to the local agency:
 - (A) A Notice of Intent, signed by the owner, to store a biodiesel blend greater than B5 and up to and including B20 in the underground storage tank pursuant to the variance established in this section.

(B) An "Operating Permit Application – Tank Information" form contained in Title 27, Division 3, Subdivision 1, Chapter 6 that identifies the biodiesel blend accompanied by a written statement from the owner that the underground storage tank and components are compatible with the biodiesel blend stored or to be stored. This statement shall be supported by documentation from the underground storage tank manufacturer, a nationally-recognized biodiesel association, or a nationally-recognized research organization with applicable expertise.

(f) For an underground storage tank system storing biodiesel blends up to and including B20, a variance from the certification requirements of section 2643, subdivision (f) shall be provided by the local agency if all of the following requirements are satisfied:

(1) The release detection method otherwise meets the requirements contained in section 2643 for the biodiesel blend stored.

(2) The owner provides both of the following to the local agency:

(A) A Notice of Intent, signed by the owner, to utilize release detection method or equipment pursuant to the variance established in this section.

(B) A written statement by the owner that the release detection method or equipment functions with the biodiesel blend stored or to be stored. This statement shall be supported by documentation from the manufacturer of the release detection method or equipment.

(3) The underground storage tank meets the requirements contained in paragraphs (1) to (3), inclusive, of subdivision (e).

(g) The variance established in subdivision (e) shall become inoperative on the following date, whichever date is sooner:

(1) Ninety days after the date of any decision by the applicable certification organization that determines that the certification for underground storage tanks that contain the biodiesel blend stored are included in the standard petroleum diesel approval or that determines that materials or components of the underground storage tank for which the variance was obtained are not compatible with the biodiesel blend stored.

(2) Thirty-six (36) months from the effective date of this section.

(h) The variance contained in subdivision (f) shall become inoperative thirty-six (36) months from the effective date of this section.

(i) If the variance established under subdivision (e) becomes inoperative pursuant to paragraph (2) of subdivision (g) or because the applicable certification organization determines that materials or components of the underground storage tank for which the variance was obtained are not compatible with the biodiesel blend stored, the owner

shall empty the underground storage tank and the local agency shall inspect the underground storage tank pursuant to Health and Safety Code section 25288 before any other substance is stored.

Authority and Reference:

Authority citations: Section 25299.3, Health and Safety Code.

Reference citations: Sections 25281, 25286, 25290.1, 25290.2, 25291, and 25404.1 Health and Safety Code.



<http://www.epa.gov/smartway/growandgo/documents/factsheet-biodiesel.htm>

Last updated on Tuesday, February 19th, 2008.

SmartWay Grow & Go

You are here: [EPA Home](#) [Transportation and Air Quality](#) [SmartWay Grow & Go](#) Biodiesel

Biodiesel



EPA420-F-06-044, October 2006

Biodiesel is a renewable fuel produced from agricultural resources such as vegetable

oils. In the United States, most biodiesel is made from soybean oil; however canola oil, sunflower oil, recycled cooking oils, and animal fats are also used.



Download a printable version of this document:
Alternative Fuels:
Biodiesel (PDF, 1 page, 70K)
NOTE: About PDF.

How It's Made

To make biodiesel, the base oil is put through a process called "esterification." This refining method uses an industrial alcohol (ethanol or methanol) and a catalyst (substance that enables a chemical reaction) to convert the oil into a fatty-acid methyl-ester fuel (biodiesel).

Biodiesel in its pure form is known as "neat biodiesel" or B100, but it can also be blended with conventional diesel, most commonly as B5 (5 percent biodiesel and 95 percent diesel) and B20 (20 percent biodiesel and 80 percent diesel). Biodiesel is registered with the U.S. Environmental Protection Agency (EPA) and is legal for use at any blend level in both highway and nonroad diesel vehicles.

Most diesel engines can run on biodiesel without needing any special equipment. If you are interested in using biodiesel in your vehicle or equipment, check with the manufacturer for any recommendations and information regarding engine warranties. In addition, once you have determined the proper blend for your vehicle, make sure to purchase your fuel from a reputable dealer selling commercial grade biodiesel.

Biodiesel -vs- Vegetable Oil

In 1895, Dr. Rudolf Diesel invented the diesel engine with the intention of running it on a variety of fuels, including vegetable oil. In fact, when he demonstrated his engine at the World Exhibition in Paris in 1900, he fueled the vehicle with peanut oil. However, biodiesel and vegetable oil are very different.

Raw vegetable oil or recycled greases (also called waste cooking oil) that have not been processed into esters are not biodiesel, and are not registered by EPA for legal use in vehicles. In addition, vehicles converted to use these oils would likely need to be certified by the EPA; to date EPA has not certified any conversions. These conversions may also violate the terms of the vehicle warranty. For more information on the certification process, please visit EPA's Web site at: www.epa.gov/otaq/cert/dearmfr/cisd0602.pdf (22 pp, 152 K, [About PDF](#))

EPA has published guidance that explains and clarifies EPA's regulatory requirements for biodiesel producers and biodiesel blenders/users.

- [Guidance document \(PDF\)](#) (8 pp, 89K, EPA-420-F-07-19, October 2007, [About PDF](#))

Performance

Vehicles have similar horsepower and torque as conventional diesel when running on biodiesel. Chemically speaking, biodiesel has a higher cetane number, but slightly lower energy content than diesel. To the average driver, this means better engine performance and lubrication, but a small decrease in fuel economy (2-8 percent). Biodiesel vehicles can also have problems starting at very cold temperatures, but this is more of an issue for higher percentage blends such as B100 and easily solved the same way as with conventionally fueled vehicles -by using engine block or fuel filter heaters or storing the vehicles in a building.

Availability

In 2004, 25 million gallons of B100 were sold. By 2005, that number had tripled. Today, approximately 600 fleets nationwide use biodiesel blends in their diesel engines, and biodiesel is available in its various blends at approximately 800 locations across the United States. A complete list of stations is available at www.biodiesel.org. [EXIT Disclaimer](#)

Affordability

The price of biodiesel blends varies depending on geographic area, base material (corn, soybeans, etc.), and supplier. Although biodiesel can cost more than petrodiesel, diesel drivers can transition to biodiesel without purchasing new vehicles. In the case of fleets, managers can transition to biodiesel without acquiring new spare parts inventories or rebuilding refueling stations.

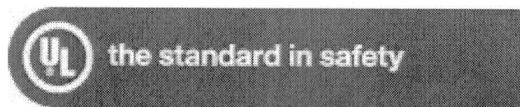
Maintenance

Generally, the use of biodiesel does not cause many maintenance issues. However, when used for the first time, biodiesel can release deposits accumulated on tank walls and pipes from previous diesel fuel, initially causing fuel filter clogs. As a result, vehicle owners should change the fuel filter after their first tank of biodiesel. Also, biodiesel can degrade rubber fuel system components, such as hoses and pump seals. This is especially true with higher-percentage blends, and older vehicles. Many newer vehicles have biodiesel-compatible components, but it is best to consult your owner's manual or contact your vehicle manufacturers for specific information.

Benefits

Biodiesel has a number of important benefits. As an alternative to diesel, it can help reduce U.S. dependence on foreign oil. Biodiesel also provides significant greenhouse gas (GHG) emission reductions. B100 reduces lifecycle greenhouse gas emissions by more than 50 percent, while B20 reduces GHG emissions by at least 10 percent.

In addition, biodiesel offers several criteria emissions benefits for the existing vehicle fleet. It reduces emissions of carbon monoxide, particulate matter (PM), and sulfates, as well as hydrocarbon and air toxics emissions.



Underwriters Laboratories

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Laboratories Announces Position on Use
of B5 Biodiesel Blends

Underwriters Laboratories Announces Position on Use of B5 Biodiesel Blends

Underwriters Laboratories Inc. (UL) has announced that products intended to use biodiesel blends up to B5 that are compliant with applicable ASTM International fuel standards will not require special investigation by UL.

This is consistent with ASTM standards for heating oil and diesel fuel, which were recently updated to indicate that B5 blends may be considered the same as the conventional petroleum fuels under their scope.

In anticipation of the changes to the ASTM fuel standards, UL initiated a technical review of biodiesel fuel and technologies working closely with US Department of Energy, National Renewable Energy Laboratory, Brookhaven National Laboratory, Oak Ridge National Laboratory, and the National Biodiesel Board. UL also conducted performance testing of heating equipment using B5.

The findings indicated no adverse safety effects. It is acknowledged however that introduction of biodiesel may potentially affect fuel quality, mobilize contaminants in the fuel system, or increase the potential for microbial contamination. These performance issues are outside of the scope of UL standards and certification. Manufacturer instructions for use and maintenance of equipment should always be followed.

Use of biodiesel at levels above 5% may have a significant effect on materials, performance or combustion of some equipment. UL is in the process of finalizing product safety requirements for equipment specified for use with biodiesel (B100) and biodiesel blends up to B20.

UL is an independent, not-for-profit product safety certification organization. We remain committed to promoting safe living and working environments through the development of effective safety standards, product investigations and ongoing safety-based audits of products that bear the UL Mark. UL remains independent in this mission and does not endorse, recommend or favor one product over another.

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Office of the Governor

ARNOLD SCHWARZENEGGER
THE PEOPLE'S GOVERNOR

EXECUTIVE ORDER S-01-07

01/18/2007

WHEREAS greenhouse gas ("GHG") emissions pose a serious threat to the health of California's citizens and the quality of the environment; and

WHEREAS California's transportation sector is the leading source of GHG emissions in the state, contributing over 40 percent of the state's annual GHG emissions; and

WHEREAS Assembly Bill 32 (Chapter 488, Statutes of 2006) requires a cap on GHG emissions by 2020, mandatory emissions

reporting, identification of discrete early action measures, achievement of the maximum technologically feasible and cost-effective emission reductions from sources, and authorizes the development of a market-based compliance program; and

WHEREAS California is almost entirely dependent on one energy source for its transportation economy, relying on petroleum-based fuels to meet 96 percent of its transportation needs; and

WHEREAS there were more than 24 million motor vehicles registered in California in 2005 which is more than one per licensed driver; statewide gasoline consumption was almost 16 billion gallons in 2005 which is second only to the United States and slightly more than that of Japan (a country with four times the population); and there are only 80,000 hybrids and 240,000 flex-fuel vehicles on our roads today, together composing only 1.3% of all cars in California; and

WHEREAS California's dependence on a single type of transportation fuel whose price is highly volatile imperils our economic security, endangers our jobs, and jeopardizes our industries; and

WHEREAS diversification of the sources of transportation fuel will help protect our jobs and economy from the consequences of oil price shocks; and

WHEREAS alternative fuels can provide economic development opportunities and reduce emissions of greenhouse gases, criteria pollutants, and toxic air contaminants.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power invested in me by the Constitution and statutes of the State of California, do hereby order effective immediately:

1. That a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 ("2020 Target").
2. That a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California.
3. The Air Resources Board ("ARB") shall determine if an LCFS can be adopted as a discrete early action measure pursuant to AB 32, and, if so, shall consider the adoption of a LCFS on the list of early action measures required to be identified by June 30, 2007, pursuant to Health and Safety Code section 38560.5.
4. The LCFS shall apply to all refiners, blenders, producers or importers ("Providers") of transportation fuels in California, shall be measured on a full fuels cycle basis, and may be met through market-based methods by which Providers exceeding the performance required by a LCFS shall receive credits that may be applied to future obligations or traded to Providers not meeting the LCFS.
5. The process for meeting the 2020 Target shall be as follows:
 - A. The Secretary of the California Environmental Protection Agency ("Secretary") shall coordinate activities between the University of California, the California Energy Commission ("CEC"), and other agencies as required to develop and propose by June 30, 2007, a draft compliance schedule to meet the 2020 Target.
 - B. The CEC shall incorporate as appropriate the LCFS draft compliance schedule into the State Alternative Fuels Plan ("SAFP") per AB 1007 (Chapter 371, Statutes of 2005), and upon adoption shall submit the SAFP to the ARB for consideration.
 - C. Upon submission of the SAFP, the ARB shall consider initiating a regulatory proceeding to establish and implement the LCFS.
6. The Public Utilities Commission, in the implementation of the GHG emissions cap adopted by Decision 06-02-032, is requested to examine and address how the investor-owned utilities can contribute to reductions in GHGs in the transportation sector.

7. The Secretary for Environmental Protection shall report to the Governor and the State Legislature by January 2008 and biannually thereafter on progress made toward meeting the 2020 Target.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice be given to this Order.



IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 18th day of January 2007.

EPA: United States Environmental 2009 News Releases Protection Agency

A-Z index

EPA Finds Greenhouse Gases Pose Threat to Public Health, Welfare / Proposed Finding Comes in Response to 2007 Supreme Court Ruling

Release date: 04/17/2009

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(Washington, D.C. – April 17, 2009) After a thorough scientific review ordered in 2007 by the U.S. Supreme Court, the Environmental Protection Agency issued a proposed finding Friday that greenhouse gases contribute to air pollution that may endanger public health or welfare.

The proposed finding, which now moves to a public comment period, identified six greenhouse gases that pose a potential threat.

"This finding confirms that greenhouse gas pollution is a serious problem now and for future generations. Fortunately, it follows President Obama's call for a low carbon economy and strong leadership in Congress on clean energy and climate legislation," said Administrator Lisa P. Jackson. "This pollution problem has a solution – one that will create millions of green jobs and end our country's dependence on foreign oil."

As the proposed endangerment finding states, "In both magnitude and probability, climate change is an enormous problem. The greenhouse gases that are responsible for it endanger public health and welfare within the meaning of the Clean Air Act."

EPA's proposed endangerment finding is based on rigorous, peer-reviewed scientific analysis of six gases – carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride – that have been the subject of intensive analysis by scientists around the world. The science clearly shows that concentrations of these gases are at unprecedented levels as a result of human emissions, and these high levels are very likely the cause of the increase in average temperatures and other changes in our climate.

The scientific analysis also confirms that climate change impacts human health in several ways. Findings from a recent EPA study titled "Assessment of the Impacts of Global Change on Regional U.S. Air Quality: A Synthesis of Climate Change Impacts on Ground-Level Ozone," for example, suggest that climate change may lead to higher concentrations of ground-level ozone, a harmful pollutant. Additional impacts of climate change include, but are not limited to:

- increased drought;

- more heavy downpours and flooding;
- more frequent and intense heat waves and wildfires;
- greater sea level rise;
- more intense storms; and
- harm to water resources, agriculture, wildlife and ecosystems.

In proposing the finding, Administrator Jackson also took into account the disproportionate impact climate change has on the health of certain segments of the population, such as the poor, the very young, the elderly, those already in poor health, the disabled, those living alone and/or indigenous populations dependent on one or a few resources.

In addition to threatening human health, the analysis finds that climate change also has serious national security implications. Consistent with this proposed finding, in 2007, 11 retired U.S. generals and admirals signed a report from the Center for Naval Analyses stating that climate change "presents significant national security challenges for the United States." Escalating violence in destabilized regions can be incited and fomented by an increasing scarcity of resources – including water. This lack of resources, driven by climate change patterns, then drives massive migration to more stabilized regions of the world.

The proposed endangerment finding now enters the public comment period, which is the next step in the deliberative process EPA must undertake before issuing final findings. Today's proposed finding does not include any proposed regulations. Before taking any steps to reduce greenhouse gases under the Clean Air Act, EPA would conduct an appropriate process and consider stakeholder input. Notwithstanding this required regulatory process, both President Obama and Administrator Jackson have repeatedly indicated their preference for comprehensive legislation to address this issue and create the framework for a clean energy economy.

More information: <http://epa.gov/climatechange/endangerment.html>

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EPAct

Fleet Information & Regulations

State & Alternative Fuel Provider Fleet Programs

Fact Sheet

State and Alternative Fuel Provider Fleet Compliance Methods

Covered state and alternative fuel provider fleets have a choice when it comes to complying with EPAct fleet requirements: Standard Compliance or Alternative Compliance.

The Energy Policy Act (EPAct) of 1992 was amended several times, allowing state government and alternative fuel provider fleets multiple means to comply with EPAct 1992's alternative fuel vehicle (AFV) acquisition requirements. Originally, under what is termed Standard Compliance, these fleets had to acquire a certain percentage of AFVs each model year. Since 2001, fleets have been able to obtain some compliance credit for the purchase and use of biodiesel. More recently, the U.S. Department of Energy (DOE) authorized covered fleets additional compliance flexibility under what is termed Alternative Compliance. This allows the covered fleets to employ petroleum reduction measures in lieu of simply acquiring AFVs under Standard Compliance. DOE's Alternative Fuel Transportation Program is responsible for implementing the two compliance options.

What fleets are covered?

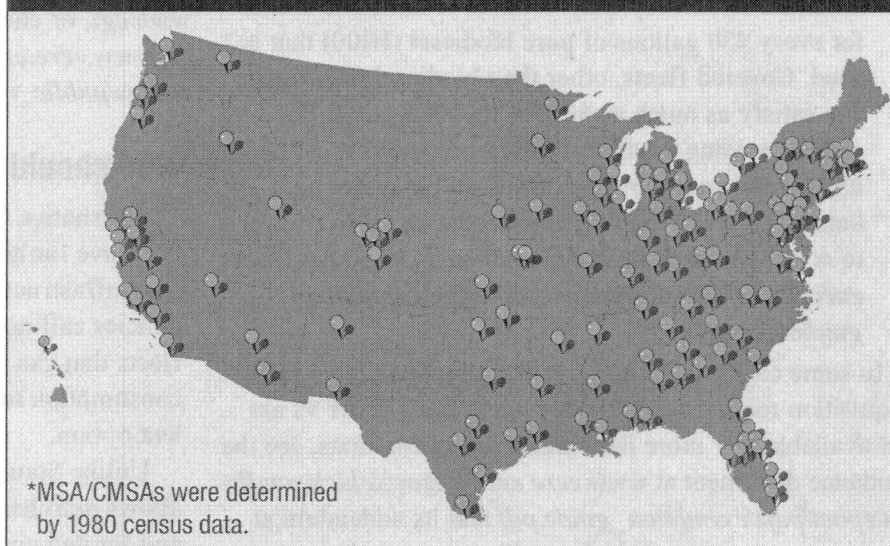
All state government fleets and those of businesses whose principal activity is based on the production or sale of EPAct-authorized alternative fuels may be subject to EPAct fleet requirements. Typically, covered alternative fuel providers have included electric and gas utilities and propane providers. Covered fleets are those state or business fleets that operate, lease, or control 50 or more light-duty vehicles (LDVs) within the United States. Of those 50 vehicles, at least 20 are used primarily within a single Metropolitan Statistical Area/

Consolidated Metropolitan Statistical Area (MSA/CMSA) with a population of at least 250,000 under the 1980 census. Importantly, those same 20 vehicles must also be centrally fueled or capable of being centrally fueled. Exclusions that apply to specific vehicle types may affect whether a fleet is covered. Fleets must notify DOE of their covered status, and DOE works with fleets to help them understand the relevant EPAct requirements.

What are the compliance options for covered fleets?

Standard Compliance. Under Standard Compliance, covered fleets must acquire a certain percentage of AFVs each year based on the number of LDVs they purchase. Seventy-five percent of the new covered LDVs that state fleets acquire must be AFVs; for alternative fuel providers,

Locations of Covered EPAct Fleets*



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this number is 90%. Additionally, covered alternative fuel provider fleets must use alternative fuels in their AFVs, unless they operate in an area where the fuel is not available. Fleets also may meet up to 50% of the AFV acquisition requirements through the purchase and use of biodiesel.

Alternative Compliance. Under Alternative Compliance, covered fleets may obtain a waiver from Standard Compliance to implement petroleum reduction measures in their vehicle fleets in lieu of the AFV acquisition requirements. Covered fleets must demonstrate an annual petroleum reduction equal to that which would have been achieved in the AFVs it would have acquired under Standard Compliance, as well as in all the existing fleet AFVs that were reported for previous compliance with Standard Compliance Requirements.

How do fleets comply with Standard Compliance?

- Acquire new or used LDVs that are capable of operating on alternative fuels.
- Use banked AFV acquisition credits or purchase credits from another fleet or third party.
- Earn AFV acquisition credits through the purchase and use of biodiesel blends. Fleets must use fuel blends containing at least 20% biodiesel (B20) in medium- and heavy-duty vehicles to earn one credit for every 450 gallons of pure biodiesel (B100) that is used. Covered fleets, other than biodiesel providers, can satisfy as much as 50% of their annual requirements by using biodiesel. Biodiesel credits must be used in the year they are earned and may not be banked or sold. To learn more about using biodiesel to comply with Standard Compliance, visit www.eere.energy.gov/vehiclesandfuels/epact/pdfs/biodiesel_guidance.pdf.

In some cases, DOE may grant exemptions from AFV acquisition requirements if alternative fuels or AFVs are not available. For more information on exemptions, see the guidance document at www.eere.energy.gov/vehiclesandfuels/epact/pdfs/exemption_guide.pdf and its addendum at www.eere.energy.gov/vehiclesandfuels/epact/pdfs/exemption_addendum2.pdf.

How do fleets participate in Standard Compliance?

Fleets must report their AFV acquisitions and any biodiesel purchases to be applied for E Pact compliance credit to DOE no later than December 31 for the model year for which they are reporting. Fleets may enter their compliance data into the reporting database on the E Pact Web site at www.eere.energy.gov/vehiclesandfuels/epact/state/poc_login.html.

Acquisition Credits

Every light-duty AFV purchased earns covered fleets one credit that counts toward one AFV requirement for that year. If a fleet earns more credits than required in one model year, the additional credits may be banked for future use or sold to other covered fleets participating in Standard Compliance. In addition, once the fleet's light-duty AFV purchase requirements are fulfilled, fleets may also earn credits for medium- or heavy-duty AFV acquisitions. Again, biodiesel purchases and use cannot be used to generate credits that can be banked or traded. A fleet that both maximizes its allowable biodiesel fuel use and exceeds its requirements for AFVs, however, will end up with surplus credits generated by the excess AFV acquisitions. For a list of fleets that are looking to buy or sell credits, visit the Credit Trades Bulletin Board at www.eere.energy.gov/vehiclesandfuels/epact/state/progs/vwb/vwb.cgi, or check the list of Fleets with Excess Credits at www.eere.energy.gov/vehiclesandfuels/epact/state/progs/public_rpt.cgi.

Who should consider Alternative Compliance?

Alternative Compliance may be a good option for fleets that have limited access to light-duty AFVs and alternative fuel infrastructure or those that must comply with other policies calling for petroleum reduction. Additionally, fleets that can readily use biodiesel or reduce petroleum consumption may find Alternative Compliance an excellent option.

Unlike Standard Compliance, Alternative Compliance allows petroleum reductions achieved in excluded LDVs and limited numbers of qualified non-road vehicles to be counted toward compliance with annual requirements.