

# **RULE 1193 IMPLEMENTATION GUIDANCE**

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South Coast Air Quality Management District  
Fleet Rule Implementation Unit  
District Counsels Office  
Chief Prosecutors Office

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### **ATTACHMENTS**

## SUMMARY OF APPLICABILITY

- **Fleet Size Requirement**

Rule 1193 applies to private and public solid waste collection fleets that consist of 15 or more solid waste collection vehicles, rolloff vehicles, or transfer vehicles, operating in the South Coast Air Quality Management District (four-county region including Los Angeles and Orange counties and the western portions of Riverside and San Bernardino counties).

- **Solid Waste Definition**

Putrescible and nonputrescible solid and semisolid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes (solid waste does not include hazardous waste, radioactive waste, or medical waste as defined in Section 40191(b) of the Public Resources Code).

- **Types of Affected Solid Waste Collection Vehicles**

- ◆ **Solid Waste Collection Vehicle** – heavy-duty vehicle (14,000 lbs. GVW or higher) used to collect solid waste, yard waste, or recyclable materials from residential or commercial establishments, equipped with either manual or automated front, side, or rear loaders.
- ◆ **Transfer Vehicle** – heavy-duty vehicle, usually a tractor/trailer combination, where the trailer is loaded at a transfer or processing station.
- ◆ **Rolloff Vehicle** – heavy-duty vehicle used for the express purpose of transporting waste containers such as open boxes or compactors.

## SUMMARY OF REQUIREMENTS

### ● **Beginning July 1, 2001**

- ◆ For fleets of 50 or more solid waste collection vehicles, additions/replacements to fleets of solid waste collection vehicles must be dual fuel or alternative-fueled heavy-duty vehicles
- ◆ For fleets of 15 or more combined transfer or rolloff vehicles, all additions/replacements to fleets of transfer or rolloff vehicles must be dual fuel alternative fuel vehicle

### ● **Beginning July 1, 2002**

- ◆ All fleets of 15 or more combined solid waste collection vehicles, transfer vehicles, or rolloff vehicles, all additions to fleets of solid waste collection vehicles must be alternative-fueled heavy-duty vehicles

### ● **Definition of Alternative-Fueled Heavy-Duty Vehicle**

A heavy-duty vehicle or engine that uses compressed or liquefied natural gas, liquefied petroleum gas, methanol, electricity, fuel cells, or other advanced technologies that do not rely on diesel fuel.

### ● **Allowance for Dual-Fuel Vehicle Technology**

- ◆ **Dual-Fuel Vehicle Definition-** Heavy-duty vehicle equipped with a CARB certified diesel engine fueled with an alternative fuel in combination with diesel fuel (typically 85 percent natural gas, 15 percent diesel).

- ◆ **Criteria Allowing Dual-Fuel Vehicle Use**

For dual-fuel engines that are certified by CARB to meet a NO<sub>x</sub> emission standard of 2.5 g/bhp-hr or lower, meets a particulate matter emission level of 0.03 g/bhp-hr or lower (could be achieved by equipping a CARB-certified particulate trap), a dual-fuel vehicle may be substituted for an alternative-fuel vehicle:

- ⇒ When adding/replacing solid waste collection vehicles prior to July 1, 2002 for fleets with 50 or more solid waste collection vehicles. This date is extended to July 1, 2003 if all collection, rolloff, and transfer vehicles that are Model Year 1995 and newer operated by the fleet are equipped with CARB certified particulate control devices that achieve a 71 percent or greater control efficiency.
- ⇒ When adding/replacing transfer or rolloff vehicles (no time limitation).

## SUMMARY OF EXEMPTIONS

### ● **Execution of Contracts Prior to Rule Adoption Date**

Vehicles acquired as a result of signed contracts prior to rule adoption do not need to meet rule requirements. These vehicles may be delivered to the fleet prior to or subsequent to the applicable rule implementation date. If there are options to purchase vehicles under the contract, the vehicles under the options do not need to meet rule requirements if the vehicles are delivered before the applicable implementation date.

### ● **Signed Contracts After Rule Adoption and Prior to Implementation Date**

Contracts entered into before the rule implementation date are exempt, even if vehicles are delivered after the implementation date. This exemption assumes that vehicles are delivered according to common commercial practices. Based on discussions with several vehicle vendors, the AQMD staff has been informed that vehicle assembly and delivery typically takes six to eight months from the time an order is placed, although larger vehicles may have longer lead times. Consequently, most exempt vehicle purchases or leases falling under the exemption should result in deliveries occurring no more than one year after rule implementation. The AQMD staff recognizes that deliveries may be delayed due to unforeseen circumstances, and in these circumstances, there is no rule violation. It is the AQMD staff's understanding that it is not a common commercial practice for contracts to call for delivery of vehicles at future dates that are beyond the normal six to eight month delivery period, and consequently, sales or leases under such contracts would not be protected by the exemption. Also, if a contract contains options to purchase vehicles at a later date or dates beyond the first round of vehicles ordered, the options are not subject to the exemption, and the vehicles must be compliant with Rule 1193.

### ● **Evaluation/Test Vehicles**

A fleet operator may acquire a diesel-fueled vehicle subsequent to the applicable rule implementation date provided that:

- ◆ The engine powering the vehicle has been experimentally permitted by CARB without certification approval, at the time of vehicle delivery.
- ◆ The total number of vehicles under this exemption in the vehicle fleet does not exceed 10.

### ● **Unavailability of Alternative-Fueled Vehicles**

If an alternative-fueled vehicle cannot be manufactured and purchased by a fleet operator that is capable of transferring solid waste in a collection, rolloff, or transfer vehicle application, then the fleet operator may acquire diesel-fueled vehicle(s). It is strongly recommended that you contact AQMD fleet rule implementation staff prior to applying for this exemption to verify unavailability of alternative-fueled vehicles for these application(s). To utilize this exemption,

the fleet operator should request in writing from AQMD staff at least one month prior to intended use of this exemption. Information in the request should include vehicle type (e.g., solid waste collection vehicle, transfer vehicle, or rolloff vehicle), fleet contact person with telephone number, and supporting facts/documentation demonstrating the commercial unavailability of alternative-fuel vehicles, or that commercially available alternative fuel vehicles could not be used for its intended application. The fleet operator may need to provide additional documentation to support the use of this exemption at the request of AQMD staff.

- **Obtaining a Variance**

See the section on “Enforcement Guidance” for a discussion on obtaining a variance.

- **Company Acquisition**

Vehicles acquired due to a merger of companies or acquisition of a company would not be subject to Rule 1193 requirements. However, the vehicles will count towards the operations total vehicle count and subsequent waste collection vehicle purchases must be in compliance with Rule 1193.

## COMPLIANCE AUDITING AND ENFORCEMENT

### ● **Vehicle Specific Recordkeeping**

Rule 1193 requires vehicle specific records to be kept by the fleet operators for a minimum of two years, to be made immediately available upon District staff request. (Note, the term vehicle may include, if applicable, the cab/chassis manufacturer, engine manufacturer, and body manufacturer.) These records include the following:

- ▶ **Official DMV Vehicle Registration Documentation**
- ▶ **Manufacturer Name**
- ▶ **Model and Model year**
- ▶ **Engine Family Number**
- ▶ **Fuel type(s)**
- ▶ **Fuel usage (year to date, up to the nearest month)**

### ● **Exemption Recordkeeping**

Any fleet operator seeking an exemption must supply proof upon AQMD staff request that the vehicle or fleet is exempted from Rule 1193. These include the following:

- ▶ **Vehicle Purchase Prior to Implementation Date Exemption:** A copy of purchase agreement, indicating execution date and specific vehicles ordered, as well as the actual vehicle delivery date if vehicle delivery has occurred.
- ▶ **Evaluation/Test Vehicle Exemption:** A copy of the CARB experimental permit that authorizes the engine used to propel the vehicle.
- ▶ **Unavailability of Alternative-Fueled Vehicle:** Written correspondence from cab/chassis, engine, body manufacturers, alternative-fuel conversion facilities indicating the unavailability of alternative-fueled collection, rolloff, or transfer vehicles. Fleet operator should contact AQMD fleet rule staff to verify unavailability of alternative-fueled vehicles
- ▶ **Variance:** Copy of variance issued by Hearing Board allowing the purchase of noncompliant vehicles.

### ● **Notifications**

No later than July 1, 2001, any fleet operator with 15 to 49 combined collection, rolloff, or transfer vehicles must submit a letter to the AQMD Executive Officer (via fleet rule implementation staff if desired by fleet operator) outlining intended source of alternative fuel to be used for compliance purposes.

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## **ENFORCEMENT GUIDELINE**

### **I. Purpose and Applicability**

#### **A. Purpose**

This enforcement guideline establishes a penalty policy of general application to fleet vehicle operators. It does not prevent the exercise of prosecutorial discretion in unusual cases that may warrant a lesser or greater penalty.

#### **B. Applicability**

**Proposed Rule 1193 – Clean On-Road Residential and Commercial Waste Collection Vehicles.**

### **II. Emission Source Background**

Rule 1193 provides for the reduction of fleet vehicle emissions to reduce public exposure to motor vehicle pollution, including toxics, particulate, and ozone precursor emissions. It is intended that these benefits be surplus to existing state and federal regulations governing emission levels from on-road motor vehicles.

#### **A. Rule Requirements**

Rule 1193 applies to operators of waste collection fleets consisting of 15 or more curbside (at residential or commercial establishments), transfer, or rolloff vehicles. These operators are required to purchase alternative-fuel or dual-fuel vehicles when adding or replacing vehicles to their fleet.

#### **B. Compliance Strategy**

The District will audit fleet purchases by requesting purchase records and other records identifying the type of vehicles in the fleet and by inspecting facilities and vehicles. The fleet operators must provide “any files and/or records created to comply” with the applicable fleet rule.

### **III. Evidence**

#### **A. Inspection and Documentation**

Beginning July 1, 2001, any addition or replacement of vehicles in the fleet must be alternative-fueled or dual-fueled, unless exempt. Purchase records, supplier records, budget materials, and the like will be relied upon to demonstrate compliance or noncompliance.



**B. Mitigation Factors**

Rule 1193 imposes new requirements on fleet operators not previously regulated by the District. In the initial years of implementation, knowledge of these requirements by individuals responsible for maintaining the fleets may be an issue. A related issue will be the effort put forth by the fleet operators to inform or train their managers concerning these requirements. It should be noted that the cost of rule-compliant vehicles is generally comparable to other vehicles. Finally, as noted below, fleet operators may not have ready access to alternative fuels for refueling purposes unless a central fueling station is built on-site.

**C. Variance Relief**

Rule 1193(e)(5) states that “persons subject to this rule who are unable to comply may apply for a variance with the SCAQMD Hearing Board.” During rule development, the extent of refueling infrastructure for vehicles required by the rule was raised as an issue in connection with ability to comply. Refueling infrastructure may be available in the form of fixed location, mobile delivery, or on-site refueling station constructed by the fleet operator. If variance relief is sought by the fleet operator because of this issue, whether or not refueling infrastructure is unavailable in any of these forms will require a case-by-case determination by the Hearing Board. If the Board can make a determination of unavailability, the order should be limited to the time necessary to procure refueling infrastructure. It is unlikely that the Hearing Board would find that a variance is warranted if it would have the effect of delaying compliance with the rule on a long-term basis. (See Attachment 4 for further information regarding variances.)

**IV. Penalty Assessment**

For the first three years of the program, the penalty for violating these requirements will stress compliance and equity (i.e., “level playing field”) over the payment of civil penalties.

**1. First Time Violators**

The penalty for first time violators will be a requirement to reduce overall fleet emissions, by an amount equivalent to that which would have occurred, within 18 months of the date a Notice of Violation is issued to the operator.

**2. Repeat Violators**

The penalty for repeat violators will, at a minimum, include the penalty provisions for first time violators, plus an additional requirement to accelerate the turn over of the fleet to clean-burning alternatives. This additional provision is fact-dependent and will be negotiated on a case by

case basis. If an agreement on accelerated turn over cannot be reached, a monetary penalty will be assessed.

**V. Implementation**

**A. Effective Date**

This Enforcement Guideline shall take effect July 1, 2001.

## **TRAINING AVAILABILITY AND OPPORTUNITY**

### **Background**

AQMD has adopted Rule 1193 which fleet operators of on-road residential and commercial refuse collection vehicles to purchase alternative fuel vehicles when naturally acquiring fleet vehicles. This document was prepared to assist in the implementation of this rule by the fleet operators, by:

- Describing the type of training necessary to maintain and repair alternative fuel heavy-duty vehicle technologies, and
- Describing the current availability of alternative fuel engine and vehicle training.

The AQMD staff believes that mechanic training is an important aspect to the implementation of the Clean Fleet Vehicle Rules. In particular, mechanic and other personnel working with alternative-fueled vehicles need to have a basic understanding of the alternative-fuel technology. Many of the state-of-technology engine diagnostics are performed through the use of electronic meters and other electronic devices that are not found in older, existing vehicles. (This is true also for newer diesel vehicles that have electronic controls, etc.) Mechanics trained in the maintenance of older diesel technologies would need to have an understanding of the electronic systems that are integral to the operation of newer on-road engines. In addition, mechanics and other personnel operating alternative-fueled vehicles must have basic knowledge of the safety aspects of alternative-fuels. The AQMD staff believes that a fleet operator does not necessarily need to fully upgrade an existing facility to handle alternative-fueled vehicles. However, in the near-term, minimal upgrades such as installation of methane detectors are necessary. On a longer-term basis, mechanics and other key personnel could undergo further certified-training (and be certified) to maintain or operate alternative-fueled vehicles, as the fleet becomes rule-compliant. To this end, much of the discussions in this section focus on immediate training needs with the recognition that mechanics and other key personnel may have to receive further training.

As is customary, heavy-duty engines including alternative fuel engines are warranted by the manufacturer, and service is available at local dealers or distributorships. However, all local dealers/distributors may not offer service for alternative fuel engines. As an independent business, the local dealer or distributor must make the decision whether to send technicians to manufacturer training, and to purchase specific diagnostic and repair equipment. Technician training is available through the community college system as part of the automotive technician curriculum, or through special classes. However, only certain colleges offer heavy-duty engine training, and even fewer schools offer training for alternative fuel heavy-duty engines.

## Existing Training Programs

*Advanced Transportation Technologies Initiative* is part of the California Community College Economic Development Network (ED>Net). ED>Net was established in 1988 with the overall purpose of advancing California's economic growth and global competitiveness through quality education and services focusing on continuous workforce improvement, technology deployment and business development. The Advanced Transportation Technologies Initiative (ATTI) has established programs within the California Community College system to meet training needs. A list of campuses participating in the ATTI is provided in Table 1.

**TABLE 1.**  
California Community Colleges Participating in the  
Advanced Transportation Technologies Initiative

<p><u>Cerritos Community College, Norwalk, CA</u>  <i>Center for Advanced Transportation Technology</i>  11110 Alondra Blvd  Norwalk CA 90650  Fax: (562) 467-5080  Email: <a href="mailto:peebles@cerritos.edu">peebles@cerritos.edu</a></p>	<p>Randy Peebles  Kevin Taylor  (562) 860-2451 Ext 2485</p>
<p>Bay Area Advanced Transportation Consortium  (BAATTC), City College of San Francisco, College of  Alameda &amp; Skyline College  <i>Center for Advanced Transportation Technology</i>  1400 Evans Ave  San Francisco CA 94124  Fax: (415) 550-4400  Email: <a href="mailto:skorey@ccsf.cc.ca.us">skorey@ccsf.cc.ca.us</a></p>	<p>Suzanne Korey  Rich Canino  (415) 550-4437</p>
<p>College of the Desert, Palm Desert, CA  <i>Energy Technology Center</i>  43-500 Monterey Ave  Palm Desert CA 92260  Fax: (760) 776-0128  Email: <a href="mailto:Stroublefield@dccd.cc.ca.us">Stroublefield@dccd.cc.ca.us</a></p>	<p>Susie Troublefield  (760) 773-2596</p>
<p>Cypress College, Cypress, CA  <i>Center for Advanced Transportation Technology</i>  9200 Valley View Rd  Cypress CA 90630  Fax: (714) 527-1077  Email: <a href="mailto:bettendorf_r@msn.com">bettendorf_r@msn.com</a></p>	<p>Dick Bettendorf  (714) 484-7234</p>
<p>Fresno City College, Training Institute, Fresno, CA  <i>Advanced Transportation Technology Center</i>  390 W. Fir Ave., Building B  Clovis, CA 93611  Fax: (559) 323-4811  Email: <a href="mailto:kenm@fccti.cc.ca.us">kenm@fccti.cc.ca.us</a></p>	<p>Ken Machoian  (559) 323-4688 Ext 6489</p>

<p><u>Long Beach Community College, Long Beach, CA</u>  <i>Center for Advanced Transportation Technology</i>                  1305 E Pacific Coast Hwy                  Long Beach CA 90806                  Fax: (562) 938-3161                  Email: <a href="mailto:calmacy@lbcc.cc.ca.us">calmacy@lbcc.cc.ca.us</a></p>	<p>Farley Herzek                  Cal Macy                  (562) 938-3067</p>
<p><u>Rio Hondo College, Whittier, CA</u>  <i>Center for Advanced Transportation Technology</i>                  3600 Workman Mill Rd                  Whittier CA 90601                  Fax: (562) 908-3408                  Email: <a href="mailto:leddington@rh.cc.ca.us">leddington@rh.cc.ca.us</a></p>	<p>Lyla Eddington                  Jim Hughes                  (562) 908-3425</p>
<p><u>Sacramento City College, Sacramento, CA</u>  <i>Center for Advanced Transportation Technology</i>                  3835 Freeport Blvd                  Sacramento CA 95822                  Fax: (916) 441-4142                  Email: <a href="mailto:cypretp@mail.scc.losrios.cc.ca.us">cypretp@mail.scc.losrios.cc.ca.us</a></p>	<p>Phil Cypret                  (916) 558-2491</p>
<p><u>San Diego Miramar, San Diego, CA</u>  <i>Center for Advanced Transportation Technology</i>                  10440 Black Mountain Rd                  San Diego CA 92126                  Fax: (619) 536-7352                  Email: <a href="mailto:outrchpd@adnc.com">outrchpd@adnc.com</a></p>	<p>Vacant                  (619) 536-7812</p>
<p><u>West Valley Mission CCD, Campbell, CA</u>  <i>Center for Advanced Transportation Technology</i>                  One West Campbell Ave., Suite J-70                  Campbell CA 95008                  Fax: (408) 378-2034                  Email: <a href="mailto:svattc@wvmccd.cc.ca.us">svattc@wvmccd.cc.ca.us</a></p>	<p>David Esmaili                  (408) 871-4393</p>
<p><b>AFFILIATE CENTERS</b></p>	
<p><u>Cuyamaca College, El Cajon, CA</u>  <i>Center for Advanced Transportation Technology</i>                  900 Rancho San Diego Pkwy                  El Cajon CA 92019                  Fax: (619) 660-4389                  Email: <a href="mailto:jcusteau@michele.gcccd.cc.ca.us">jcusteau@michele.gcccd.cc.ca.us</a></p>	<p>Jim Custeau                  (619) 660-4227</p>

The typical community college automotive technician certificate program includes a curriculum of 62 units. Courses on alternative fuel engines are part of the standard mechanic/technician curriculum. Each school in the ATTI specializes in certain aspects of alternative fuel engine and vehicle repair and maintenance. Some focus on light-duty vehicles and others have specific training available for maintenance and repair of heavy-duty engines. According to Peter Davis, statewide Director of the ATTI program, and Richard Bettendorf, Cypress College, students in these programs are very much in demand and usually are offered jobs after completion of the first semester of training. The difficulty is attracting students to this curriculum. Potential students are unaware of the job opportunities in this field, nor are they aware of the opportunities for technology development in this area. Many high schools no longer offer automotive classes, which in the past have provided students to pursue this vocation at the community college level.

The ATTI member colleges and other training institutions, such as the Transportation Foundation of Los Angeles and the Los Angeles Trade-Technical College, are pursuing the availability of training for high school students and through local school district adult education programs. The College of the Desert has received a National Science Foundation Grant to design a training curriculum that will begin in high school and continue through the community college level.

In addition to the courses offered as part of the standard certificate curriculum, colleges participating in the ATTI offer programs tailored to a specific user and/or application. ATTI program staff are capable of designing one class or an entire curriculum that can be taught on the user's site. The ATTI, through Cypress College, operates a mobile training lab, using a tractor-trailer donated by the Orange Count Transportation Authority and refurbished by Cypress College. The Advanced Transportation Technologies Center at Cypress College is currently working with the OCTA to design and conduct training for personnel involved with OCTA's fleet of LNG buses. This training will be conducted at OCTA's facilities by ATTI staff.

The *National Alternative Fuels Training Consortium* (NAFTC), managed by West Virginia University, is a federally funded training program. The NAFTC includes educational institutions, fuel providers, equipment and parts manufacturers, federal and state agencies, and professional educational and training associations. The NAFTC operates through a network of National Training Centers in 19 states. Currently, the only NAFTC member in California is College of the Desert, in Palm Desert. However, NAFTC staff proposes to expand to other community colleges through the auspices of the ATTI at College of the Desert. The centers provide training courses for natural gas, propane and electric vehicles. The following are standard courses, potentially relevant to Rule 1193 affected fleets, offered through NAFTC member campuses:

- NGV System Integration and Service
- Transient Emissions Training
- AFV Electronics and Diagnostics
- Alternate Fuel Seminars
- CN Systems Theory and Design
- Cylinder Inspection Certification
- NGV System Integration and Electronics Training

The NAFTC program has been dominated by compressed natural gas in light-duty vehicles, although other programs may be offered at different campuses. For instance, York Technical in North Carolina focuses on electric and hybrid technologies. The consortium has recognized the need to expand its efforts into the heavy-duty engine and vehicle category and to provide materials on both compressed and liquefied natural gas.

Individual engine manufacturers have programs to facilitate the use of their alternative fuel engine at the customer location. Most of these programs are after the sale to the customer and are usually part of the engine warranty agreement. This training only supports work on the engine, and does not usually include the fuel delivery system. The following engine companies provide specific engine training:

- Cummins
- Detroit Diesel
- Power Systems (Caterpillar)
- Mack
- John Deere

No heavy-duty chassis manufacturers have a program at this time, although PACCAR is considering such a program and Freightliner has begun to formulate an alternative fuel vehicle program. NGV Ecotrans, a company involved in the manufacture of heavy-duty alternative vehicles headquartered in the Los Angeles area, has their own maintenance staff to serve customer needs. Finally, Southern California Gas Company has provided training, especially in CNG and LNG fuel use and storage. Contact Mike Bolin, NGV Account Executive (213) 244-5115 in El Monte.

The following is a listing of contacts/resources that may be useful to Rule 1193 affected fleets in facilitating alternative fuel engine mechanic training.

Links through Clean Cities (sponsored by the U.S. Department of Energy)

**Northwest Riverside County Clean Cities Coalition** Contact Mike McCoy, (909) 787-7985.

**Long Beach Clean Cities** Contact Elizabeth Wright, (562) 570-2060.

**Coachella Valley Clean Cities** Contact Bert Kronmiller, through SunLine Transit, (760) 343-3456 in Thousand Palms.

Others (Trade Associations, after-market suppliers, consultants, misc.)

**Inland Empire Disposal Association** Contact Paul Ryan, Executive Director, (909) 735-5987.

**Economic Development**, associated with California Community Colleges  
Contact Peter Davis at (619) 473-0090.

**Certification of Higher-learning in an Alternative Motorfuels Program (CHAMP)**  
works with industry to establish trainer certification programs. Contact Bob Rodriguez at NATEF (see below) at (703) 713-0100.

**National Automotive Technician Education Foundation (NATEF)**

**Gladstein and Associates** Cliff Gladstein and staff, consultants to California's Clean Cities, Contact Eric Neandross, (310) 314-1934

**Westport Innovations Inc** of Vancouver BC partners with Cummins on heavy-duty.  
Contact Alan Bayless, (604) 718-2016

**Gas Technology Institute** Contact Susan Robertson, (847) 768-0783

## **Identifying Training Needs**

It is apparent that proliferation of alternative fuel engine and vehicle technologies will depend on the ability to adequately maintain and repair these technologies. For heavy-duty engines, manufacturer training for dealerships, distributors, and fleets is available, although the depth of that training varies. Some training is available through the community colleges and other resources.

Although the ATTI through the California Community Colleges is an exemplary program, it is not well recognized or utilized. In addition, local trade schools have the capability to provide training, although these schools are not currently focused on alternative fuels. There appears to be a great demand for trained mechanics and technicians; however, there does not appear to be sufficient interest in high school programs to prepare students for a career in automotive and engine service technology.

The use of liquefied natural gas (LNG) is expected to be a major contributor to the offset of diesel fuel use in future heavy-duty vehicle applications. Most of the courses offered through the National Alternative Fuel Technology Consortium and the Advanced Transportation Technology Initiative are directed to the use of compressed natural gas in light-duty vehicles. Training specific to cryogenic systems, methane detection and LNG on-board fuel systems is almost non-existent. However, as stated previously, the consortium has recognized the need to expand its offerings.

In addition to training to maintain engines, diagnose problems and repair them, there is a lack of understanding of the fundamentals of the design and operation of fueling facilities for alternative fuel vehicles. In general, fleets do not understand well the parameters of natural gas fueling facility design and operation, including code requirements, appropriate station sizing, and safety considerations. Fleets are also not well informed regarding necessary facility modifications that may be necessary to service alternative fuel vehicles and engines. There are few resources currently available to provide this information. Through the Interstate Clean Transportation Corridor project, Gladstein & Associates has sponsored a number of meetings for specific fleets that are planning to implement fueling stations. However, these meetings only provide an opportunity for vendors to explain their products to potential customers. They do not provide instruction on how to design and build a station. The NGV Institute, in Las Vegas, Nevada, is a nonprofit organization that offers courses on natural gas fueling facility design and operation. The institute has a standard curriculum, and is capable of tailoring a curriculum to meet the user's needs.

Basin fleet managers have expressed their frustration in being able to find well-trained technicians for all their fleet vehicles. Particularly lacking, are technicians trained in the latest electronic controls and advanced diagnostic equipment. The need for trained personnel will become more critical in the future as both diesel and alternative fuel technologies become increasingly complex.



## **ATTACHMENTS**

1. Introducing the AQMD
2. Rule Language
3. Area maps and listing of potential natural gas refueling stations.
4. Hearing Board and Variances
5. Description of Refuse Collector Loan Program.
6. Description of available alternative-fuel vehicle funding programs and program application procedures.
7. Listing of commercially available engine/chassis combinations, including engine/chassis model, dealers, and conversion facilities.
8. Partial List of Public/Private fleet operators potentially affected by Rule 1193
9. Listing of web industry/government resources and contact information.

**ATTACHMENT 1**  
**INTRODUCING THE AQMD**

# Introducing the AQMD

## MISSION

The South Coast Air Quality Management District, by law, is required to achieve and maintain healthful air quality for its residents. This is accomplished through a comprehensive program of planning, regulation, compliance assistance, enforcement, monitoring, technology advancement, and public education.

## WHAT IS THE AQMD

The AQMD is the air pollution control agency for the four-county region including Los Angeles and Orange counties and parts of Riverside and San Bernardino counties. This area of 12,000 square miles is home to more than 14 million people--about half the population of the State of California. It is the second most populous urban area in the United States.

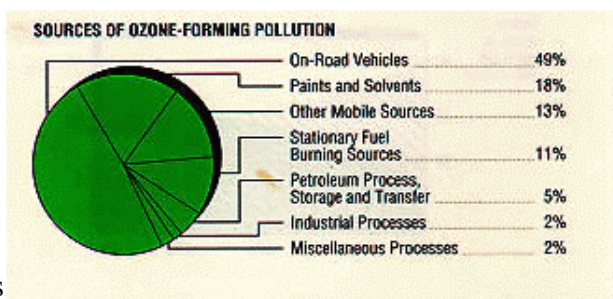


Many of the same factors that make living in Southern California so desirable also contribute to the worst smog problem in the nation. Gentle ocean breezes carry pollutants into the inland valleys where they are trapped by the surrounding mountains. Thermal inversions act like a lid over the basin. Bright sunshine and warm temperatures cause some pollutants to react with each other, forming even more pollution. These natural conditions, along with the pollution from over 9 million motor vehicles, thousands of businesses and industries, and countless consumer products, create an ideal smog factory.

Different types and levels of air pollution can cause everything from watery eyes and fatigue to respiratory disease, lung damage--even cancer. Because this area's smog problem is so severe, AQMD often finds itself at the forefront of the nation's efforts to reduce air pollution.

## WHAT AQMD DOES

AQMD is responsible for controlling emissions from stationary sources of air pollution. These can include anything from large powerplants and refineries to the corner gas station. There are about 31,000 such businesses operating under AQMD permits. Other widespread stationary sources include consumer products such as house paint, charcoal lighter fluid, and thousands of products containing solvents that evaporate



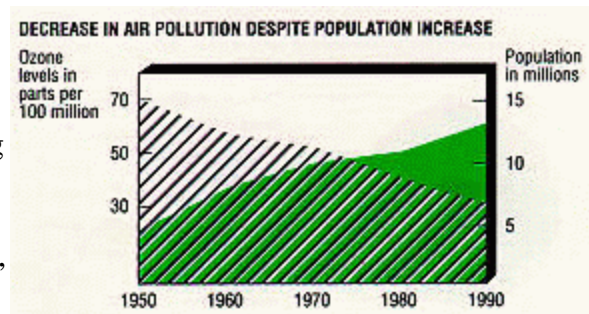
into the air. About 40% of this area's air pollution comes from stationary sources, both businesses and residences.

The other 60% of our air pollution comes from mobile sources--mainly cars, trucks and buses, but also including construction equipment, locomotives, trains and airplanes. Emission standards for mobile sources are established by state or federal agencies, such as the California Air Resources Board and the U.S. Environmental Protection Agency, rather than by local agencies such as the AQMD.

Although AQMD does not directly control pollution from motor vehicles, we do have transportation-related programs aimed primarily at reducing the number of cars on the road and promoting the use of cleaner fuels and vehicles. For example, AQMD's Rule 2202 requires employers to reduce emissions resulting from employees commuting to work through a variety of alternatives such as, old-vehicle scrapping, alternative fueled vehicles, carpools, public transit, or even bicycle to work. About 1,600 worksites employing nearly 1.2 million employees participate. AQMD also sponsors programs to reduce the number of smoking trucks, buses and cars. We do this in cooperation with the California Highway Patrol and the thousands of citizens who call our toll-free 1-800-CUT-SMOG toll free line to report smoking vehicles.

## HOW AQMD CONTROLS POLLUTION

Controlling stationary sources of pollution includes a wide range of activities. These begin with AQMD developing and adopting an Air Quality Management Plan that serves as the blueprint for all the future rules necessary to bring the area into compliance with federal and state clean air standards. Rules are then enacted to reduce emission from specific types of equipment, industrial processes, paints and solvents, even consumer products.



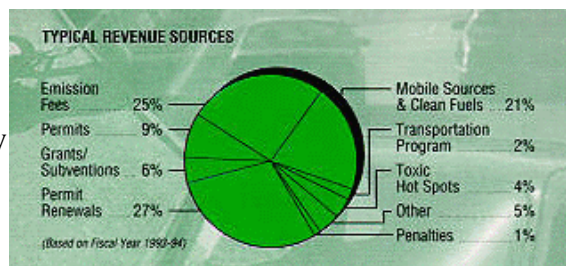
AQMD's emissions trading program allows many facilities the flexibility to choose the most cost-effective means of achieving annual reductions in air pollution. Other facilities are issued permits spelling out specific requirements for equipment and operations that emit pollution.

AQMD staff conduct periodic inspections to ensure continued compliance with requirements. We also provide training to help business owners understand these requirements and keep up with new rules. Most businesses recognize their responsibility and readily comply. But, when necessary, AQMD takes enforcement action to bring businesses into compliance with its rules. State law provides substantial penalties for the worst Offenders, up to \$50,000 per day and/or a year in jail for each day of violation.

The "bottom line" of whether or not our efforts are working is the quality of the air we breathe. AQMD continuously monitors air quality at more than 30 locations throughout the four-county area. This also allows us to notify schools, the press and the public whenever air quality is unhealthy.

## WHERE AQMD GETS ITS FUNDING

AQMD's annual operating budget is \$86 million. A significant part of AQMD's revenue comes from fees businesses must pay if they release large amounts of pollution. Thus, the biggest polluters pay the most toward funding the air pollution control effort. Also, businesses must pay annual fees for their permits.



But motor vehicles account for more than half of this region's pollution problem. So, beginning in 1991, a surcharge was added to this area's vehicle registration fees to help fund air pollution control efforts. This surcharge consists of a \$4 per vehicle state fee and an additional \$1 per vehicle districtwide fee. The \$1 fee and 30% of the \$4 fee from vehicles registered in our four counties goes to the AQMD to be used for Mobile source programs such as those promoting ridesharing and developing clean fuels. Forty percent of the \$4 fee goes directly to cities for air quality improvements involving mobile sources. The remainder is distributed through an independent panel as grants for programs intended to reduce vehicle emissions.

## PROGRESS SO FAR

Air quality in this area has continually improved despite an enormous increase in population and cars. For example, maximum levels of ozone, one of our worst smog problems, have been cut to less than half of what they were in the 1950s, even though today we have nearly three times as many people and four times as many vehicles.

In the past decade, we have reduced by half the number of Stage I smog alerts, the level at which schools are advised to keep children from playing outside. And, we almost never reach Stage II levels, which used to occur 15 times a year a decade ago.

## THE JOB AHEAD

The clean air effort still has a long way to go. Even though recent years have been the cleanest on record, our air still violates the health standard for ozone on about 120 days of the year (based on 1993 data). Maximum levels are more than twice as high as the federal standard for healthful air.

State and federal law require this area to meet clean air standards by the year 2010. This may seem like a long time for us to live with smog. But the cleanup effort is enormous. Even though we already have the strictest pollution control requirements in the nation, we still have to reduce some types of pollution by more than 80% if we are to rid the area of smog. To ensure that we are making the necessary progress, the law requires us to reduce these emissions by at least 5% per year.

## HOW YOU CAN HELP

Winning the battle against smog will take more than just placing tighter controls on smokestacks and tailpipes. A lot of our pollution comes from the products and services we use every day. All of us can help by making some simple changes in the way we live: carpool, use public transit, use clean-formula gasolines, use water-based paint, avoid aerosol products, recycle, conserve energy.

For additional information call 1-800-CUT-SMOG and ask for our free pamphlets, "25 Ways You Can Clean the Air," "Drivers Guide to Clean Air" and "Shopper's Guide to Clean Air".

### IMPORTANT TELEPHONE NUMBERS

All phone numbers require using **(909) area code** unless a *toll-free (800) number* is indicated (*Toll free numbers are restricted to local calls only*).

AQMD General Number	396-2000
Air Quality Complaints	800-CUT-SMOG (288-7664)
Air Quality Readings & Smog Forecasts	800-CUT-SMOG (288-7664)
Clerk of the Board	396-2500
Compliance Course Information	800-CUT-SMOG (288-7664)
Cut-Smog (Smoking Vehicle Complaints)	800-CUT-SMOG (288-7664)
Directions to AQMD	396-3554
District Counsel	396-2302
District Prosecutor	396-3400
Executive Office	396-2100
Gas Nozzle Complaints	800-242-4020
General Counsel	396-2303
Job Information	396-2700
Library	396-2600
Permit Information	396-2468
Public Advisor	396-3235
Public Information Center	800-CUT-SMOG (288-7664)
Public Records requests	396-3700
Small Business Assistance HOTLINE	800-388-2121
Subscription Services	396-3720
Technology Advancement	396-3245
Transportation Programs	396-3271

## **AQMD OFFICE LOCATIONS AND PHONE NUMBERS**

### **AQMD Headquarters**

21865 E. Copley Drive  
Diamond Bar, CA 91765  
(909) 396-2000

### **AQMD BRANCH OFFICES**

1500 W. Carson St. Suite 115  
Long Beach, CA. 90810  
(310) 233-7000

**ATTACHMENT 2**  
**RULE LANGUAGE**



**Rule 1193. Clean On-Road Residential and Commercial Refuse Collection Vehicles**

(a) Purpose

For solid waste collection fleets operating in the South Coast Air Quality Management District (District), this rule requires public and private solid waste collection fleet operators to acquire alternative-fuel refuse collection heavy-duty vehicles when procuring or leasing these vehicles to reduce air toxic and criteria pollutant emissions.

(b) Applicability

This rule applies to government agencies and private entities that operate solid waste collection fleets with 15 or more solid waste collection vehicles. This rule shall not apply to vehicles or services pursuant to paragraph (e).

(c) Definitions

For purposes of this rule, the following definitions shall apply:

- (1) ALTERNATIVE-FUEL HEAVY-DUTY VEHICLE means a heavy-duty vehicle or engine that uses compressed or liquefied natural gas, liquefied petroleum gas, methanol, electricity, fuel cells, or other advanced technologies that do not rely on diesel fuel.
- (2) DUAL-FUEL HEAVY-DUTY VEHICLE means a heavy-duty vehicle equipped with a diesel engine that uses an alternative fuel (such as compressed or liquefied natural gas, liquefied petroleum gas, methanol, or other advanced technologies) in combination with diesel fuel to enable compression ignition. A dual-fuel engine typically uses the alternative fuel to supply 85 percent of the total engine fuel requirement on a BTU basis. A dual-fuel engine must be certified by CARB to meet an applicable optional nitrogen oxide exhaust emission standard and be fitted with a particulate matter aftertreatment control device that achieves a particulate matter emissions level no greater than the particulate matter emissions level of the latest certified M-100 methanol engine certified by CARB prior to the date of adoption of this rule.
- (3) HEAVY-DUTY VEHICLE means any vehicle having a gross vehicle weight of at least 14,000 pounds.

- (4) PUBLIC OR PRIVATE SOLID WASTE COLLECTION FLEET OPERATOR is a person who owns, leases, or operates substantially in the District, solid waste collection, rolloff, or transfer vehicles. A person is a federal, state, county, or city government department or agency; special district such as a sanitation or water district; individual firm; limited liability company; association; partnership; corporation or any other entity that collects, transports, or transfers solid waste, yard waste, or recyclable materials.
- (5) ROLLOFF VEHICLE means any heavy-duty vehicle used for the express purpose of transporting waste containers such as open boxes or compactors.
- (6) SOLID WASTE means all putrescible and nonputrescible solid, and semisolid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes. Solid waste does not include hazardous waste, radioactive waste, or medical waste as defined in Section 40191(b) of the Public Resources Code.
- (7) SOLID WASTE COLLECTION VEHICLE means any heavy-duty vehicle used for the express purpose of collecting solid waste, yard waste, or recyclable materials from residential or commercial establishments. A solid waste collection vehicle is a vehicle having the capability to collect solid waste using, either manual or automated, front, side or rear loaders and generally operates on fixed routes.
- (8) TRANSFER VEHICLE means any heavy-duty vehicle used for the express purpose of transferring solid waste. A transfer vehicle is usually a tractor/trailer combination where the trailer is loaded at a processing or transfer station.
- (9) VEHICLE means any self-propelled, motorized device that is permitted to operate on public roads through Department of Motor Vehicle registration or the federal government.

(d) Fleet Requirements

- (1) Beginning July 1, 2001, for public and private solid waste collection fleet operators of 50 or more solid waste collection vehicles; and beginning July 1, 2002, for public and private solid waste collection fleet operators of 15 or more solid waste collection vehicles, or a combined total of 15 or more rolloff, transfer, or solid waste collection vehicles, all additions to an existing fleet, or formation of a new fleet, of solid waste collection vehicles shall be by purchase or lease of:
  - (A) alternative-fuel heavy-duty vehicles when adding or replacing solid waste collection vehicles to their vehicle fleet; or
  - (B) Prior to July 1, 2002, dual-fuel heavy-duty vehicles when adding or replacing solid waste collection vehicles.
- (2) Beginning July 1, 2001, for public and private solid waste collection fleet operators with a combined total of 15 or more transfer or rolloff vehicles, all additions to an existing fleet, or formation of a new fleet, of transfer or rolloff vehicles shall be by purchase or lease of alternative-fuel or dual-fuel heavy-duty vehicles when adding or replacing transfer or rolloff vehicles.

(e) Exemptions

The provisions of this rule shall not apply to the following:

- (1) No more than ten evaluation/test vehicles per fleet, provided by or operated by vehicle manufacturer for testing or evaluation, exclusively.
- (2) Heavy-duty vehicles not used for the express purpose of collecting solid waste from residential or commercial establishments or transferring of solid waste from a waste transfer station to a landfill.
- (3) Upon demonstration to the Executive Officer, any solid waste collection vehicles as required pursuant to paragraph (d) for which no alternative-fuel engine and chassis configuration is available commercially or could be used.
- (4) Any vehicle added to or replacing a vehicle in an existing fleet after the applicable implementation date of this rule, as specified in subdivision (d), as long as the purchase contract for acquisition of such vehicle is signed before the date of adoption of this rule. This exemption does not apply to the execution of options to acquire vehicles where the option is executed after the date of adoption of this rule and where vehicle delivery does not occur until after the applicable implementation date as specified in subdivision (d).
- (5) Persons subject to this rule who are unable to comply may apply for a variance with the SCAQMD Hearing Board. (See SCAQMD Regulation V and California

Health and Safety Code Sections 42350 through 42372 for information regarding variances.)

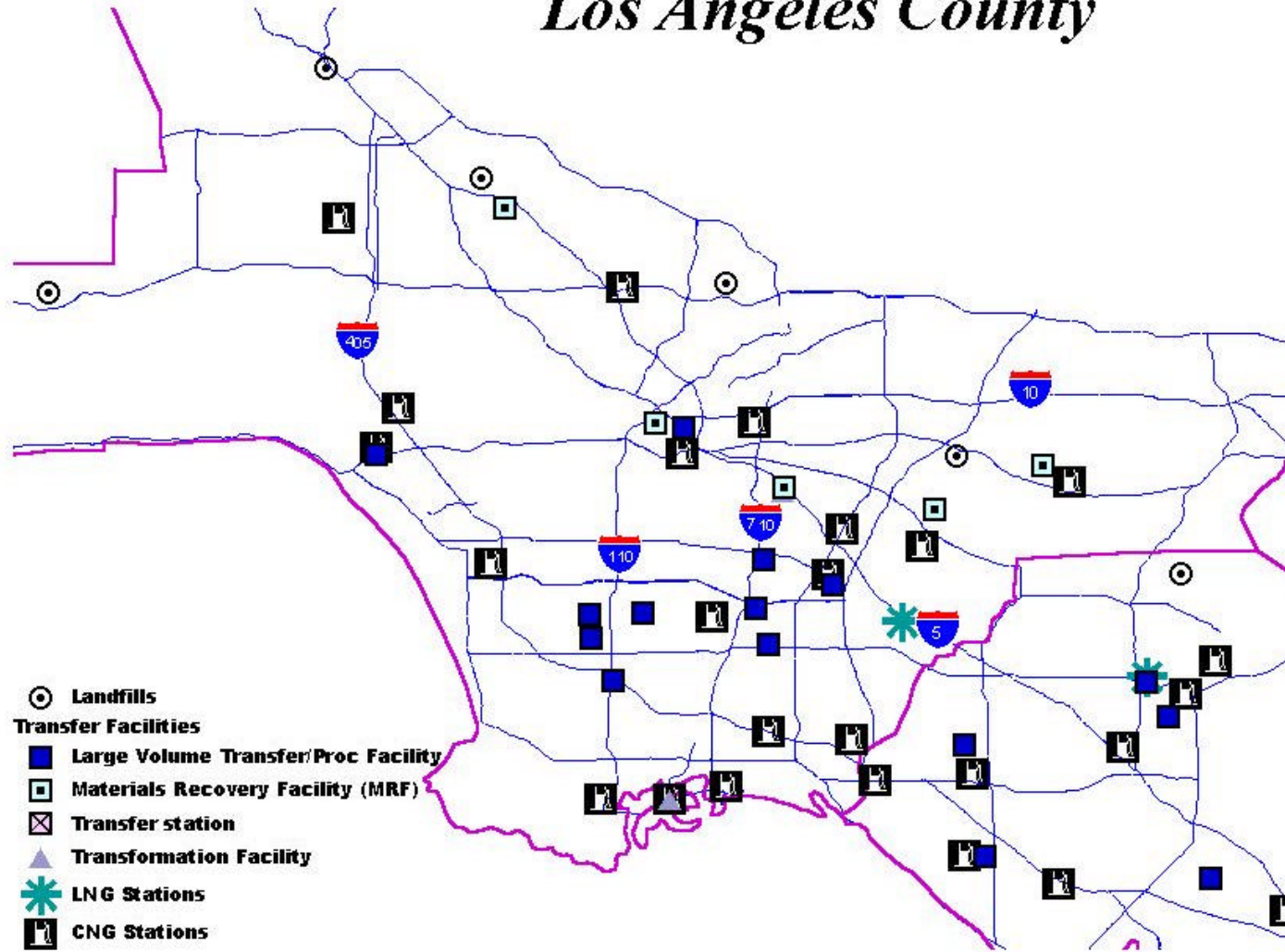
- (6) Upon demonstration to the Executive Officer that all existing solid waste collection vehicles equipped with 1995 and subsequent model year diesel engines in the fleet, have been equipped with CARB certified particulate matter control devices that achieve 71 percent or greater reductions in particulate matter emissions, a fleet operator may purchase dual-fuel vehicles pursuant to subparagraph (d)(1)(B) until July 1, 2003.
- (f) **Compliance Auditing and Enforcement**
  - (1) The fleet operator shall provide at the request of the District any files and/or records created to comply with subdivision (d) including fleet-specific information, such as a list of official DMV registrations, manufacturer, model-year, model, engine family number, fuel type, and fuel usage of each fleet vehicle. The fleet operator shall keep all required records for a minimum of two years.
  - (2) Any fleet operator seeking an exemption under subdivision (e) shall supply proof that their vehicle or fleet is exempted from this rule when requested by the District.
  - (3) No later than July 1, 2001, any fleet operator with 15 or more, but fewer than 50 vehicles subject to paragraph (d)(1) shall submit a letter to the Executive Officer outlining the intended source of alternative fuel to be used for compliance purposes.
- (g) **Severability**

If any provision of this rule is held by judicial order to be invalid, or invalid or inapplicable to any person or circumstance, such order shall not affect the validity of the remainder of this rule, or the validity or applicability of such provision to other persons or circumstances. In the event any of the exceptions to this rule is held by judicial order to be invalid, the persons or circumstances covered by the exception shall instead be required to comply with the remainder of this rule.

**ATTACHMENT 3**

**AREA MAPS AND LISTING OF POTENTIAL  
NATURAL GAS REFUELING STATIONS**

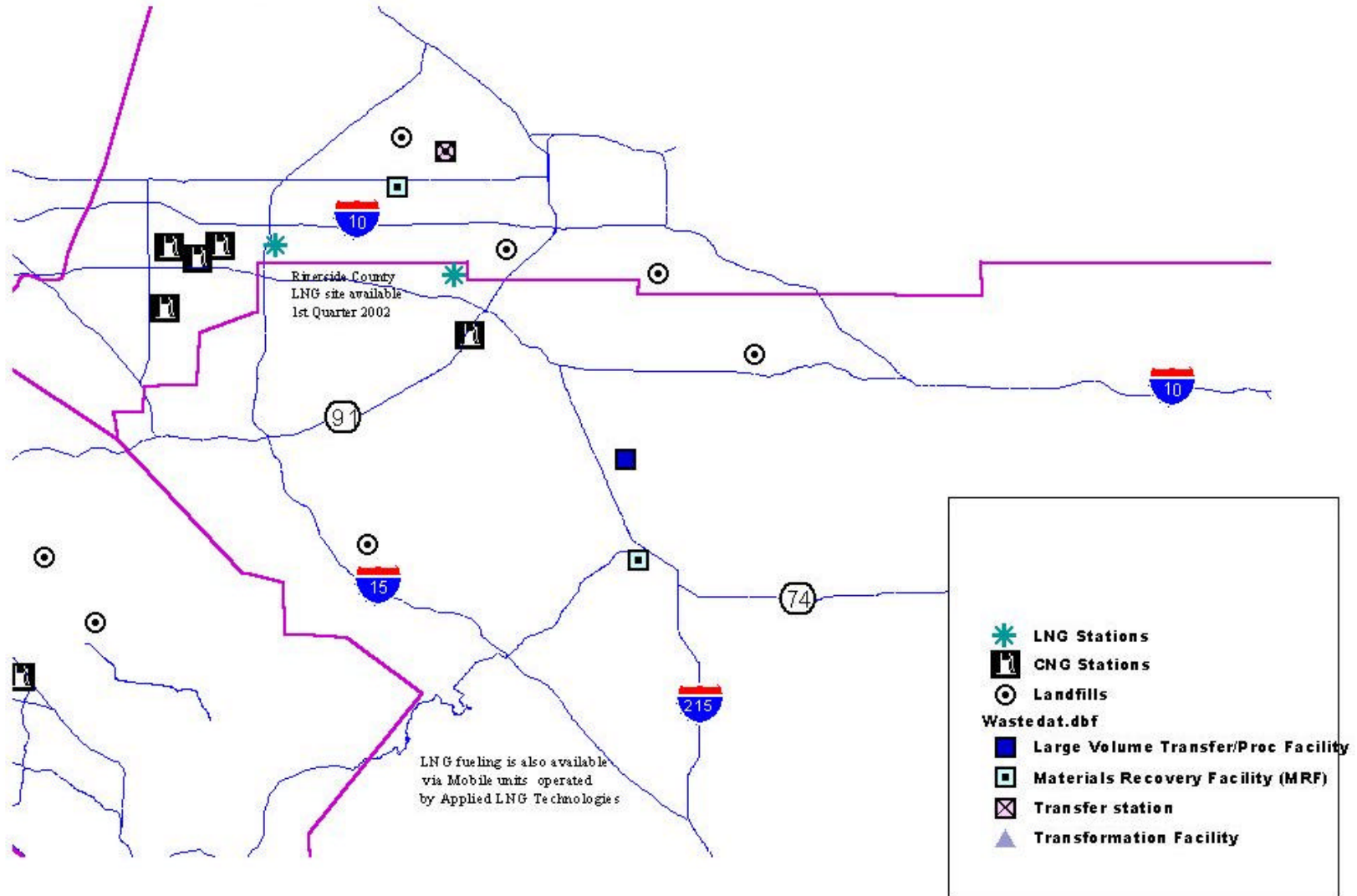
# Los Angeles County

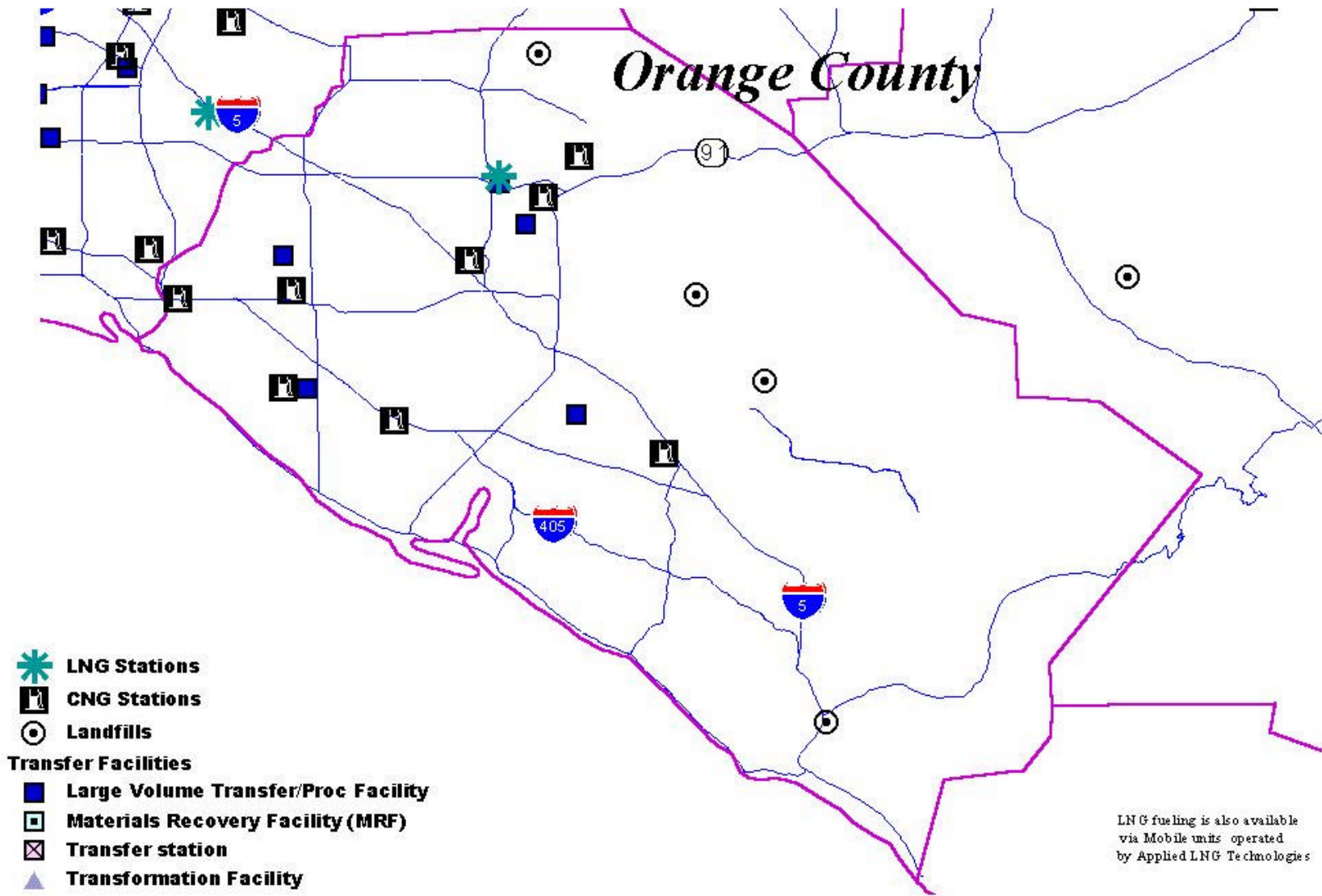


- ⊙ Landfills
- Transfer Facilities**
- Large Volume Transfer/Proc Facility
- ◻ Materials Recovery Facility (MRF)
- ⊠ Transfer station
- ▲ Transformation Facility
- ★ LNG Stations
- ⊞ CNG Stations

LNG fueling is also available via Mobile units operated by Applied LNG Technologies

# *Urbanized Riverside & San Bernardino Counties*







## NATURAL GAS FUELING STATIONS

In addition to the fueling sites listed below, Natural Gas is also available by truck delivery, operated by:  
 APPLIED TECHNOLOGIES -- contact Patrick Hutson at 602-504-1682

### LNG (Liquefied Natrual Gas)

Site Name	Address	City	ZIP	Contact	Telephone
<b>Santa Fe Springs:</b> Vons	12801 Excelsior Dr	Santa Fe Springs	90670	Don Ruchenbecker	562-802-6365
<b>Anaheim:</b> Taeormina	1231 N Blue Gum St	Anaheim	92815	Pam Diaz	714-630-3811
<b>Ontario:</b> Airport (LNG & CNG)	(operated by ALT)	Ontario		Patrick Hutson	602-504-1682
<b>*Riverside</b> County Transfer Station	1850 Agua Mansa Rd	Riverside	92509	Bob Nelson	909-955-1399

\*Operation planned for 2002 Q1

### CNG (Compressed Natrual Gas)

Telephone	Site Name	Address	City	ZIP	Operation hours	Payment Type
<b>Public with Limited Access</b>						
213-244-5215	City of Ontario City Yard	14235 S. Bon View Ave.	Ontario	91761	M-F 8:00 am - 5:	Pay card required
213-244-5215	SoCal Gas - Pico Rivera	8101 S. Rosemead Blvd.	Pico Rivera	90660-510	M-F 8:00 am - 5:	Card key at all times
<b>Public with No Restrictions</b>						
562-570-2060	Headquarters - LBGD #1	2400 E. Spring St.	Long Beach	90806-228	24 hrs. daily	Card key after hours
281-874-3827	Mac Chevron Shell Oil Company	4807 Las Virgenes Rd. 3125 E Orangethorpe Av	Calabasas Anaheim	91302 92806-111	24 hrs. daily	Card key after hours
213-244-5215	Shell Oil Olympic	1520 S. Santa Fe Ave.	Los Angeles	90021-251	24 hrs. daily	No restrictions
213-244-5215	SoCalGas - Energy Resource Ctr	9420 E. Firestone Blvd.	Downey	90241-550	24 hrs. daily	Card key after hours

# NATURAL GAS FUELING STATIONS

## CNG (Compressed Natural Gas)

Telephone	Site Name	Address	City	ZIP	Operation hours	Payment Type
<b>Public with Restrictions</b>						
888-732-6487	76/PFC	948 S. Azusa Ave.	Industry	91748-100	24 hrs. daily	Card key at all times
562-570-2060	City Hall - LBGD # 3 (Police De	400 W. Broadway	Long Beach	90802-440	24 hrs. daily	Card key at all times
858-654-1105	City of El Centro	970 N. 4th St.	El Centro	92243-151	24 hrs. daily	Card key at all times
888-732-6487	City of Irvine/PFC	15029 Sand Canyon Av	Irvine	92618-210	24 hrs. daily	Card key at all times
909-947-1931	City of Ontario	1440 S. Cucamonga Av	Ontario	91761-450	24 hrs. daily	Card key at all times
760-241-6365	City of Victorville Transit Ctr	16690 D St.	Victorville	92392	24 hrs. daily	Card key at all times
562-570-2060	El Dorado Park	2750 Studebaker Rd.	Long Beach	90815-169	M-F 7:00 am - 4: 24 hrs. daily	Pay card required Card key at all times
888-732-6487	L.A. County/PFC	1100 N. Eastern Ave.	Los Angeles	90063-329		
888-732-6487	Los Angeles Airport/PFC	10400 Aviation Blvd.	Los Angeles	90045-590	24 hrs. daily	Card key at all times
888-732-6487	Orange County Sanitation Dist	10844 Ellis Ave.	Fountain Valley	92708-701	24 hrs. daily	Card key at all times
888-732-6487	Palm Springs Airport/SunLine/PF	3400 E Tahquitz Cyn Wy	Palm Springs	92262-696	24 hrs. daily	Card key at all times
888-732-6487	Seal Beach/PFC	3101 Beverly Manor Dr.	Seal Beach	90740-252	24 hrs. daily	Card key at all times
562-570-2060	SERRF - LBGD #2	120 Henry Ford Ave.	Long Beach	90802-103	24 hrs. daily	Card key at all times
213-244-5215	SoCal Gas - Anaheim Base	1919 S State College Blvd	Anaheim	92806-611	24 hrs. daily	Card key at all times
213-244-5215	SoCal Gas - Compton	701 N. Bullis Rd. (Access Elm)	Compton	90221-225	24 hrs. daily	Card key at all times

## NATURAL GAS FUELING STATIONS

### CNG (Compressed Natural Gas)

Telephone	Site Name	Address	City	ZIP	Operation hours	Payment Type
213-244-5215	SoCal Gas - Garden Grove Base	12631 Monarch St. (Access Ind	Garden Grove	92841-391	24 hrs. daily	Card key at all times
213-244-5215	SoCal Gas - Riverside Base	4495 Howard Ave.	Riverside	92507-553	24 hrs. daily	Card key at all times
213-244-5215	SoCal Gas - Santa Monica Base	1701 Stewart St.	Santa Monica	90404-402	24 hrs. daily	Card key at all times
213-244-5215	SoCal Gas - Saticoy Base	16645 Saticoy St.	Van Nuys	91406-283	24 hrs. daily	Card key at all times
213-244-5215	Southern California Gas Co. San	755 W. Capitol Dr.	San Pedro	90731-122	24 hrs. daily	Card key at all times
213-244-5215	Southern California Gas Company	5610 San Fernando Rd.	Glendale	91202-210	24 hrs. daily	Card key at all times
888-732-6487	Sunline Indio/PFC	83244 Hwy. 111	Indio	92201-564	24 hrs. daily	Card key at all times
888-732-6487	Sunline Transit Agency/PFC	32505 Harry Oliver Trail	Thousand Palms	92276-350	24 hrs. daily	Card key at all times
888-732-6487	U.S. Postal Service/PFC	414 W. Grand Blvd. (station o	Corona	91720-999	24 hrs. daily	Card key at all times
213-244-5215	UCLA	741 Charles Young Dr. S. (in	Los Angeles	90095-834	24 hrs. daily	Card key at all times
888-732-6487	United States Post Office/PFC	6771 Warner Ave. (Fueling at	Huntington Beach	92647-999	24 hrs. daily	Card key at all times
888-732-6487	Waste Management of the Desert	41575 Eclectic St.	Palm Desert	92260-196	24 hrs. daily	Card key at all times
213-244-5215	Whittier School District	13200 Mulberry Dr.	Whittier	90602-ND	24 hrs. daily	Card key at all times

**ATTACHMENT 4**  
**HEARING BOARD AND VARIANCES**

# THE HEARING BOARD AND VARIANCES

## What is the Hearing Board?

The Hearing Board is a quasi-judicial panel authorized to provide relief from AQMD regulations under certain circumstances. As state law requires, Hearing Board members are appointed by, but act independently of, the AQMD Governing Board.

## What is the Hearing Board authorized to do?

The Hearing Board is authorized to hear:

- petitions by companies for variances;
- petitions for abatement orders;  
(An abatement order requires a company operating out of compliance to take specific actions or to shut down its operation. This is a severe remedy normally reserved for serious violators.)
- appeals by companies from the granting of permits, permit conditions, permit denials and suspensions, denials of emission reduction credits and denials of pollution control plans;
- appeals by third parties.

After hearing all sides of a case in which individuals or companies come into conflict with AQMD rules and regulations, the Hearing Board weighs the evidence and reaches a decision.

## What is the Hearing Board NOT authorized to do?

It is important to note that the Hearing Board is not authorized to:

- modify rules;
- exempt a business from complying with a rule;
- grant a variance from a violation of the public nuisance law, such as one that creates an odor problem or threatens public health or property; or
- review a violation notice in any way.

## What is a variance?

A variance is an administrative exception to a law. A variance allows a company to continue operating in violation of AQMD rules without penalty while it takes appropriate steps to meet air pollution control requirements. Variances can be granted only by the AQMD Hearing Board, not by AQMD inspectors or engineers.

There may be good reasons why a company can't immediately comply with air pollution control laws. But operating outside the law can result in a fine, or even the shutdown of an operation. The only legal way to operate while working toward a solution without being subject to penalties is to get a variance.

## **Basis for granting or denying a variance**

The Hearing Board must make six findings on a case before a variance can be granted (*Section 42352, California Health & Safety Code*).

- That the petitioner for a variance is, or will be, in violation of Section 41701 or of any rule, regulation, or order of the district.
- That, due to conditions beyond the reasonable control of the petitioner, requiring compliance would result in either:

an arbitrary or unreasonable taking of property, or the practical closing and elimination of a lawful business.

- That the closing or taking would be without a corresponding benefit in reducing air contaminants.
- That the applicant for the variance has given consideration to curtailing operations of the source in lieu of obtaining a variance.
- During the period the variance is in effect, that the applicant will reduce excess emissions to the maximum extent feasible.
- During the period the variance is in effect, that the applicant will monitor or otherwise quantify emission levels from the source, if requested to do so by the district, and report these emission levels to the district pursuant to a schedule established by the district.

*Additional information the Hearing Board must consider in making these six findings is provided in AQMD Regulation V.*

## **Types of variances**

There are four types of variances:

### **Emergency**

When a situation develops without warning (such as an equipment breakdown, power failure, or similar event that could cause a violation of AQMD rules) an **emergency variance** is required. Any member of the Hearing Board may grant an emergency variance, without public notice or hearing.

### **Interim**

For immediate coverage other than for emergencies, an **interim variance**--which does not require a public notice period--can be obtained to cover the time until a hearing for a **short or regular variance** can be held. An interim variance may be requested at the same time either a short or regular variance is requested. The Hearing Board is required by law to find **good cause** to grant an interim variance. That means there has to be a good reason why the company could not have filed its petition in time for the hearing to be announced to the public.

### **Short**

Companies that can comply with AQMD rules within 90 days or less should request a **short variance**. A short variance requires a 10-day posted notice, plus five days processing time before the request can be heard.

## **Regular**

Companies that need more than 90 days to comply with AQMD rules should request a **regular variance**. The variance period is usually one year or less, but can be longer if a specific compliance schedule is set. An application for a regular variance must be filed at least 45 days before the request can be heard.

### **How to request a variance or other Hearing Board action (Instructions)**

To ask for a variance, appeal a permit, or appeal an emission reduction credit denial, call (909) 396-2500. The Clerk of the Board's Office will mail you the packet of information you need to file your petition. Or you can pick up a packet from the Clerk of the Board's office or the AQMD South Bay Field Office (1500 W. Carson Street; Long Beach, CA Phone: 310/233-7000); FAX it to yourself by calling (909) 396-2550; or access the petition forms from the Internet.

**After you return the completed petition form and filing fee**, you'll be contacted by a Clerk of the Board representative to arrange a date and time for your hearing. The Hearing Board meets at AQMD headquarters in Diamond Bar. You **cannot** file for a hearing over the Internet or by facsimile.

The Hearing Board is required by law to give public notice of hearings. You'll receive a copy of the notice.

AQMD Rule 303 (current fees, new fees effective July 1, 2001) provides a detailed description of all Hearing Board fees. At the time you apply, you will be charged a "filing fee." If you file for an interim variance at the same time you petition for a regular or short variance, you pay only one filing fee. Small businesses are eligible for a discount on some fees.

If public notice must be printed in a newspaper (regular variance and appeals), you will also be charged a "publication fee." After your hearing, you will have to pay a "daily appearance fee."

If your variance is granted, there will be an "excess emission fee" based on the weight and opacity (smokiness) of the excess emissions discharged during the period the variance is in effect. **An AQMD staff person is available to help you determine the amount of excess emissions to be billed. For assistance, call the Hearing Board Liaison at (909) 396-2000.**

### **What happens at a variance hearing?**

When you come to your hearing, be prepared. Bring all relevant information to form the basis of the six findings listed earlier. Also, bring:

- Names and telephone numbers of companies you've contacted to help you come into compliance;
- Dates by which your equipment can be installed; and
- Your plan for reducing emissions until then.

You may choose to seek the services of an attorney in presenting your case. If you plan to represent yourself, be sure to know what rules you are violating, your excess emissions, and how and when you plan to come into compliance. It is helpful to bring along any technical experts who are assisting you in resolving your problem.

Remember to bring copies of your current permits. The Hearing Board needs 10 copies of any and all documents presented.

Variance hearings are like courtroom proceedings. Both the variance petitioner and the SCAQMD, represented by the District Prosecutor's Office (909) 396-3400, present evidence through witnesses who are placed under oath. Witnesses may be cross-examined by the opposing side and questioned by Hearing Board members.

Among other issues, the Hearing Board attempts to discover why and how the rule is being violated, whether the violation could have been prevented, what is being done to correct the violation, when corrections will be completed, what will happen to the business if it is forced to shut down, how the violation affects the public, and what efforts can be made to reduce excess emissions to the maximum extent feasible.

AQMD may argue against a variance or suggest certain limiting conditions. The public is invited to present any information important to the case. Board members then close the hearing and discuss the case among themselves before reaching a decision.

### **How can you get help?**

For more information about how to request a variance, call AQMD's Clerk of the Board's Office at (909) 396-2500.

If you need help understanding the technical aspects of the rule you violated, call the Hearing Board Liaison at (909) 396-2000.

If you have questions about the variance process, call the AQMD District's Prosecutor's Office and ask to speak with the Duty Deputy at (909) 396-3400.

You can pick up a variance or appeal petition packet at AQMD Diamond Bar Headquarters or South Bay Office; via the Internet ([Instructions](#)); or AQMD's FAX service (909) 396-2550. You may also call (909) 396-2500 or write to the AQMD Clerk of the Board, 21865 E. Copley Drive, Diamond Bar, CA 91765-4182.

### **Instructions for Filing**

- Petition Forms: (Formatted in MS Word 6.0-Download, Print, and Fill out if needed)

Variance

Modification of Variance

Product Variance

Appeal

- Consent Calendar
- Continuances
- Copies - Rule 502 (b)
- Ex Parte Variance (without notice or Hearing)(Res. 91-1)
- Excess Emissions



- Exhibits
- Fees
- Findings and Decisions
- Small Business
- Waiver of Time
- Withdrawal

**Continuances:** (1) The moving party shall notify, in writing, the other party or parties and the Clerk of the Hearing Board at least four working days before the hearing of his or her intent to seek a continuance. (2) The moving party's first request for a continuance of 15 days or less, concurred in by all parties to the action, shall be granted. (3) Any subsequent requests, requests for a continuance of more than 15 days, and/or requests received with less than four working days notice shall only be granted by the Chairman or designated member of the Hearing Board if the request is reasonable and good cause shown for the delay in providing notice

**Excess Emissions:** Emissions in excess of those allowed by the rules shall be calculated for each day of operation during the variance period on a pounds per day basis, or opacity percentage (Excess Emission Fee forms). If you need assistance with the calculation of excess emissions, contact the District's Stationary Source Compliance Division at (909) 396-2368. Excess emission fees are payable within 15 days of the granting of a variance. Failure to do so may result in the invalidation of the variance (Rule 303 (current fees, new fees effective July 1, 2001)).

**Exhibits:** If you plan to submit exhibits or other written documents during your hearing, you must provide 9 copies of any documents to the Clerk of the Board at the time of the hearing.

**Findings and Decision:** Before a variance can be granted, sufficient information must be provided by the petitioner to enable the Hearing Board to make all the findings in Section 42352 of the California Health and Safety Code (Rule 515).

**Small Business:** Small businesses are eligible for a discount on the filing, appearance, and emission fees. To qualify as a small business, a "Declaration Re Small Business" must be completed and signed under penalty of perjury, and submitted with your petition. The filing fee for small businesses is set forth in Rule 303 (current fees, new fees effective July 1, 2001). Also see Findings and Decisions (Rule 515).

**Waiver of Time:** A petition requesting a hearing on an appeal of a decision of the Executive Officer must be held within 30 days of the request. If you need additional time to prepare for your hearing, you must file a "Waiver of Time Form".

**Withdrawal:** A case may be taken off calendar at the request of the petitioner. (Rule 508)

**ATTACHMENT 5**

**DESCRIPTION OF REFUSE COLLECTOR LOAN PROGRAM**

## **Natural Gas Refuse Truck Loan Program**

### **Background**

Heavy-duty trucks and buses are responsible for 20% of the total NOx emissions in the Basin. The AQMP has identified the use of low-emission alternative-fuel engines in these vehicles as a control measure. These engines include natural-gas engines that produce one half or less of the NOx emissions and only a fraction of the particulate emissions compared to diesel engines. Natural gas engine technology is now commercially available for heavy-duty trucks. Chassis engineering, engine refinement to meet CARB specifications, and suitable on-board fuel systems, have been developed by the original equipment manufacturers (OEMs). Beginning July 1, 2001, AQMD Rule 1193 will require public fleets and some contract fleets to purchase low-emission alternative-fuel vehicles for refuse applications. Heavy-duty natural gas engines are available from a number of engine manufacturers including Caterpillar, Cummins, Detroit Diesel Corporation, and Mack.

### **Program Description**

AQMD is initiating a refuse truck loan program that will introduce natural gas refuse trucks to municipalities and refuse hauling companies. Such a demonstration program will provide owner/operators with a "hands-on" exposure to a fully equipped truck for refuse operations. This program will enable a fleet operator to use a vehicle on a daily basis and to experience the refueling and operational nuances of natural gas vehicle operation prior to any requirement to purchase them. Two contracts will be executed to loan and maintain natural gas refuse trucks for up to two years. The following engines are planned for utilization in this program.

- The Caterpillar/Power Systems C-10 LNG dual fuel engine in a Peterbilt refuse truck chassis. The C-10 engine has 305 horsepower and 1050 ft.-lbs. torque. This truck will be managed by Power Systems Associates (PSA), a local Caterpillar dealer and the ARB engine manufacturer of record for the Caterpillar dual fuel engine products.
- The Mack E7G LNG engine in a Mack frontloader refuse truck. The E7G engine has 325 horsepower and 1180 ft.-lbs. torque. This truck will be managed by TEC of California, Inc., the local Mack engine and truck dealer.

TEC and PSA will each manage an outreach and placement program for the loan of these trucks for up to two years. Each company will provide full support for the vehicles, including all maintenance and repair activities. AQMD staff will work closely with these companies to ensure that any entity affected by Rule 1193 will have the opportunity to experience these technologies. As other OEM engine and chassis combinations become available, staff will request Board approval for their participation in the program.

Key elements of this demonstration and loan program include: 1) technical assistance and OEM support to fully utilize the capabilities of the vehicle; 2) training/guidance with the demonstration truck, refueling equipment, fuel safety and handling and the economics of the clean fuel truck; and 3) outreach support for the demonstration program.

The AQMD contact person is Connie Day:909 396-3306 (v); 909 396-3252(f); cday@aqmd.gov

**ATTACHMENT 6**

**DESCRIPTION OF AVAILABLE ALTERNATIVE-FUEL  
VEHICLE FUNDING PROGRAMS  
AND PROGRAM APPLICATION PROCEDURES**

## Potential Funding Sources for Alternative Fuel Refuse Collection and Infrastructure Vehicle Projects

### ❖ Technology Advancement Office

**Program Description:** The SCAQMD's Technology Office (TAO) provides funding research and development projects to commercialize advanced low-emission transportation technologies. Projects are solicited via specific requests for proposals on an as-needed basis; unsolicited proposals are accepted as well.

**Level of Funding:** Approximately \$10 million annually

**Proposal Due:** Proposals are accepted on an ongoing basis

**Contact:** Pom Pom Ganguli (SCAQMD) at 909-396-3185 or visit [www.aqmd.gov](http://www.aqmd.gov)

### ❖ Air Quality Investment (AQIP)

**Program Description:** The AQMD is seeking proposals for AQIP, established in Rule 2202 - On-Road Motor Vehicle Mitigation Options. The objective of the program is to utilize revenues collected in the AQIP to fund alternative mobile source emission/trip reduction strategies that are potentially more effective and could result in greater overall emissions reductions.

**Level of Funding:** Monies are allocated to the program on a quarterly basis and vary in amount watch quarter. Available funding levels will be posted on Internet when it becomes available.

**Proposal Due:** August 3, 2001 (for current quarter)

**Contact:** Shashu Singeetham (SCAQMD) at 909-396-3298 or visit [www.aqmd.gov](http://www.aqmd.gov)

### ❖ Motor Source Air Pollution Reduction Review Committee's Discretionary Funds

**Program Description:** Thirty percent of the funds collected each year from a \$4 surcharge on vehicle registration are disturbed to the Mobile Source Air Pollution Reduction Review Committee (MSRC) for the implementation of programs that reduce mobile source emissions. MSRC also offers programs to match local AB 2766 subvention funds (applicable to local government mobile source emission reduction project.)

**Level of Funding:** Approximately \$14 million for per work program cycle.

**Proposal Due:** To be determined

**Contact:** Ray Gorski (MSRC Technical) at 909-396-2479 or [visit.msrm-cleanair.org](http://visit.msrm-cleanair.org)

### ❖ Local Government Subvention

**Program Description:** Forty percent of the AB 2766 funds collected are disturbed to local governments based on a pro-rated share of population and must be used to reduce mobile source emissions. The funds are used primarily by municipalities for their own projects, which can include the purchase of alternative fuel vehicles and related infrastructure. Funds not expended carry over from year -to-year.

**Level of Funding:** Local governments in the South Coast Air Basin receive approximately \$16 million annually.

**Proposal Due:** Not applicable

**Contact:** Larry Rhinehart (SCAQMD) at 909-396-2398 or visit [www.aqmd.gov](http://www.aqmd.gov)

## **California Energy Commission (CEC)**

### **❖ Alternative Fuels Infrastructure Development Program**

*Program Description:* Infrastructure support program disperses funds to public agencies and public/private partnerships for the development of AFV infrastructure projects.

*Level of Funding:* Approximately \$3 million

*Proposal Due:* Solicitation for projected anticipated for September 2001

*Contact:* Peter Ward (CEC) at 916-654-4639 or visit [www.energy.ca.gov](http://www.energy.ca.gov)

### **❖ The Carl Moyer Memorial Air Quality Standards Attainment Program**

*Program Description:* The past two years, the Moyer Program provided grants for operators of heavy-duty, on- and off-road vehicles and equipment to purchase new low-emission vehicles and retrofit existing vehicles with low-emission technologies. Specifically, the funds supported low emission trucks, and other on- and off-road emission reduction projects. Local air districts. Each of which must provide a 1:2 funding match to secure CARB monies, administer the Moyer Program. Each air district has established its own program guideline that must comply with CARB-established minimum criteria (such as \$12,000/ton NOx reduced for on-road sources).

*Level of Funding:* Anticipated to be at least \$19 million for FY 2001-2002 statewide

*Proposal Due:* To be determined

*Contact:* Cindy Sullivan (CARB) at 916-445-6015, Connie Day (SCAQMD) |  
at 909-396-3055

**ATTACHMENT 7**

**LISTING OF COMMERCIALY AVAILABLE ENGINE/CHASSIS  
COMBINATIONS, INCLUDING ENGINE/CHASSIS MODEL,  
DEALERS, AND CONVERSION FACILITIES**



## Natural Gas<sup>1</sup> Refuse Trucks & Engines

- Model Year 2001 -

Truck Manufacturer	Truck Model	Engine Model	Horse-power	Torque lb-ft
Crane Carrier	LET, LET2, LCF	Cummins C8.3G Plus Deere 8.1L	250, 275, 280 280	660, 750, 850 900
Freightliner Trucks	Business Class FL series  Heavy-Duty FLD series	PSA/Caterpillar 3126B Cummins C8.3G DDC Series 50, 60	190-250 275, 280 275-400	550, 660 660-850 890-1450
Mack Trucks	MR or LE Refuse Hauler  CH Conventional Tractor	Mack E7G (2.0 NOx) Mack E7G (2.5 NOx) <sup>2</sup> Mack E7G (2.5 NOx) <sup>2</sup>	325 325 350	1050 1180 1260
Peterbilt	330 Refuse Truck 320 Refuse Truck  357 or 385 Refuse Truck	PSA/Caterpillar 3126B PSA/Caterpillar 3126B PSA/Caterpillar C10 PSA/Caterpillar C12	200 200, 250 315 410	520 520, 660 1050 1258
Western Star Trucks	Constellation Series	(Custom ordered, see engine mfr. below)	←	←
<b>Aftermarket:</b> NGV Ecotrans	<b>Chassis:</b> Volvo, Peterbilt, Freightliner, or Mack (Re-power, MY 1992-98)	<b>Repowers:</b> Cummins 8.3G H/O Deere 8.1L & 8.1 H/O DDC Series 50 & 60 PSA/Caterpillar 3126B	275 250, 280 275, 330, 400 200, 250	850 800, 900 890, 1400, 1450 520, 660

Engine Manufacturer	Engine Family	Engine Model	Horse-power	Torque lb-ft
<b>Aftermarket:</b> Alternative Fuel Technology (AFT)	YAFTH466NG1	AFT 466	240	680

Cummins Engine Co	1CEXH0505CBG 1CEXH0505CBI 1CEXH0505CBJ	C8.3G C8.3G (2.5 NOx) C8.3G (2.5 NOx)	250, 275, 280 250, 275, 280 250, 275	660, 750, 850 660, 750, 850 660, 750
Deere Power Systems Group	1JDXH06.8003 1JDXH06.8005 1JDXH08.1004 1JDXH08.1002 1JDXH08.1001	6068 H 6.8 L 6068 H 6.8 L (2.5 NOx) 6081 H 8.1 L (2.5 NOx) 6081 H 8.1 L 6081 H 8.1 L (2.0 NOx)	225 225 250 250 280	640 640 745, 800 745, 800 900
Detroit Diesel Corp	1DDXH08.5FGJ 1DDXH08.5FJG 1DDXH12.7FGF 1DDXH12.7FGG	Series 50 (2.0 NOx) Series 50 (2.0 NOx) Series 60 Series 60 (2.5 NOx)	275 275 330, 400 330, 400	890 890 1400, 1450 1400, 1450
Mack Trucks	1MKXH11.9G58 1MKXH11.9G55	E7G-325 (2.0 NOx) E7G 350/325 (2.5 NOx) <sup>2</sup>	325 325, 350	1050 1180, 1260
Power Systems Associates/Caterpillar	1PSXH0442E6J 1PSXH0629E6K 1PSXH0629E6J 1PSXH0729E6J	3126B Dual-Fuel (7.2L) C10 Refuse DF (10.3L) C10 Dual-Fuel (10.3L) C12 Dual-Fuel (12.0L)	200, 250 315 315, 350 370, 410	520, 660 1050 1050 1258

<sup>1</sup> All engines are dedicated natural gas, except for Power Systems Associates/Caterpillar engines, which are all dual-fuel, operating on natural gas and diesel fuel.

<sup>2</sup> Engine family emission limit (FEL).

AFT, Bob Lynch 972-392-1949 (Dallas)  
Bruce Eichelberger 714-842-3017  
Crane Carrier, Glenn Pochocki, 918-836-1651 x319  
Cummins, Don Schulze, 949-253-6003,  
David O'Brien, 812-377-3218  
Detroit Diesel, Dean Kariniemi, 313-592-5994  
Deere, Tom Cummings, 319-292-5220;  
Glen Chrusciel, 319-292-5465  
Rick Bishop 319-292-8157  
Bill Hartman, 319-292-8070  
Don McCaw, 319-292-8233  
Paul Delong, 319-292-8930  
EcoTrans, Koji Kanemoto, 213-369-8353  
Freightliner, Jerry Kreaden, 818-244-4161  
Tom McKellar, 562-447-1293 → Scott Pearson x1211  
Mike Garcia, 661-723-7163  
Mack Truck, Stephen Ginter, 610-709-3259  
Peterbilt, Jim Zito 940-591-4084 → 215-393-9850  
Bob Wood (Dublin CA), 925-556-7469;  
Jim Gossard, 940-591-4022 ↔ Erik Hansen 940-591-4227  
PSA/Cat, Kevin Campbell 562-463-6033  
Kirk Fowkes, 562-463-6083  
Volvo, Skip Yeakel, 336-393-2825, cp=336-210-0196  
Western Star Trucks, Errol Nordstrum, 250-868-6434

## **CONTACTS**

AFT, Bob Lynch 972-392-1949 (Dallas)  
Bruce Eichelberger 714-842-3017  
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Cummins, Don Schulze, 949-253-6003,  
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Detroit Diesel, Dean Kariniemi, 313-592-5994  
Deere, Tom Cummings, 319-292-5220;  
Glen Chrusciel, 319-292-5465  
Rick Bishop 319-292-8157  
Bill Hartman, 319-292-8070  
Don McCaw, 319-292-8233  
Paul DeLong, 319-292-8930  
EcoTrans, Koji Kanemoto, 213-369-8353  
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Mack Truck, Stephen Ginter, 610-709-3259  
Peterbilt, Jim Zito 940-591-4084 → 215-393-9850  
Bob Wood (Dublin CA), 925-556-7469;  
Jim Gossard, 940-591-4022 ←→ Erik Hansen 940-591-4227  
PSA/Cat, Kevin Campbell 562-463-6033  
Kirk Fowkes, 562-463-6083  
Volvo, Skip Yeakel, 336-393-2825, cp=336-210-0196  
Western Star Trucks, Errol Nordstrum, 250-868-6434

## List of Truck Dealers\*

Rush Peterbilt - Pico Rivera 8830 E. Slauson Avenue Pico Rivera, CA 90660	800-776-3647
Rush Peterbilt - Fontana 14490 Slover Avenue Fontana, CA 92335	800-359-1639
Rush Peterbilt - Sylmar 12985 W. Foothill Blvd. Sylmar, CA 91342	800-300-8789
Foothill Freightliner 8364 San Fernando Road Sun Valley, CA 91362	800-506-2744
Inland Kenworth 2757 Leonis Blvd Los Angeles, CA 90058	800-843-5271
RDO Truck Center - Volvo 14267 Valley Blvd. Fontana, CA 92335	800-410-7770
Peck Road Truck Center - Ford\Sterling 2450 Kella Avenue Whittier, CA 90601	877-605-7623
Los Angeles Freightliner 2429 S. Peck Road Whittier, Ca 90601	800-366-4621
Mack Sales of Southern California 14800 Firestone Blvd La Mirada, Ca 90638	714-521-9806 800-593-1010
Los Angeles Western Star Trucks 6811 E. Slauson Avenue Commerce, Ca 90040	323-726-8279
Golden State Truck Center 5925 South Alameda Street Los Angeles, CA 90001	323-586-8072

\*Listing of a truck dealer does not constitute endorsement by the South Coast Air Quality Management District. Also, additional truck dealers may be available that can potentially supply Rule 1193 compliant vehicles.

**ATTACHMENT 8**

**PARTIAL LIST OF PUBLIC/PRIVATE FLEET OPERATORS  
POTENTIALLY AFFECTED BY RULE 1193**

## Partial List of Public/Private Fleet Operators Potentially Affected by Rule 1193

5 Star Rubbish Svc Inc  
A & A Waste & Rolloff Svc Inc  
A & B Disposal Svc  
A & E Rubbish  
A & G Disposal  
A Big Bin Disposal Co  
A J Acosta Co  
A M Disposal Co  
A Star Roll Off Svc  
A-1 Disposal & Roll Off Svc Co  
A-1 Home Rubbish  
A-1 Trash Box Svc  
AAA Rubbish Inc  
AALPS Refuse & Recycling  
A-American Environmental  
Aaron Rubbish Co  
A-B Disposal Svc^  
Able Rubbish Service  
Ace Garbage Disposal Svc  
Ace Roll Off Rubbish Svc  
Action Disposal Svc  
Active Disposal Svc  
Adivari, Inc.  
Advanced Waste Systems  
AFCO  
AK Disposal  
Alex's Rubbish Service  
All City Disposal  
All Phase Environmental  
All Service Disposal, Inc.  
Allan Company  
Allied Waste  
Alpha Disposal Company  
American Disposal Co  
American Reclamation Inc  
American Waste Industries  
Ancon Environmental Svc  
Anderson Rubbish Disposal  
Arakelian Enterprises, Inc.  
Arrow Disposal Svc Inc  
Art's Disposal Svc  
Asbury Environmental Svc  
Astorga Roll-Off Svc  
Athens Disposal Co  
AVCO Disposal, Inc.\*  
Azteca Rubbish Control Inc  
Azusa Waste Recyclers Co  
BBS Disposal  
BDC Disposal Co  
Bel-Art Disposal Co  
Ben Ware Disposal Co Inc  
Bestway Recycling Co Inc  
Beverly Wilshire Refuse Removal Co  
BFI Waste Systems of N. America, Inc.  
Big Bear City Community Svc  
Big Bear Disposal  
Big Valley Recycling Ctr  
BJ Disposal  
Brea Green Recycling  
Budget Disposal System Inc  
Burrtec Waste Industries Inc  
B-Z Disposal Service Inc  
C B Transport  
C R & R Inc  
Cabazon Disposal Svc  
Cal Disposal Co  
Cal West Environmental Svc Inc  
California Waste Svc Inc  
Calmet Disposal  
Calsan Inc/Pacific Waste  
Cal-Waste Industries  
Carrillo Disposal Co  
Cherry Valley Sanitation Inc  
Chiquita Canyon Landfill  
City Hall North Annex  
City Of Beverly Hills  
City Of Burbank  
City Of Claremont  
City Of Culver City  
City Of Glendale

City Of Industry Disposal Co	Flores Recycling
City Of Long Beach	Foothill Waste Reclamation Inc
City Of Los Angeles	Francisco Hauling Svc`
City Of Newport Beach	Frank's Disposal
City Of Pasadena	FRS Environmental
City Of Placentia	Full Circle Recycling Co
City Of Pomona	Fulton Brothers Gen Hauling
City Of Redlands	G & G Roll-Off Svc
City Of San Bernardino	Gabriel's Trash Hauling
City Of Santa Ana	Gemini Disposal
City Of Santa Monica	General Waste Disposal
City Of Torrance	GPV Roll Off Svc
City Of Whittier	H & C Disposal
City Rubbish Co	H P Disposal Company
Collins & Sons Rubbish Disposal	Haul Away Rubbish Svc
Colton Disposal	Hauling By John Liechty
Consolidated Disposal Svc	Haz Mat Svc Inc
Continental Waste Management	Haz Mat Trans Inc
Costa Mesa Disposal Inc	Heritage Disposal
County Of Orange / Iwmd	Hernandez Disposal
Crown Disposal Company, Inc.	Hi Waste Disposal Co
Crown Tear Off & Disposal Inc	Hillside Rubbish Co
Curran's Rubbish Disposal	HMD Waste Co
D. Angelus Disposal	Hobbs & Son Drop Box
Denova Environmental Inc	I V Disposal Roll-Off Svc
Desert Valley Disposal	Ideal Rubbish Service
Diversified Disposal Svc	Industrial Waste Utilization
D-K Enviromental	Innovative Waste Control
Earth Technology Corp	Integrated Waste Industries
East & West Disposal	Interstate Waste & Truck Inc
Ecology Auto Parts	Ivy Rubbish Disposal
Economize Rolloff Svc	J A G Roll-Off
Ecotech Services	J J Trucking
Edco Disposal Corporation	J J V / Citywide Disposal & Recycling
El Monte Disposal Svc	J W Trucking
El Segundo Roll Off Svc	Jackson Disposal Svc
El Sobrante Landfill	JCA Trucking
Empire Disposal	JJK Roll Off Svc
Ensco West Inc	Key Disposal Inc
Enviro-Guard Hazardous Waste	King Disposal Svc
Environmental Recovery	Klistoff & Sons Disposal Inc
Federal Disposal Svc	Krik Sanford Hauling / Greenday
Filter Recycling Inc	Disposal & Recycling



L & S Disposal  
 L Mc Namee Rubbish & Roll-Off  
 L W Tate Roll Off Service  
 L.A. County Dept of Public Works  
 La Canada Disposal Co  
 LA County Sanitation District  
 Lake Arrowhead Disposal Svc  
 Las Virgenes Disposal  
 Lieb Disposal^  
 Looney Bins / Spaccarelli Hauling  
 Lucky Disposal & Hb Best  
 Major Refuse Disposal  
 Mars Environmental  
 Martin Environmental Svc  
 Master Disposal  
 Mc Craw Brothers  
 Metropolitan Waste Disposal  
 MGD Disposal  
 MGS Disposal  
 Midway City Sanitary District  
 Modern Service Co  
 Mountain Disposal Svc  
 Mountainside Disposal Inc  
 Mt. Baldy Disposal\*  
 Nasa Disposal Services Inc  
 National Construction Roll-Offs Inc  
 National Environmental Waste  
 Naz Rubbish Disposal  
 Nieto & Sons Trucking Inc  
 Norcal Waste Systems Inc  
 North State Environmental  
 Nu-Way Roll-Off Svc  
 O K Assoc  
 O K Disposal Svc Co  
 Orco Disposal, Inc. / Haulaway  
 Organic Recycling  
 Pacific Waste  
 Palm Springs Disposal Services Inc  
 Palmdale Disposal Company Inc  
 Peerless Disposal  
 Perez Transport Co  
 Performance Tear Off Inc  
 Perris Disposal Co  
 Petes Rubbish Service  
 Pioneer Disposal Co Inc  
 PJB Disposal Services  
 Plaza Disposal  
 Quality Waste Svc  
 R Big Continental Disposal Svc  
 Rainbow Disposal Co Inc  
 Randy's Roll-Off Service Co  
 Recycling Systems Inc  
 Riverside County Waste Management  
 Riverside Disposal  
 Rob's Roll-Off Svc  
 Rodriguez Brother's Disposal  
 Rosta Hauling & Roll Off Svc  
 S & H Rubbish Co  
 S H Disposal Co  
 S&P Rubbish Co Inc  
 Safety-Kleen Corp  
 Samson's Hauling  
 Santa Clarita Disposal  
 Sarian Disposal Co  
 Sav-Way Disposal  
 Seagull Sanitation Systems Inc  
 Security Disposal Svc  
 Serv-Well Disposal Service /  
     A Rent-A-Bin  
 Si-Nor Inc  
 Smith Rubbish Service  
 So Baja Rolloff  
 Solag Disposal Co  
 Solid Waste Associates  
 Solid Waste Recycling & Disposal  
 South Coast Refuse  
 Southland Disposal Co  
 Southland Waste Svc  
 Star Roll Off Svc  
 Stericycle Inc  
 System Disposal  
 Taormina Industries  
 Tom Mendrin Rubbish Disposal  
 Topanga Hauling  
 Tori Rubbish Svc  
 Transloading Environmental

Trash Out Etc Usa  
Triangle Disposal Svc  
Tri-County Rubbish\*  
Trinity Waste Disposal  
Try-R Disposal Service  
TW Rubbish Service  
Two J's Recycling & Disposal Co  
Universal Waste Systems Inc  
Valencia Disposal Inc  
Valley Commercial Disposal Co  
Valley Vista Disposal  
Van Disposal  
Varia Waste Management  
VRS Waste Systems  
Waste & Recycling Services  
Waste Control  
Waste Management  
West Los Angeles Disposal  
Western Waste Industries  
Wrightwood Disposal Co  
Yukon Disposal Svc

**ATTACHMENT 9**

**ALTERNATIVE FUEL VEHICLE TECHNOLOGIES**

# Alternative Fuel Vehicle Technologies

## Web Links of Interest\*

<b>AFV/EV Sources</b>	
American Gas Association (Gas Industry Online)	<a href="http://www.aga.org">www.aga.org</a>
Alternative Fuels Data Center	<a href="http://www.afdc.doe.gov">www.afdc.doe.gov</a>
Argonne National Laboratory	<a href="http://www.transportation.anl.org">www.transportation.anl.org</a>
Gas Research Institute	<a href="http://www.gri.org">www.gri.org</a>
National Propane Gas Association	<a href="http://www.npga.org">www.npga.org</a>
National Renewable Energy Laboratory (NREL)	<a href="http://www.nrel.org">www.nrel.org</a>
Natural Gas Vehicle Coalition	<a href="http://www.ngvc.org">www.ngvc.org</a>
Natural Gas Vehicle Forum	<a href="http://www.ngv.org">www.ngv.org</a>
U.S. Department of Energy Clean Cities Program	<a href="http://www.cities.doe.gov">www.cities.doe.gov</a>
WestStart.CALSTART: Advances Transportation Website	<a href="http://www.calstart.org">www.calstart.org</a>
Clean Car Maps	<a href="http://www.cleancarmaps.com">www.cleancarmaps.com</a>
U.S. Department of Energy Office of Transportation Technologies	<a href="http://www.ott.doe.org">www.ott.doe.org</a>

<b>Vehicle/Chassis/Engine Manufacturers &amp; Technologies</b>	
Baytech Corporation	<a href="http://www.baytech.com">www.baytech.com</a>
Caterpillar, Inc.	<a href="http://www.cat.com">www.cat.com</a>
Caterpillar Engines – Power Systems	<a href="http://www.catpower.com">www.catpower.com</a>
Cummins Alternate Fuel Engines	<a href="http://www.cummins.com/na/pagesleu/products/bus">www.cummins.com/na/pagesleu/products/bus</a>
Detroit Diesel Corporation	<a href="http://www.detroitdiesel.com">www.detroitdiesel.com</a>
Freightliner	<a href="http://www.freightliner.com">www.freightliner.com</a>
Manufacturers of Alternative Fuel Technology	<a href="http://www.afdc.doe.gov/afvehicles.html">www.afdc.doe.gov/afvehicles.html</a>
IMPCO Technologies	<a href="http://www.impcoweb.com">www.impcoweb.com</a>
John Deere	<a href="http://www.deere.com/deerecom/_enginesandcomponents/engines/cng+engines/default.htm">www.deere.com/deerecom/_enginesandcomponents/engines/cng+engines/default.htm</a>
Kenworth	<a href="http://www.kenworth.com">www.kenworth.com</a>
Mack Trucks	<a href="http://www.macktrucks.com">www.macktrucks.com</a>
Navistar/International	<a href="http://www.navistar.com">www.navistar.com</a>
Westport Innovations Inc.	<a href="http://www.westport.com">www.westport.com</a>
NGV Ecotrans	<a href="http://ngvecotrans.com">ngvecotrans.com</a>
Peterbilt	<a href="http://www.peterbilt.com">www.peterbilt.com</a>
Volvo International	<a href="http://www.volvo.com">www.volvo.com</a>

\*Listing of commercial internet sites does not constitute endorsement by the South Coast Air Quality Management District.

# Alternative Fuel Vehicle Technologies

## Web Links of Interest\*

<b>Fuel &amp; Infrastructure</b>	
Applied LNG Technologies	<a href="http://www.altlngusa.com">www.altlngusa.com</a>
Chart Applied Technologies	<a href="http://www.mve-inc.com/applied/index.html">www.mve-inc.com/applied/index.html</a>
FuelMaker	<a href="http://www.fuelmaker.com">www.fuelmaker.com</a>
Pickens Fuel Corporation	<a href="http://www.pickensfuels.com">www.pickensfuels.com</a>
Pinnacle CNG	<a href="http://www.pinnaclecng.com">www.pinnaclecng.com</a>
San Diego Gas and Electric	<a href="http://www.sdge.com">www.sdge.com</a>
Southern California Gas Company	<a href="http://www.socalgas.com">www.socalgas.com</a>
Trillium USA	<a href="http://trilliumusa.com">trilliumusa.com</a>

<b>Public Agencies</b>	
California Air Resources Board	<a href="http://www.arb.ca.gov">www.arb.ca.gov</a>
California Energy Commission	<a href="http://www.energy.ca.gov">www.energy.ca.gov</a>
Mobile Sources Air Pollution Reduction Review Committee	<a href="http://www.msarc-cleanair.org">www.msarc-cleanair.org</a>
South Coast Air Quality Management District	<a href="http://www.aqmd.gov">www.aqmd.gov</a>
U.S. Department of Energy	<a href="http://www.energy.gov">www.energy.gov</a>
U.S. Department of Energy – Alternative Fuels Data Center	<a href="http://www.afdc.doe.gov">www.afdc.doe.gov</a>
U.S. Department of Energy – Office of Transportation Technologies	<a href="http://www.ott.doe.gov">www.ott.doe.gov</a>
U.S. Department of Transportation	<a href="http://www.dot.gov">www.dot.gov</a>
U.S. Environmental Protection Agency, Region IX	<a href="http://www.epa.gov/regiona09/regiona9.html">www.epa.gov/regiona09/regiona9.html</a>

\*Listing of commercial internet sites does not constitute endorsement by the South Coast Air Quality Management District.