ALTERNATIVE MOTOR VEHICLE FUELS IN LOUISIANA

October 2000 Update

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LOUISIANA DEPARTMENT OF NATURAL RESOURCES

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EXECUTIVE SUMMARY

Federal and state legislative deadlines mandating the increased use of alternative fuels have spurred some Louisiana vehicle fleet owners to begin converting a portion of their fleets. Most new conversions are to compressed natural gas (CNG), but the majority of alternative fuel vehicles (AFVs) now on the road are fueled by liquefied petroleum gas (LPG). However, Louisiana Department of Revenue and Taxation records show a steady decrease in the number of LPG vehicles while CNG vehicles have also decreased over the past few years from 664 to 393.

The conversion of a portion of the state government fleet to CNG was begun in March 1994 by Ecogas of Louisiana in accordance with their contract with the state. The contract was terminated in December 1995 after 184 conversions had been completed. Some city and parish governmental entities have converted a few vehicles in their fleets. For example, the Baton Rouge Department of Public Works has 61 CNG vehicles operating, with plans for more in the future.

The number of unrestricted public access CNG refueling stations in the state currently stands at 3, with 8 more stations willing to provide limited access with prior coordination required. Public demand for personal natural gas vehicles (NGVs) remains virtually nonexistent as the high cost of conversion and the lack of a refueling infrastructure that is as convenient as gasoline discourages public participation.

President Clinton's April 1993 executive order directing federal agencies to exceed the AFV purchase requirements of the Energy Policy Act of 1992 has not increased the number of federal AFVs in Louisiana. There are 12 bi-fuel methanol vehicles in the New Orleans and Baton Rouge areas, but they are running on gasoline because there are no methanol refueling stations. The U.S. Postal Service plans to convert 100 vehicles to CNG in Baton Rouge in the near future when a reliable refueling station can be established.

There are several federal programs designed to increase the use of alternative fuels. The Department of Energy (DOE) Clean Cities Program puts DOE in the role of a facilitator between city government and private businesses in implementing AFV programs. The DOE-sponsored National Alternative Fuels Hotline is an "800" number to assist anyone interested in improving their understanding of alternative fuels. The Hotline can give up-to-date information on the various federal programs, funding, financing, and tax incentives designed to encourage the use of AFVs. The Partnership for a New Generation of Vehicles (PNGV), formed in 1993 when the government joined Ford, Chrysler, and General Motors, has facilitated development of fuel cell applications to hybrid electric vehicles. Federal participation in the PNGV probably influenced the increasing number of original equipment manufacturer (OEM) alternative fuel vehicles that will be offered during the 2000 model year.

State government offers tax incentives to encourage increased use of AFVs. Act 1060 of 1991 provides for a 20% tax credit for AFV purchases, certain conversion costs, and fuel dispensing facilities. Natural gas and LPG fuels also enjoy a lower state and federal tax rate compared to gasoline.

While government is spearheading the drive to AFVs, private interests are also getting involved. In September 1994 the Louisiana Gas Association formed an NGV committee consisting of representatives of major gas suppliers to promote natural gas as a vehicle fuel in the state. The committee has broadened its marketing activities and will develop educational programs to increase public awareness of natural gas as an environmentally beneficial and economic vehicle fuel, provide

conversion assistance, and encourage the expansion of the NGV refueling infrastructure. Each company has its own NGV program and has devoted considerable financial and human resources to use alternative fuels in the state.

Although ethanol is no longer Louisiana's alternative fuel of choice, BC International of Louisiana acquired the Shepherd Oil facility near Jennings and refurbished the plant. The new name of this facility is the Jennings Biomass Ethanol Processing Plant, and it is expected to begin operating in mid-2001 using sugar cane waste materials and other agricultural residues to produce approximately 23 million gallons per year of ethanol. The plant is expected to operate competitively without the aid of government subsidies.

The Southern States Power Company in Shreveport began developing a market for biodiesel fuel in 1999, and has landed contracts for several million gallons of biodiesel to a large school district in Phoenix, Arizona, and to customers in southern California. The company intends to establish a processing facility in the Shreveport-Bossier City area, which will reduce the cost of the fuel for Louisiana customers.

Although great progress has been achieved in the electric and hybrid electric vehicle industry, there are very few of these vehicles on the road in Louisiana. However, as battery performance and mechanical drive components continue to improve and costs are reduced, we can expect to see more of these vehicles in use in Louisiana.

INTRODUCTION

Motivation for Using Alternative Fuels [1-6]

Concerns about energy security and air pollution issues in regard to transportation in the United States have encouraged the development of alternative fuels to reduce dependence upon traditional gasoline and diesel fuels. Despite vehicle fuel efficiency improvements, the transportation sector accounts for more than 65 percent of U.S. petroleum consumption. The amount of imported crude oil and petroleum products has increased at an average annual rate of 5.7 percent since 1983, although since 1990 the rate of increase averaged less than 4 percent. In addition, the transportation industry accounts for more than 77 percent of carbon monoxide emissions.

During the first three years of the 1990s two key federal laws were enacted to encourage more widespread use of alternative fuels in motor vehicles. They were the Clean Air Act Amendments of 1990 (CAAA)[5] and the Energy Policy Act of 1992 (EPACT)[6]. The alternative fuel provisions of these two laws are the prime movers pushing the states toward use of different and cleaner-burning fuels in motor vehicles. The intent of the CAAA is to reduce air pollution, while the purpose of EPACT is to lessen dependence on foreign oil as the source of the nation's transportation fuels. Both Acts mandate that certain public and private sector fleets use alternative fuel vehicles according to a specified schedule.

Most states, including Louisiana, have enacted their own laws mandating the greater use of alternative fuels with provisions that parallel, or exceed, the federal requirements. In 1990 the Louisiana legislature enacted two laws mandating the increased use of alternative fuels in certain motor vehicles. Act 927 required that as many as 80% of all vehicles in the state fleet be converted to operate on such fuels by 1998. At the same time, Act 954 was enacted to extend this requirement to all political subdivisions of the state. The two Acts actually exceed the targets of the CAAA and EPACT because, in addition to addressing the new vehicle purchase requirements mandated by the federal legislation, the conversion of certain existing vehicles to an alternative fuel is also required.

Acts 927 and 954 set the stage for the governor's executive order of March 29, 1993, directing the Louisiana Department of Natural Resources (DNR) to solicit bids for the conversion of the state government motor vehicle fleet to an alternative fuel that must be natural gas or derived directly from natural gas produced within the state. Because Louisiana is a major producer of natural gas, limiting the alternative fuel option to natural gas was logical. On October 25, 1993, a contract was signed by Governor Edwin Edwards, Secretary John Ales of DNR, and the President of Ecogas of Louisiana, Inc., a wholly-owned subsidiary of Ecogas, Inc., of Austin, Texas, to convert a portion of the state motor vehicle fleet to run on natural gas produced from within the jurisdictional boundaries of the state. Conversion work commenced in March 1994.

Terminology Associated with Alternative Fuels Programs [7-8]

As the fledgling alternative fuels transportation industry evolves, a new terminology is unfolding. New terms are being introduced, and old ones are being redefined. To communicate precisely, these terms should mean the same thing to everyone. That is not always the case today.

The terms *alternative fuel, clean fuel,* and *clean alternative fuel* are often used interchangeably, as are *alternative-fuel vehicle* and *clean-fuel vehicle.* However, when it comes to legislation, the

definition of these terms can vary depending on the origin and purpose of the legislation. Furthermore, in Louisiana, another term, *special fuels*, is used to define those alternative fuels (and diesel fuel) that are covered under the state's Special Fuels Tax Law.

As defined by Acts 927 and 954, "alternative fuels shall include compressed natural gas, liquefied petroleum gas, reformulated gasoline, methanol, ethanol, electricity and any other fuels which meet or exceed federal Clean Air Act standards." As defined by EPACT, alternative fuels are methanol, denatured ethanol, and other alcohols; mixtures consisting 85% or more by volume of methanol, denatured ethanol, and other alcohols with gasoline or other fuels; natural gas; liquefied petroleum gas, hydrogen; coal-derived liquid fuels; fuels (other than alcohol) derived from biological material; and electricity. As defined by the CAAA, a clean fuel is ***any*** fuel or power source that enables a vehicle to emit less pollution than would be the case with conventional gasoline or diesel. These include alternative fuels and reformulated gasoline and diesel.

Louisiana's *Special Fuels Tax Law* does not specifically name those motor vehicle fuels that are "special." Instead, it refers the reader to a section of the state's gasoline tax law that is equally bewildering. According to the Louisiana Department of Revenue and Taxation, gasoline and gasohol are considered "gasoline" under the gasoline tax law. All other motor fuels now in use in the state, including diesel, are considered *special fuels*. The current tax rate is given *per gallon*, which means *the energy equivalent of a gallon of gasoline*, or *gallon of gasoline equivalent (GGE)*.

The terms *bi-fuel* and *dual-fuel* are often used interchangeably when referring to vehicles that can operate on an alternative fuel and/or conventional gasoline or diesel. However, recent DOE publications on alternative fuels have made a clear distinction between the two terms. A *bi-fuel* vehicle has two separate fuel systems and is designed to operate on either an alternative fuel or conventional gasoline, using only ***one fuel at a time.*** The EPACT defines a *dual-fuel* vehicle as one designed to operate on a combination of an alternative fuel with gasoline or diesel fuel. This includes vehicles that use mixtures of gasoline or diesel and an alternative fuel in one fuel tank, commonly referred to as *flexible fuel* vehicles, as well as vehicles capable of operating either on an alternative fuel, a conventional fuel, or both, using two separate fuel systems.

Any AFV that uses natural gas as the alternative fuel is referred to as a *natural gas vehicle (NGV)*. A *dedicated vehicle* is designed to operate solely on one alternative fuel.

FEDERAL ALTERNATIVE FUEL INITIATIVES

Since the 1970s, national clean air and energy security issues have led to the enactment of federal laws and regulations. Alternative fuels did not become a part of these goals until the late 1980s. The aim of several federal actions during the late 1980s and early 1990s has been to clean the air, reduce energy consumption, cut U.S. dependence on foreign oil by promoting voluntary private sector efforts, implement alternative fuel use requirements and regulate industry. Much of this legislation followed innovative state policies that addressed the same air quality and energy security objectives. The most notable federal efforts include the 1992 Energy Policy Act (EPACT), implemented by DOE, and the 1990 Clean Air Act Amendments (CAAA), administered by the U.S. Environmental Protection Agency (EPA). Other legislation, Presidential executive orders, the Clean Cities program, and federal grants and funding also have stimulated the use of alternative fuel and AFVs.

The Clean Air Act Amendments of 1990 (CAAA) [1, 5,10]

The intent of the alternative fuel provisions of the CAAA is to reduce air pollution. Since conventional gasoline produces more air pollutants than clean alternative fuels, the CAAA requires the use of these fuels on certain vehicles according to a strict schedule. Under the Clean Fuel Fleets Program (CFFP) vehicles covered and the compliance schedule are as follows:

1. Vehicles covered include public and private fleets of 10 or more light-duty vehicles (up to 8,500 pounds) and heavy-duty vehicles (up to 26,000 pounds) capable of central refueling when based in an ozone non-attainment area that is classified under the Act as Serious, Severe, or Extreme based on data for calendar years 1987, 1988, and 1989; and carbon monoxide (CO) non-attainment areas with a design value at or above 16.0 parts per million (ppm) based on data from 1988 and 1989. In addition, the areas must have had a 1980 population of 250,000 or more.

2. The original compliance schedule required that fleet operators must begin purchasing clean-fuel vehicles in model year 1998 when replacing existing vehicles with new ones. EPA delayed implementation of the CFFP one year. The delay was due to the shortage of certified clean-fuel vehicles available to meet the needs of some fleets in the covered areas. The minimum purchase requirements of passenger cars and light-duty trucks is 30% in 1999, 50% in 2000, and 70% in 2001. For heavy-duty trucks it is 50% for all three years.

There are no CO non-attainment areas in Louisiana. Among the 22 cities in the U.S. that were classified as "serious," or worse, ozone non-attainment areas under the CAAA, Baton Rouge is the only Louisiana city listed, which includes the surrounding parishes of East Baton Rouge, West Baton Rouge, Livingston, Iberville, and Ascension. The area is classified a "serious" ozone non-attainment area based on 1987-89 air quality data.

The Louisiana Department of Environmental Quality (DEQ) is responsible for the implementation of the CAAA at the state level. In 1994, DEQ submitted a plan to EPA to implement a CFFP in the Baton Rouge ozone non-attainment area beginning in 1997. Following the federal delay of implementation of the CFFP, DEQ reviewed the state implementation plan for the program and requested to opt-out of the CFFP through proposal of a substitute plan which demonstrated equivalent or better long term emission reductions than the CFFP. The substitute plan is based on surplus reductions achieved in pollutant emissions from stationary sources. EPA approved the CFF Substitution Program in July 1999.

For additional information, news, developments, and documents related to the Clean Air Act Amendments, the reader may go to the EPA home page on the internet at http://www.epa.gov or visit the DEQ home page at http://www.deq.state.la.us.

Alternative Fuel Provisions of the Energy Policy Act of 1992 (EPACT) [1, 6, 8]

The intent of EPACT is to lessen dependence on foreign oil as the source of the nation's transportation fuels. To displace foreign oil, certain provisions of EPACT, like the CAAA, mandate the use of alternative fuels in vehicles covered by the law. Fleet requirements affect those who own or control at least 50 vehicles in the U.S. and fleets of at least 20 vehicles that are centrally fueled or capable of being centrally fueled within a metropolitan area of 250,000 or more (based on the 1980

census). Three metropolitan areas in Louisiana fall within EPACT criteria: Baton Rouge, New Orleans, and Shreveport-Bossier City. The vehicles covered and the compliance schedule are as follows:

A. Vehicles covered include federal fleets; state and local government fleets; fleets operated by alternative fuels producers, distributors, and marketers (including gas and electric utilities); and some private fleets.

B. Separate compliance schedules apply for fleets operated by the federal and state governments and fuel providers. There are potential requirements for private companies and municipal governments if a prescribed number of AFVs are not voluntarily included in their fleets by certain dates. The percentage requirements and effective model year dates for covered Louisiana fleets are shown in Table 1, which includes changes by Presidential Executive Order 12844 and DOE adjustments.

Table 1. Percentage of New Fleet Light Duty Purchases That Must Be AFVs

Year	Federal Government	State Government	Fuel Providers	Private/ Municipal**
1993	7,500*	-	-	-
1994	11,250*	-	-	-
1995	15,000*	-	-	-
1996	25	-	-	-
1997	33	10	30	-
1998	50	15	50	-
1999	75	25	70	-
2000	75	50	90	-
2001	75	75	90	-
2002	75	75	90	20
2003	75	75	90	40
2004	75	75	90	60
2005	75	75	90	70
2006	75	75	90	70

* Number of vehicles (if vehicles are available from auto companies)
** Dependent upon DOE final rulemaking in 2000

Source: References 6, 8, 44

C. Businesses or individuals can get a federal tax deduction for purchasing new AFVs ranging up to $2,000 for automobiles and trucks that weight up to 10,000 pounds, and up to $50,000 for trucks over 26,000 pounds. Tax deductions for businesses installing fueling stations are allowed up to a $100,000 ceiling. The tax deductions began June 30, 1993, and start to phase out in 2001, ending in 2004.

If a fleet is covered under both the CAAA and EPACT, it is required to conform to both laws. If

covered, the percentages apply *only to the new vehicles purchased during that year*. Converted vehicles can be used to meet percentage requirements.

The information presented above on the CAAA and EPACT is only a portion of the provisions contained in the two Acts. The full text of the original legislation should be consulted as the final authority. To obtain a full copy of rules related to EPACT, contact any of the following for details:

Energy Efficiency and Renewable Energy Clearinghouse (EREC), 1-800-DOE-EREC
Internet: http://www.ott.doe.gov/office/rules.html
Internet Electronic Mail: energyinfo@delphi.com
Fax: 1-703-893-0400

For appeals of interpretive rulings and denials of exemptions:
Office of Hearings and Appeals
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

For all other submissions:
Alternative Fuel Transportation Program
Office of Energy Efficiency and Renewable Energy, EE-33
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Information may also be obtained from:
National Alternative Fuels Hotline and Data Center
1-800-423-1DOE
Internet: http://www.afdc.doe.gov

Clean Cities Hotline
1-800-CCITIES
Internet: http://www.ccities.doe.gov

DOE "Clean Cities" Program [1, 11, 12]

The *Clean Cities* program was established by the DOE to facilitate voluntary cooperation among metropolitan (city) governmental and private entities in promoting AFVs in significant quantities, along with essential refueling and maintenance facilities, to insure an economically self-sustaining AFV infrastructure. DOE will assist in adapting a metropolitan area's existing AFV programs and local objectives into an implementation plan and, upon completion, will enter into a memorandum of understanding (MOU) with area entities to conduct a Clean Cities program. The DOE regional Clean Cities contact is:

Mr. Dan Deaton
U.S. Department of Energy
Denver Regional Support Office
Dallas Duty Station

7937 Cross Plains Drive
Plano, TX 75025
Phone: 972-491-7276
Fax: 972-491-7292
Email: dan_deaton@nrel.gov

The DNR contact is:

Ms. Paula Ridgeway
La. Dept. of Natural Resources
Technology Assessment Division
P.O. Box 44156
Baton Rouge, LA 70804-4156
Phone: 225-342-2133
Fax: 225-342-1397
Email: paular@dnr.state.la.us

While the program is available to any size city, the DOE is soliciting interest in the program from those metropolitan areas affected by EPACT and has invited Baton Rouge, New Orleans, and Shreveport-Bossier City to participate. New Orleans and Shreveport-Bossier City have expressed interest in the program but have not yet formally joined the effort. Baton Rouge, which is also a "serious" ozone non-attainment area under the CAAA, was recently approved and was designated as a Clean City in April 2000. The Greater Baton Rouge Clean Cities Coalition Coordinator is:

Mr. Mike D. McDaniel, Ph.D.
2119 East Eagle Street
Zachary, LA 70791
Phone: 225-654-3887
Fax: 225-654-6235
Email: m.d.mcdaniel@worldnet.att.net

OTHER FEDERAL ACTIVITIES AFFECTING ALTERNATIVE FUEL AND AFV POLICIES

Although EPACT and CAAA have had the greatest effect on state alternative fuel policies, other federal activities also have influenced state actions. These include the Alternative Motor Fuels Act of 1988, the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1998 Transportation Equity Act for the 21st Century (TEA-21), research and development activities, and Executive Orders 12759, 13031, and 13123.

Alternative Motor Fuels Act of 1988 (AMFA) [1, 42]

This act was the first national legislation to promote the purchase and use of alternative fuels and AFVs. The act amended Title III of the existing Energy Policy and Conservation Act (42 USC 6374) and encouraged Federal government acquisition of the maximum number of OEM passenger automobiles and light duty trucks as practical. The act directed DOE to evaluate performance in cold weather and high altitude of fuel economy, safety, emissions, and operating and maintenance costs in comparison to standard autos and light trucks. DOE was also directed to study the use of alcohol

and natural gas in heavy duty trucks. The third program called for DOE to assist state and local agencies in testing urban transit buses capable of operating on alcohol and natural gas in comparison to diesel powered buses.

These comprehensive evaluation programs were initiated in 1990. Data are still being obtained and evaluated by the National Renewable Energy Laboratory, and results are entered into the Alternative Fuels Data Center and are available on the internet at http://www.afdc.doe.gov or through the National Alternative Fuels Hotline at 800-423-1DOE.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) [1, 13]

This act (P.L. 102-240) represented the first major change in the relationship involving federal funding of state transportation programs since the authorization of the interstate highway system in 1956. ISTEA gave states the flexibility to disburse federal transportation funds by allowing states to tailor their transportation programs to meet specific needs. An example is the Congestion Mitigation and Air Quality (CMAQ) Improvement program, where states may choose to promote reduced conventional automobile use through mass transit, bicycle lanes, car-pools and ride-sharing, and alternative fuel vehicles. ISTEA expired September 30, 1997, and was replaced by the Transportation Equity Act for the 21st Century June 9, 1998.

Transportation Equity Act for the 21st Century (TEA-21) [43]

This act (P.L. 105-178) builds on initiatives established in ISTEA. TEA-21, a six-year program, continues the CMAQ program and includes the assurance of a guaranteed level of Federal funds for surface transportation through fiscal year (FY) 2003. Eligible activities include transit improvements, travel demand management strategies, traffic flow improvements, and public fleet conversions to cleaner fuels, among others. Funding is available for areas that do not meet the National Ambient Air Quality Standards (nonattainment areas), as well as former nonattainment areas that are now in compliance (maintenance areas). Funds are distributed to states based on a formula that considers an area's population by county (parish) and the severity of its air quality problems within the nonattainment or maintenance area. New provisions also allow the funding of public/private partnerships as well as nonprofit entities.

Research and Development [1]

In an effort to make AFVs available to the public at a price comparable to gasoline powered vehicles, three vehicle manufacturers joined forces. Ford, Chrysler (now DaimlerChrysler), and General Motors began a cooperative precompetitive research agreement in 1988. In 1992 these manufacturers established the United States Council for Automotive Research (USCAR). USCAR's goals include advancing U.S. manufacturing, developing technologies to increase the efficiency of standard vehicle designs, and developing a new class of vehicle that is up to three times more fuel efficient than current models. The federal government joined this group in 1993, and the consortium became known as the Partnership for a New Generation of Vehicles (PNGV). Basic goals remain focused on decreasing dependence on foreign energy sources, the environmental benefits of lowering harmful emissions, and boosting the United States' economic competitiveness.

Executive Orders [1]

Executive Order 12759 was signed by President Bush on April 19, 1991, to strengthen the AMFA and the CAAA. The order required federal agencies with more than 300 vehicles to reduce gasoline and diesel consumption by at least 10 percent by 1995 (compared to 1991 fuel consumption). Use of alternative fuels to meet this goal was encouraged, and the order required federal agencies to purchase the maximum number of alternative fuel vehicles posible, when practical.

Executive Order 13031 was signed by President Clinton December 13, 1996, and superseded an earlier order (12844). It requires that 33 percent of the vehicles acquired by federal agencies during 1997 be AFVs. This requirement increases to 50 percent in 1998 and 75 percent in 1999 and subsequent years. The order specifies that DOE will no longer request or require specific appropriations to fund the incremental costs of AFVs for other agencies; agencies are directed to use "existing and requested funds, but shall not be exempt from the requirements of the Act or this order due to limited appropriations."

Executive Order 13123 was signed by President Clinton June 3, 1999, to encourage effective energy management in the Federal government and to build on work begun under EPACT and previous Executive Orders. Three earlier executive orders were revoked (12902 of 1994, 12759 above, and 12845 of 1993). Although primarily applicable to fixed Federal buildings and facilities, guidelines for mobile equipment are included for use of alternative or renewable-based fuels. Two specific goals for Federal agencies include:

- Each agency shall strive to expand the use of renewable energy within its facilities and in its activities by implementing renewable energy projects and by purchasing electricity from renewable energy sources. The Federal government shall strive to install 2,000 solar energy systems at Federal facilities by the end of 2000, and 20,000 by 2010.
- Each agency shall reduce the use of petroleum within its facilities by switching to a less greenhouse gas-intensive, nonpetroleum energy source such as natural gas or renewable energy sources; by eliminating unnecessary fuel use; or by other appropriate means.

The National Alternative Fuels Hotline [6]

The Alternative Fuels Data Center provides a comprehensive source of information on alternative fuels. The Center is operated by the National Renewable Energy Laboratory (NREL) at Golden, Colorado, with funding and direction from the DOE Office of Transportation Technologies (OTT). The Center collects operating information from vehicles in programs sponsored by the AMFA running on alternative fuels and makes the data available to the public. The Center offers an "800" telephone number to assist the general public and interested organizations in improving their understanding of alternative fuels. The Hotline number is **1-800-423-1363**, and operates from 9 a.m. to 6 p.m. Eastern Time. The Alternative Fuels Data Center maintains a web page at **http://www.afdc.doe.gov** with links to the hotline and a number of other information resources. The hotline can be contacted by e-mail at address **hotline@afdc.nrel.gov**.

National Alternative Fuels Hotline for Transportation Technologies
9300 Lee Highway
Fairfax, Virginia 22031
Local Phone: 703-934-3069, Fax: 703-934-3183

CONSIDERATIONS AFFECTING LOUISIANA ALTERNATIVE FUELS INITIATIVES

Economics [1]

Although the fuel and operating costs of flexible fuel vehicles (vehicles that can run on more than one fuel) are cost competitive with conventional motor fuels, it generally costs more to purchase an AFV than a comparable vehicle that runs on traditional gasoline or diesel fuel. To encourage the purchase and use of AFVs, many states have established vehicle purchase incentives such as tax credits, sales tax reductions and deductions, reduction of or exemption from the vehicle registration fee, and grants or loans for the purchase of AFVs. These incentives are intended to reduce the price of AFVs–both original equipment manufacturer (OEM) and conversions–to stimulate the market. Once AFVs become more widely accepted in the marketplace, these incentives will be eliminated through sunset provisions. In addition, utilities in many states offer rebates for fleet conversions (usually to natural gas) and the construction of refueling stations.

Environment [1]

Although federal clean air standards were set in 1977, many metropolitan areas failed to meet them due, in part, to emissions from an increasing number of automobiles and an increase in vehicle miles traveled. In response to the CAAA mandates, many states initiated clean fuel programs to correct air quality shortcomings. The immediate solution was to require the use of reformulated gasoline (RFG) in cities with severe or extreme ozone problems (e.g., Baltimore, Houston, Los Angeles). RFG contains a minimum of 2 percent oxygen, which is usually achieved with ethanol or EPA-approved ethers such as methyl tertiary-butyl ether (MTBE) to reduce emissions. For a more long-term effect on air quality, the CAAA requires vehicle fleets of 10 or more that can be centrally fueled to begin phasing in clean fuel vehicles by model year 1998. It is permissible to petition EPA for exemption from the clean fuel fleet program if the petitioner can show altenative means of meeting clean air standards. (Louisiana did this in 1998, as described on page 5.)

Energy Supply and Security Issues [1]

To promote in-state production of alternative fuels, many states offer fuel tax discounts on specific alternative fuels. Nebraska provided funds for research, development, and promotion of renewable agricultural ethyl alcohol as an alternative fuel, and also established producer incentives for ethanol fuel produced in the state. Louisiana promotes use of natural gas and offers incentives for use of natural gas produced within the state (see pages 13, 23).

Technological Issues [1, 14, 41, 46]

Capabilities of the best available technology have a direct effect on developing AFV policies and programs. Fleet managers examine the available technology and look at the long-term costs of their fuel choices so they can plan their budgets accordingly. The debate over the best battery technology available for electric vehicles is an example of the conflict between policy development and program implementation. Automakers are reluctant to produce electric vehicles if the consumer market is weak. Consumers, on the other hand, may not buy an electric vehicle if its battery provides only low trip mileage between charges. Policy and program development requires involvement by all stakeholders (such as vehicle manufacturers, fleet managers, fuel suppliers) so technological issues can be discussed and ongoing efforts can be made to meet future alternative fuel needs.

One encouraging innovation is known as a hybrid electric vehicle, where an electric motor is combined with an engine that burns ethanol, methanol, CNG, or LPG. The combustion engine either assists the electric motor in powering the drive wheels, or produces electricity to recharge a storage device. One of the newest advances involves a fuel cell system that can generate electricity using multiple fuels; this would allow low emission electric vehicles to be refueled at existing gasoline stations.

Infrastructure Development [1]

The gasoline distribution infrastructure was established over several decades as the popularity and availability of automobiles grew. The alternative fuel infrastructure cannot develop as slowly, partly because federal legislation requires more immediate and widespread AFV use. To meet EPACT mandates, a significant number of AFVs must be operating by vehicle model year 2000. Although centrally fueled fleets can overcome the infrastructure barrier, the EPACT mandate presents a problem because people are accustomed to the convenience of the gasoline infrastructure and are likely to demand the same level of convenience from an alternative fuel. Policymakers must consider infrastructure issues such as fuel supply; convenient fueling and charging sites; standard specifications for infrastructure design and testing; customer service, education, and training; quick-charging electric vehicles; electrical and building code revisions; strategies to ensure vehicle service and support; and ratepayer responsibility for utility infrastructure development. Many states have found the use of tax breaks and low-cost loans to be helpful in encouraging the development of a viable infrastructure.

It is worth noting that alliances among some states have been formed to deal with some issues. For example, the consortium of the Ozone Transport Commission, the Southern States Energy Board, the Coalition of Northeastern Governors, the DOE Philadelphia Regional Support Office, and other regional organizations are attempting to develop a north-south clean fuels corridor along Interstate 95.

LOUISIANA PROGRAMS

Louisiana's Choice: CNG and LPG [15, 16]

Most AFVs now used in Louisiana operate on CNG or LPG. A few are capable of operating on LNG, and an increasing number can operate as "flexible fuel" vehicles using either conventional gasoline or E85 (85% ethanol, 15% gasoline). M85 (85% methanol, 15% gasoline) vehicles are rare in Louisiana since there are no M85 fueling facilities in the state. The total number of AFVs fueled by LPG or CNG has been steadily decreasing since 1994, as shown in Table 2 below. Official state government policy favors alternative fuels derived from natural gas; this policy is rooted in the rationale that the production of natural gas plays a major role in the state's economy and is a clean fuel as well.

Compared to the over four million automobiles, trucks, and buses registered in Louisiana, the number of AFVs is still quite small. However, the number of AFVs is expected to increase in the future as fleet owners implement AFV purchase programs to comply with mandated deadlines, and more refueling stations become available and accessible to the public.

Table 2. Louisiana Department of Revenue and Taxation SPECIAL FUELS TAX DECALS Number of Vehicles Registered by Fuel Type			
FISCAL YEAR*	**LPG FUEL**	**CNG FUEL**	**TOTAL**
1992-1993	1,509	204	1,713
1993-1994	1,419	250	1,669
1994-1995	1,374	636	2,010
1995-1996	1,244	664	1.908
1996-1997	1,168	531	1,699
1997-1998	1,031	447	1,478
1998-1999	965	393	1,358

* Fiscal year is July 1 through June 30 of the following year.
NOTE: Decals are issued for a one year period and must be renewed annually

Economic Factors of Using CNG [12, 17, 19, 20]

While compliance with federal and state legislation is the primary reason for converting to an alternative fuel, reducing operating costs is also a goal. Fuel costs for CNG are lower than conventional gasoline, but that advantage is somewhat offset by a restricted driving range and some power loss with bi-fuel vehicles. On an equivalent energy content basis the cost of CNG should be 20% to 50% less than gasoline if the cost savings are passed along to the vehicle operator.

CNG conversion kits cost anywhere from $2,500 to $4,000. The cost of a new OEM dedicated CNG vehicle is $3,500 to $5,500 more than a comparable gasoline model. To help offset the cost, the federal government has set up financial incentives for individuals converting their own vehicles and for companies converting fleets. Under EPACT, a person or business can take a deduction from adjusted gross income of up to $2,000 for a passenger vehicle and up to $50,000 for a heavy-duty truck, van, or bus. For electric vehicles, a tax credit of 10% up to $4,000 is allowed.

The cost of a "fast-fill" CNG refueling station capable of handling about 300 cars per day with an eight-minute fill time could be $300,000 to $400,000. It is unlikely that these facilities will be built with private capital except in high population, urbanized areas where demand is sufficient to warrant the investment. This is a classic "chicken and egg" situation. Demand will not materialize unless there is a fueling infrastructure, but the fueling infrastructure will not be developed unless sufficient demand can justify it. To encourage infrastructure development, EPACT provides for a deduction from adjusted gross income for the incremental costs of an AFV refueling facility up to $100,000.

Ultimately, the economic feasibility of conversion depends on how long a payback period the fleet owner is willing to accept for the savings in fuel costs to pay for the additional capital cost of conversion. This period will vary with the scope of the particular conversion program. To illustrate how the payback period is determined, the following procedure is suggested by DOE in reference 12.

Representative fleet vehicle assumptions (government and utility fleets) were derived from references 19 and 20.

Average annual vehicle miles	16,000
Automobile miles per gallon (mpg)	30
Light truck/van mpg	20
Dedicated CNG Honda Civic GX sedan incremental cost	$4,500
Dedicated CNG Ford Econoline van incremental cost	$5,500

Regular unleaded gasoline cost, including all state and federal taxes: $1.50/gallon
CNG cost, including $0.16/gasoline gallon equivalent (gge) state and $0.061/gge federal tax: $1.05/gge (Baton Rouge)

For the Honda Civic GX:

$4,500	incremental cost
- 900	less state tax credit (20% of incremental cost)
- 560	less federal tax deduction (28% tax bracket x $2,000 deduction)
$3,040	net incremental cost

For gasoline: $1.50/gallon ÷ 30 mpg = $0.0500/mile cost
For CNG: $1.05/gge ÷ 30 mpg = $0.0350/mile cost

Cost savings = $0.0500 - $0.0350 = $0.015/mile

Payback period = $3,040 ÷ $0.015/mile = 202,667 miles; at 16,000 miles per year, this is equivalent to about 12.7 years.

Note: These costs are representative for an individual private citizen. There may be other cost savings available, such as a $2,000 per vehicle direct rebate through the Clean Cities program. This would result in a much shorter payback period for the vehicles. For the Honda Civic example, the $1,040 net incremental cost would be recovered in only 4.3 years. For fleet owners, a number of advantages not available to the private citizen may lower overall costs and the payback period. For example, a fleet with its own refueling station may pay as little as $0.50/gge plus applicable state and federal excise taxes (i.e., about $0.72/gge), and negotiations for multiple acquisitions may result in purchase prices as much as $1,000 per vehicle lower. The difference in fuel cost per gge reflects the cost of recovering capital equipment such as compressors for the fueling facility. If the refueling facility is owned by the fleet owner, then that cost is amortized separately from the direct fuel costs.

Another factor not accounted for in the above procedure is that alternative fuel vehicles routinely enjoy reduced maintenance costs due to the cleaner-burning fuel. Further, the corporate tax rate is apt to be higher than 28%, resulting in a larger credit than used in these examples. Tables 3 and 4 below show "figure of merit" values calculated using the above procedure.

Table 3. Comparison of Payback Periods Using CNG at $1.05/gge for Gasoline Prices of $1.50/Gallon and $1.20/Gallon			
	Net Incremental Cost	**Gasoline cost $1.50/gallon**	**Gasoline cost $1.20/gallon**
Honda Civic GX (30 mpg assumed)	$3,040	202,667 miles 12.7 years	608,000 miles 38 years
Ford Econoline Van (20 mpg assumed)	$3,840	170,667 miles 10.7 years	512,000 miles 32 years

Table 4. Comparison of Payback Periods Using CNG at $0.75/gge for Gasoline Prices of $1.50/Gallon and $1.20/Gallon			
	Net Incremental Cost	**Gasoline cost $1.50/gallon**	**Gasoline cost $1.20/gallon**
Honda Civic GX (30 mpg assumed)	$3,040	121,600 miles 7.6 years	202,667 miles 12.7 years
Ford Econoline Van (20 mpg assumed)	$3,840	102,400 miles 6.4 years	170,667 miles 10.7 years

A worksheet for performing these calculations can be found on the DOE Alternative Fuel Vehicle Fleet Buyer's Guide internet site at **http://www.fleets.doe.gov.**

CNG Gasoline-Equivalent Standard [18, 21]

The National Conference on Weights and Measures (NCWM) has adopted the value **5.660 lbs of CNG** as the gasoline-gallon equivalent for CNG. This value affects the metering and measuring (and taxes) at retail dispensing pumps. Although the British thermal unit (Btu) content of CNG varies somewhat in different areas of the country, the NCWM value was published as a standard in National Institute of Standards and Technology (NIST) Handbook 130. Using the latest data published by DOE [21], the 5.660 lbs of CNG would be equivalent to:

115,400 Btu/gge ÷ 1,070 Btu/standard cubic foot average for Louisiana natural gas
= **107.85 scf/gge**.

Role of the Louisiana Gas Association (LGA) in Promoting CNG [22, 23]

The LGA is a nonprofit organization that consists of natural gas pipeline and distribution companies, municipalities, governmental gas districts, master meter operators and suppliers to the natural gas transporters and distributors. Its activities include educational, public relations, and legislative support for its members as well as promoting the use of natural gas.

For several years the LGA provided the mechanical engineering department of the University of Southwestern Louisiana (USL) with a $1,000 grant to study natural gas comparisons with other fuels as transportations fuels. The basic research findings produced with this money can provide the

justification for obtaining additional funds from other sources to continue the research. The grant is available to all enginering schools within the state. Unfortunately, USL ceased its requests, and none of the other engineering schools in the state have taken advantage of the LGA opportunity. However, the LGA will continue to offer the grant until further notice. For more information about this program and other LGA activities, contact:

Mr. Danny Hebert, Treasurer
Louisiana Gas Association
P.O. Box 550
New Iberia, LA 70562-0550
Phone: 337-373-5224; Fax: 337-373-5220

In September 1994 the LGA formed an NGV committee to promote natural gas as a vehicle fuel in Louisiana. This committee has subsequently expanded into a marketing committee which includes CNG activities. The committee will develop educational programs to increase public awareness of natural gas as an environmentally beneficial and economic vehicle fuel, provide conversion assistance, and encourage the expansion of the NGV refueling infrastructure. It will also assist other groups with similar goals. The committee members are listed below.

André Olagues, Chairman
Entergy Gas Operations
504-593-2418

Robert Borne, Co-Chairman
Entergy Gas Operations
225-354-3024

Michael St. Romain
South Coast Gas Co., Inc.
504-537-5281

Donna Stephenson
Trans Louisiana Gas Co.
318-473-1071

Kempton Collins
Reliant Energy Entex
337-373-5205

Ian Palao
Louisiana Gas Service
504-840-7015

Dawn McManus
Louisiana Gas Service
504-374-7296

In 1995 the LGA sponsored a training program for automotive instructors from twelve state regional vocational schools and Delgado Community College in New Orleans. Specific training was provided for AFVs such as natural gas and propane powered vehicles. The LGA was responsible for getting the program, developed by West Virginia University and funded by U.S. EPA, established within the Louisiana Technical College in Baton Rouge. The Louisiana Technical College offers courses for maintenance technicians from fleet operators to satisfy increasing demand for skilled technicians to service AFVs. For more information about the Louisiana Regional Alternative Fuel Vehicle Training Center (there are only 19 such centers in the nation), contact Mr. Danny Crump at 225-359-9240.

Public Acceptance of CNG [24]

There has been little demand for personal NGVs by the general public. Three formidable obstacles continue to discourage consumer acceptance: (1) the $2,500 - $4,000 cost of conversion of an existing automobile is high; (2) the $3,500 - $5,500 additional cost of a new OEM vehicle is high; and (3) a convenient network of public access refueling stations is not yet in place. It is unlikely that an individual could drive enough miles to generate the fuel savings it would take to pay for his investment over a reasonable period of time. Simply put, for an individual it is usually neither cost effective nor convenient in today's market and infrastructure picture to transition to an AFV.

There are currently three CNG refueling stations in the state that offer unrestricted public access; another eight CNG stations provide limited or restricted public access. Several more private stations serve company fleets but are not available to the public. See Appendix A for specific information and contact details.

In the northwestern part of the state, the Southwestern Electric Power Company (SWEPCO) of Shreveport obtained approval from the Securities and Exchange Commission (SEC) to locate public-access CNG refueling stations on property not owned by the company. Two stations were operated in the Shreveport area with some public access noted. However, the anticipated business did not develop to the degree originally envisioned, and SWEPCO terminated the effort. Interest may be revived if the Shreveport-Bossier City Clean Cities program becomes active.

LPG (Propane) as an Alternative Fuel [25]

LPG is the most widely used alternative fuel in the world. About 3.5 million on- and off-road vehicles worldwide and 350,000 in the U.S. are running on LPG. As of June 30, 1999, Louisiana had 965 vehicles registered as fueled by LPG. Exhaust emissions of hydrocarbons are not much lower than those from gasoline engines but are less reactive, thus reducing ozone production. Stored as a liquid, its storage tank is not much larger than a gasoline tank to yield the same driving range. Its retail price and operating cost varies but has been favorable enough over the years to maintain a secure position as a motor fuel without any government financial incentives to use it. Since most LPG fueled vehicles operate solely on LPG, they are *dedicated* AFVs. (But Ford offers an OEM bi-fuel pickup that operates on gasoline or LPG.)

Conversion is a well-established technology that has been available commercially for over 60 years and was readily available in Louisiana until the EPA's "Memorandum 1A" was amended in 1997. LPG conversion kits cost from $1,500 to $2,000. Propane is also widely used for space and water heating. It is distributed nationwide by pipeline or truck and can be obtained at over 70 locations capable of refueling vehicles (there are over 600 dealers) in the state.

LPG is a byproduct of natural gas production and crude oil refining. Neither gas nor refinery production in the U.S. is expected to increase much in the foreseeable future so any significant increase in LPG demand could increase prices substantially. Any significant increase in propane as a vehicle fuel would compete with petrochemical feedstock uses of propane. Furthermore, additional supplies would have to be obtained from foreign sources, which is counter to the intent of EPACT to lessen dependence on foreign oil. Notwithstanding LPG's favorable technical characteristics as an alternative fuel, these constraints will likely limit its role as a major alternative fuel source.

The industry is represented by the Louisiana Propane Gas Association (LPGA), chartered in 1940. Its overall mission is to promote and develop the use of LPG in Louisiana so that it may serve the best interests of the public. The LPGA does not have an official program promoting propane as a motor fuel. For more information contact:

Mr. Neal Fuller, Executive Director
Louisiana Propane Gas Association
P.O. Box 82130
Baton Rouge, LA 70884-2130
Phone: 225-751-7167; Fax: 225-751-7168

Transportation Fuel Excise Taxes Applied to Alternative Fuels [9, 10, 15, 26]

Motor fuel taxes play a significant role in the price differential betwen conventional and alternative fuels. The *Omnibus Budget Reconciliation Act of 1993*, signed into law by President Clinton on August 10, 1993, increased the *federal* excise tax on gasoline, diesel fuel, gasohol, and other transportation fuels by 4.3¢ per gallon, effective October 1, 1993. The 1997 omnibus budget bill reduced the federal excise tax on LNG, LPG, and methanol. However, Table 5 below shows that CNG is still taxed at a lower rate than the other fuels.

Table 5. Excise Taxes on Motor Fuels

Fuel		Federal	Louisiana
		$/gallon	$/gallon
Gasoline		0.1830	0.2000
Diesel		0.2430	0.2000
Gasohol	10% Ethanol	0.1290	0.2000
	7.7% Ethanol	0.1414	0.2000
	5.7% Ethanol	.01522	0.2000
Gasohol	10% Methanol	0.1230	0.2000
	7.7% Methanol	0.1368	0.2000
	5.7% Methanol	0.1488	0.2000
CNG		0.4844/mcf*	0.1600
LNG		0.1190	0.1600
Propane		0.1360	0.1600

* mcf = 1,000 standard cubic feet. Depending upon the Btu values used in conversion, the gasoline gallon equivalent value for CNG varies from $0.054 to $0.060/gallon.

The total *state* excise tax on *all* motor fuels, conventional and alternative **except** CNG, LPG, and LNG, is 20¢/gallon. This rate is the sum of the 16¢/gallon rate specified in the gasoline tax law and the special fuels tax law, plus 4¢/gallon specified in the *Transportation Infrastructure Model for Economic Development Law of 1989 (TIMED)*. The TIMED tax applies to all private and public entities, including state agencies and local governmental bodies, although it is not explicitly related

to the subject of alternative fuels.

For vehicles weighing less than 10,000 pounds, the state tax on CNG, LPG, and LNG is based on the total rate and can be paid annually at a flat rate of 80% of $150.00, based on a 16¢/gallon total rate, or a variable rate of 80% of the *current* total rate. For example, since the total current rate is 20¢/gallon, the present annual flat rate is $120.00 ($150.00 x 80%); and the variable rate is 16¢/gallon (20¢ x 80%). The variable tax computation shall be based on estimated fuel efficiency of 12 miles/gallon, but not to exceed the annual flat rate. For the purpose of determining the amount of the tax and enforcement, the number of gallons of fuel used the previous year shall be determined by using a schedule for calculating the number of miles per gallon for the type of vehicle in question.

The state excise tax for school buses operating on CNG, LPG, or LNG that transport Louisiana students is the lesser of one-half of the regular flat rate or one-half of the variable rate.

Ecogas Contract with the State of Louisiana [27]

Executive Order No. EWE 93-9, of March 29, 1993, by Governor Edwin Edwards, directed DNR to solicit bids to convert to natural gas a minimum of 500 vehicles and up to 1500 vehicles, which was approximately 25% of the state on-road vehicle fleet. Ecogas of Louisiana was selected by competitive bid to make the vehicle conversions and ultimately build eight CNG/LNG refueling stations accessible to the general public as well as to state government vehicles.

The program resulted in a total of 184 conversions of state-owned vehicles before the contract was terminated in December 1995. The converted vehicles were bi-fueled, capable of being operated on either gasoline or compressed natural gas. Because the state fleet is widely dispersed, the basic fueling infrastructure remained a problem that was never adequately resolved. Ecogas opened only two refueling stations during the course of the project. The decision to terminate the program was based on the lack of a foreseeable payback of the capital investment in the vehicles given the existing trend in fuel use and cost.

For the duration of the contract, the price of natural gas delivered into state vehicles on a gasoline equivalent gallon basis was set at 99¢/gallon, which included a 23¢/gallon surcharge to defray the cost of conversion. Once the conversion cost was recouped by Ecogas, the price to the converted vehicles was to be reduced to 76¢/gallon. State vehicles outside the Ecogas contract (such as existing vehicles already converted to LNG or CNG, or new vehicles purchased already equipped for natural gas) would refuel at the 76¢/gallon price. These prices did not include any motor fuel taxes which had to be paid by the vehicle owner.

Currently, the CNG price at the pump in the Baton Rouge area is 89¢/gallon at Fuelman stations. This price includes federal tax but not the Louisiana motor fuel taxes, which are paid annually by the vehicle owner directly to the state. Private fleets with their own refueling station pay about 50¢/gallon plus applicable federal and state taxes. The difference in the price reflects the cost of recovering capital refueling equipment costs.

Progress Toward AFV Use by Municipal and Parish Governments [26 - 36]

State law (Act 954 of 1990) requires that at least 80% of parish and municipally owned vehicles have the capability to operate on an alternative fuel by September 1, 1998. Most officials have sought and

received waivers of the deadline based on provisions in the law that allow the conversion target date schedule to be waived if there is no alternative fuel source, or if the cost of conversion is uneconomic.

However, the federal CAAA provides explicit mandates for ozone non-attainment areas (Baton Rouge), and EPACT includes a provision for additional mandates affecting municipal and private fleets if voluntary commitments are not sufficient to attain stated goals. Several municipalities and school boards initiated projects in 1993-1994 to convert existing vehicles or acquire OEM AFVs. Those projects include the following:

East Baton Rouge Parish School Board: No conversions have been performed. One school bus that had been converted earlier under a pilot program has been converted back to diesel, primarily because of inadequate refueling stations for the 700 vehicle fleet. No plans for future use of alternative fuel vehicles.

East Baton Rouge Parish Department of Public Works: Eight converted CNG vehicles in the fleet with plans to purchase OEM CNG vehicles. Approval has been received for $500,000 from CMAQ funds, with plans to install another fueling station in the Zachary yard and to acquire/convert a few more vehicles; work has not yet commenced.

Lafayette Parish School Board: No conversions have been accomplished because of inadequate refueling stations to serve the fleet. The one public station in Lafayette could not refuel the school board fleet fast enough to make the venture practical, and that station has been decommissioned.

St. Charles Parish School Board: No conversions have been accomplished because of lack of funds. Although some vehicle conversions could be accomplished, the school board could not locate a source of funds to install a refueling station. A feasibility study was completed, which included the Department of Public Works and the Sheriff's Department, to establish a refueling station and convert 20 buses if funds are obtained.

Jefferson Parish: Up to 350 vehicles had been planned to be converted; 35 vehicles were converted by Ecogas but are presently operating on gasoline or diesel because a refueling station is not conveniently located near parish facilities. The conversion kits are still installed on the vehicles, but until an appropriate refueling station is established, the parish fleet will probably not use alternative fuels.

Morgan City Department of Public Works: A CNG fueling facility has been established, and fifteen vehicles run on CNG. All new vehicles are duel fuel vehicles and can run on either CNG or gasoline. The biggest problem is increasing the number of fueling stations.

City of Shreveport: Currently there are ten flexible fuel vehicles (FFVs) in the fleet, with plans to add 2 per year. Eventually all passenger cars will be FFV.

Caddo Parish: One CNG vehicle operating; no plans to acquire new alternative fuel vehicles because of a lack of refueling stations.

Progress Toward AFV Use by Federal Agencies in Louisiana [37 - 39]

In April 1993 President Clinton issued Executive Order 12844 directing federal agencies to increase EPACT national AFV purchase requirements for 1994 from 7,500 to 11,250 and for 1995 from 10,000 to 15,000 pending the availability of vehicles, funds and life cycle cost considerations. The one federal AFV that was operating on CNG in the state in 1994 was transferred to Albuquerque, New Mexico. The Government Services Administration (GSA) reports that there are about 40 flex-fuel AFVs operating in the state. Because there are no E85 or M85 refueling facilities in the state, these vehicles are running on regular gasoline. It is unlikely that dedicated CNG or LPG vehicles will be acquired in the near future because of the lack of available fueling infrastructure.

The U.S. Postal Service has four converted CNG vehicles in Louisiana at the present time, but there are no convenient refueling facilities within the vicinity of USPS fleets. The USPS has grouped the Louisiana fleet with the Texas fleet for fleet management purposes. Replacement vehicles in Louisiana will likely be flex fuel (E85) vehicles until convenient CNG fueling facilities are established some time in the future.

Barksdale Air Force Base currently has 66 CNG-gasoline bi-fuel vehicles in operation; the majority of these vehicles are pickup trucks. Barksdale has one CNG fueling station located on base, which is not available to the general public. Administrative vehicles (passenger sedans, vans) will become a GSA responsibility within a couple of years, as has already occurred at Fort Polk and New Orleans area naval facilities.

Summary of Current Louisiana Alternative Fuels Legislation [2, 3, 26, 40]

Act 927 of 1990 requires that 30% of new state agency vehicles must have a clean-fuel capability by September 1, 1994, increasing to 50% by September 1, 1996. The Act specifies that the Secretary of DEQ shall review the program by December 31, 1996, to determine whether emissions are effectively reduced, in which case at least 80% of the fleet must be capable of using alternative fuels by September 1, 1998. The vehicles can be leased or purchased, or existing state vehicles can be converted. The law provides two exceptions: if there is no alternative fuel source or if conversion to alternative fuels is more expensive than conventional fuels, the conversion targets may be waived. The exceptions apparently prevailed, so that the Secretary of DEQ had insufficient data for evaluation.

Act 927 also gives the DNR Office of Conservation regulatory authority over CNG safety including refueling stations and the installation of conversion equipment in a vehicle. The regulations were adopted in January of 1992 as LAC Title 43, Part XI, Subpart 5, Chapter 25, Paragraphs 2501-2543. All questions pertaining to them should be directed to:

Louisiana Department of Natural Resources
Office of Conservation, Pipeline Division
P.O. Box 94275
Baton Rouge, LA 70804-9275
Phone: 225-342-5513 or -5516

The Act also directs the Louisiana Liquefied Petroleum Gas Commission to make safety inspections on vehicles equipped for and capable of using LPG.

Act 954 of 1990 has the same provisions for vehicles of political subdivisions of the state as Act 927 does for state government vehicles. Instead of DEQ reviewing the program by December 31, 1996,

the governing authority of each political subdivision does it.

Act 531 of 1990 deregulates the price of natural gas for use in vehicles capable of using CNG as a motor fuel.

Act 1060 of 1991 provides an income tax credit for AFVs and fueling infrastructure costs. A tax credit can be claimed for 20% of the cost of the equipment to modify a gasoline fueled vehicle to use an alternative fuel as well as property which is directly related to the dispensing of the fuel. In the case of a vehicle originally equipped to operate on an alternative fuel, if "the taxpayer is unable or elects not to determine the exact basis which is attributable to such property, the taxpayer may claim a credit in an amount not exceeding the lesser of twenty percent of ten percent of the cost of the motor vehicle or one thousand five hundred dollars."

Act 516 of 1991 provides for an alternate method of paying the Special Fuels Tax on CNG, LPG, and LNG, when used as a motor vehicle fuel.

Act 169 of 1992 primarily provides that the tax credit authorized in Act 1060 shall apply only to vehicles registered in Louisiana.

Act 1067 of 1992 created the Louisiana Natural Gas Marketing Commission within DNR to promote and market gas in general. This commission was abolished by ***Act 1116 of 1997***.

Act 666 of 1993 reduces the Special Fuels Tax rate previously provided by Act 516 to an annual flat rate of $150.00 or a variable rate of 16¢/gallon based on the present total tax of 20¢/gallon.

Act 7 of 1994 lowers the Special Fuels Tax for owners of school buses to one-half the rate specified in Act 666.

Act 1210 of 1997 exempts from Special Fuels Tax recordkeeping requirements light vehicles rated at one ton or less and operated exclusively for comercial use, and private passenger motor vehicles or trucks having a gross weight of 6,000 pounds or less, which use special fuels other than CNG or LPG.

Act 35 of 1998 exempts from local sales taxes diesel fuel, butane, propane, and other liquefied petroleum gases used for farming purposes.

These acts have been incorporated into the state's ***Special Fuel Tax Law of 1964: R.S. 47:801 to 47:815.*** As amended through the 1999 legislative session, the law now levies a 16¢/gallon excise tax on alternative vehicle fuels and prescribes the method of collection, which includes paying an annual flat rate for CNG, LNG, or LPG. Application forms and additional information may be obtained from:

Louisiana Department of Revenue
Excise Taxes Division
P.O. Box 201
Baton Rouge, LA 70821-0201
Phone: 225-925-7656

The ***Transportation Infrastructure Model for Economic Development of 1989 (TIMED): R.S. 47:820.1 to 47:820.6***, as amended through the 1999 legislative session, levies an additional 4¢/gallon tax on all motor vehicle fuels already subject to the 16¢/gallon tax. This tax added to the gasoline

and Special Fuels Tax gives a total tax of 20¢/gallon. This tax is levied, collected, and administered in the same manner as the gasoline and Special Fuels Tax, but the proceeds must be used solely to fund the TIMED program. The TIMED program itself is not relevant to the subject of alternative fuels; the tax applies to CNG, LNG, and LPG when used as a vehicle fuel.

In addition to the above legislation, Governor Edwards' ***Executive Order EWE 93-9***, March 9, 1993, ordered the conversion of approximately 25% of the state's motor vehicle fleet to natural gas. The project was terminated when the economics failed to work out, and the order expired when a new governor took office in 1996.

The complete text of Acts 927, 954, 531, 1060, and 169 is provided in Appendix B. The complete text of the Special Fuels Tax and the fuel tax portion of TIMED, as amended through the 1999 legislative session, is also included in Appendix B. Note that historical and statutory notes are not included, so the original documents should be consulted as the final authority.

Louisiana Alternative Fuels Conversion Revolving Loan Program

In January 1994 DNR's Energy Division (now the Energy Section of the Technology Assessment Division) introduced a five year low-interest revolving loan program to assist state and local governmental agencies to convert a portion of their fleets to CNG, LNG, or LPG. However, minimal participation in the loan program resulted in the program being canceled.

ETHANOL IN LOUISIANA

Historical Perspective [41]

From 1984 through 1990 ethanol was Louisiana's alternative fuel of choice. The ethanol was blended with gasoline to form "gasohol" (gasoline containing 10% ethanol). The now nonexistent ethanol industry in Louisiana was spawned by federal and state subsidies enacted in the late 1970s and generously expanded through the mid-1980s in reaction to the energy crises of that era.

A comprehensive history of the ethanol industry in Louisiana is presented in DNR's November 1993 publication *Ethanol in Louisiana 1993*. A total of 18 ethanol plants were seriously planned in Louisiana at one time or another. The size varied from less than a million gallons per year to 100 million gallons per year. Nine plants were actually built, and the maximum number that operated at any one time was six. Although the total combined capacity of all the plants was 155 million gallons per year (MMGPY), actual total cumulative production was only 112 million gallons over the entire seven year period ethanol was produced in the state. Peak production of almost 32 million gallons occurred in 1986. Peak Louisiana gasohol consumption of 319 million gallons also took place that same year.

After the 1989 Legislature repealed all state ethanol subsidies, production ceased, and all the plants were shut down by December 1990. Gasohol consumption declined drastically in Louisiana, but has rebounded considerably in other states where E85 (85% ethanol, 15% gasoline) is currently produced and used, most notably in the midwestern corn belt.

A copy of the report *Ethanol in Louisiana 1993* is available from:

Louisiana Department of Natural Resources
Technology Assessment Division
P.O. Box 94396
Baton Rouge, LA 70804-9396

Present Status [42-44]

One closed plant may still be capable of operating. The 42 MM GPY Mississippi River Alcohol Corporation's (Missalco) plant near Belle Chasse, next to a grain terminal on the Mississippi River, was in litigation over design performance and has not operated since 1987. It is unlikely that the status of this plant will change until the litigation is settled; the plant is apparently "mothballed."

The Shepherd Oil facility near Jennings, originally rated at 35 MM GPY, was acquired by BCI of Louisiana LLC in December 1994. The new name of this facility is the Jennings Biomass Ethanol Processing Plant. The plant is being refurbished and is expected to begin operating in mid-2001, initially using sugar cane waste (bagasse) and rice hulls to produce industrial quality ethanol. The facility will ultimately be capable of producing approximately 23 million gallons of ethanol per year, the majority of which will be used in consumer products other than fuel. Other products will include lignin and carbon dioxide. BCI expects the plant to be economically feasible without relying on government subsidies by using a new patented technology that can process cellulosic waste materials that are far cheaper than sugar and starch based feedstocks used by conventional ethanol plants. Additional feedstocks may include wood chips and paper sludge in the future.

Although ethanol is not currently produced in Louisiana, gasohol made with ethanol produced in other states is used in the state as a motor vehicle fuel to some extent. Louisiana gasohol consumption bottomed out in 1990 at 39 million gallons, then increased steadily to 106 million gallons in 1994, then fell back to 20 million gallons in 1996. Gasoline consumption in the state over the same period averaged 1,901 million gallons per year.

The 1978 Energy Tax Act provided a federal gasoline excise tax exemption of 4¢/gallon for 10% ethanol blends. The act also created a supplemental 10% investment tax credit on equipment for converting biomass to alcohol. The 1980 Windfall Profits Tax provided a Blender's Tax Credit of 40¢/gallon of ethanol as an alternate to the tax exemption. Subsequent federal legislation in 1982, 1984, and 1990 extended to the year 2000 the partial excise tax exemption and blender's income tax credit, currently set at 5.4¢/gallon of gasohol and 54¢/gallon of ethanol, respectively.

The 1990 CAAA require the use of additives to boost the oxygen content of traditional gasolines in areas with significant air pollution. Effective January 1, 1993, the federal ethanol production subsidy for 10% ethanol blends was prorated for ethanol percentages of 7.7% and 5.7% to correspond to the oxygen content requirements of the Clean Air Act Amendments of 1990 and California's unique requirements. Table 6 shows the volume percentage of ethanol that provides the weight percentage of oxygen in ethanol-blended fuels to satisfy the CAAA and California requirements.

Table 6. Oxygen Contribution to Ethanol Blends (Gasohol)		
Ethanol % by Volume	**Oxygen % by Weight**	**Tax Exemption per Gallon**
10	3.5	5.40¢
7.7	2.7	4.16¢
5.7	2	3.08¢

In December 1993 the EPA issued a ruling that 30% of the oxygenate used in the reformulated gasoline required to be sold starting January 1, 1995, in nine cities with the worst air pollution must come from "renewable" resources. As a practical matter, ethanol was the only renewable that could be produced in the volumes needed to meet the EPA goal. The American Petroleum Institute and the National Petroleum Refiner's Association filed suit against the EPA in July 1994 claiming that the mandate was illegal. In April 1995, the U.S. Circuit Court of Appeals rejected the EPA Renewable Oxygen Strategy (ROS) on the grounds that the EPA lacked the authority to promulgate the ROS. This decision allows refiners and blenders to choose from all available oxygenates. As a result of this decision, nationwide ethanol production began to decrease in 1996 after steadily increasing through 1995.

The efficacy of the ethanol subsidy has been pointedly debated in Congress for several years. The refineries would prefer to use other oxygenates such as methyl tertiary butyl ether (MTBE) from refining processes instead of ethanol from "outside" the refinery complex. But ethanol is a genuine domestic product that doesn't depend upon foreign suppliers. Even so, after about 20 years of federal assistance, ethanol provides only 1% of the nation's motor fuel.

OTHER BIOMASS FUELS IN LOUISIANA

Southern States Power Company, Inc., in Shreveport was formed in 1998 and commenced development of a biodiesel fuel division in 1999. Biodiesel fuel is produced by combining vegetable or animal oils with standard diesel fuel to eliminate or reduce particulates and other emissions associated with straight diesel fuel. It can be used in existing diesel engines with little or no modifications, and may be the lowest cost alternative fuel option for some fleets in comparison with natural gas, alcohol fuels, or electricity.

Southern States Power Company recently reached an agreement with Nopec Corporation for delivery of several million gallons of biodiesel fuel for a school district in Phoenix, Arizona, and southern California customers. Southern States Power Company and Otto's, a chain of convenience store/ gas stations, recently combined efforts to donate 7,000 gallons of biodiesel and diesel fuel to the Louisiana National Guard's Job Challenge Program. The company is exploring potential sites for a processing facility in the state, which would result in lower costs for Louisiana customers. For more information on biodiesel potential in Louisiana, contact:

Mr. Michael C. Sealey
Southern States Power Company, Inc.
830 Havens Road
Shreveport, LA 71107
Telephone 318-221-5703; http://www.sspowerco.com

ELECTRIC AND HYBRID VEHICLES[46-49]

Electric Vehicles

Although the advent of electric vehicles (EVs) is relatively new in the U.S. and Louisiana, the advantages and disadvantages of EVs are not difficult to understand. There is the inconvenience of having to recharge one's personal vehicle but the added convenience of being able to do it at home, rather than having to refuel at a nearby service station. There are restrictions on ranges of travel before recharging, but the limited driving range does fit within the average commuting or business-use range. The environmental benefits, as well as the high sticker prices, are obvious.

Even though the Chevrolet S-10 electric pickup truck is assembled in Shreveport, there are very few electric vehicles in use around the state beyond the traditional golf carts and airport ground support equipment. But elsewhere, especially in California, more and more EVs are being put in service. U.S. automakers believe that delivery fleets are the best markets for low-range EVs; Ford market research shows that trucks are four times more likely than cars to be driven less than 100 miles a day. Experience with Honda EV+, the Chevrolet S-10, the Ford Electric Ranger, Solectria's offerings, and Toyota's RAV4-EV so far has been fairly positive, with the convenience of recharging EVs at home being a particularly favorable consideration.

However, most EVs cost considerably more than conventional vehicles and have batteries that need to be replaced every two to three years at a cost of $3,000 to $5,000. Costs for these first-generation EVs have ranged from $30,000 to $45,000 for full purchase. But Federal agencies and electric utilities are helping defray some or all of the increased costs in some areas of the country. For example, Denver, Colorado, is using three EVs to transport workers; DOE is funding the use of the vehicles through the Clean Cities program. In Los Angeles, California, EV charging stations are being installed throughout the city—with the cooperation of public and private partners—to allow for more convenient daytime EV recharging. Additional incentives being considered include preferential parking for EV users, dedicating a percentage of spaces at parking lots as EV-ready, and the introduction of various electric public transit projects.

Improving Electric Vehicle Power Sources

To answer the challenge to build a more efficient (greater driving range between charges and more acceleration power), longer-lasting, lighter-weight, and less expensive battery, a partnership known as the United States Advanced Battery Consortium (USABC) was formed in 1991. Among the partners are Ford, General Motors, DaimlerChrysler, DOE, the Electric Power Research Institute (EPRI), and battery manufacturers. By pooling their technical knowledge and funding, consortium partners focus on the most promising battery technologies to advance the market potential of EVs.

Auto manufacturers believe that mid-term battery technologies, such as nickel-metal hydride and lithium-ion, have the potential to effectively double the range and performance of EVs compared to advanced lead-acid batteries. USABC claims that long-term battery technologies (lithium-ion disulfide and lithium polymers) would have even more energy and power and would make the range and performance of EVs comparable to today's gasoline-powered vehicles.

USABC set its mid-term performance goal to include a driving range of 100-125 miles in normal usages between charges, and a battery cost of $4,500-$6,000 amortized over five years. The long-term goal targets a driving range of 200 miles in normal usage, and a battery cost of $4,000 amortized

over 10 years. Presently, the consortium appears to be meeting its mid-term goal. But serious challenges remain in battery cost and manufacturing. If manufacturing volume goes up, the cost will come down; however, increasing volume on a product that most consumers cannot afford is somewhat of a gamble.

The charging time for an EV depends on the vehicle and the existing charge level. Typically, a full charge can take two to eight hours. The life expectancy of lead-acid batteries is about three years or 40,000 miles; the life-cycle of nickel-metal hydride batteries is about 10 years.

The cost for an EV home-charging unit is about $2,000 for an inductive charger and about $1,000 for a conductive-charge interface device. In California communities, public charging stations are already on the drawing boards. Utilities in the major metropolitan areas are providing the necessary energy information to facilitate the future installation of these facilities. Whether the cost to use a public recharging station will be free, or available for a nominal fee, remains to be worked out.

Hybrid Electric Vehicles[46, 49]

Hybrid electric vehicles (HEVs) use two sources of motive energy, electrical and mechanical, to propel the vehicle. As their name implies, the vehicles combine the efficiency of electrical drive systems with the longer driving range gained from liquid or gaseous fuels. An HEV usually has an electrical storage device such as a battery, flywheel, or ultracapacitor in combination with a mechanical device such as an internal combustion engine, gas turbine, or fuel cell.

Two different HEV configurations have been demonstrated to be practical, serial and parallel (see figure below). In a series configuration, the internal combustion engine, turbine, or fuel cell is used to generate electricity to charge the batteries, flywheel, or ultracapacitor. The drivetrain is powered solely from the electric motor connected to the electrical storage device. The benefits of a series configuration are reduced engine power cycling because the engine never idles, a transmission may not be needed, and more options are available for mounting the engine and vehicle components. In a parallel configuration, the drive system can be powered simultaneously by the motor or by the mechanical device. In this configuration, during acceleration, hill climbing, or passing both the electric motor and mechanical device can provide power to the drivetrain. Once the vehicle reaches cruising speed, the vehicle just relies on the mechanical device to maintain speed. A parallel configuration could be set up to use an engine for highway driving and the power from the electric motor for accelerating. Some benefits of the parallel configuration are the vehicle has more power since both the engine and the motor can supply power simultaneously, a generator isn't needed, and it can be more efficient since power is directly coupled to the road, which reduces energy conversion losses.

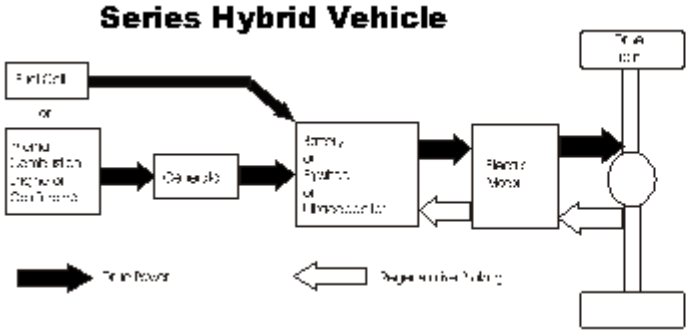
Some advantages of HEVs over traditional internal combustion engine vehicles are:

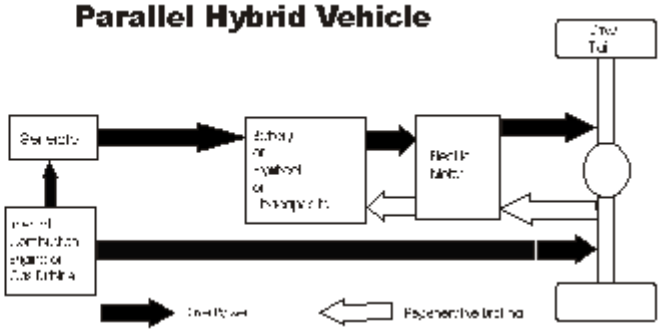
- If an internal combustion engine is used, the engine can be smaller because it shares the workload with the electrical motor. This provides weight reductions that can result in greater fuel economy.
- The engine can be optimized to operate within a specific speed range where fuel economy is greatest and emissions are least.
- The addition of liquid or gaseous fuels provides greater driving range than what could be obtained from just batteries alone. Coupled with higher fuel efficiency, a hybrid with an internal combustion engine can drive even farther than today's internal combustion engine vehicles before refueling.
- Regenerative braking can help minimize the energy lost when slowing down the vehicle.

These advantages are offset by the added complexity of the HEV and higher additional costs due to the dual fuel systems. A hybrid vehicle still produces emissions from the non-electric portion of the fuel, but since those emissions *can be* nearly as clean as electric vehicles and the hybrid can use altenative fuels to drive the mechanical system, HEVs are able to help clean the air and reduce the amount of fossil fuels used.

Both Toyota and Honda have production model hybrids on the market for about $20,000 or less, and both claim to exceed 70 miles per gallon while achieving ultra low emission vehicle status. Ford, General Motors, and DaimlerChrysler are each working with DOE on independent hybrid vehicles which have been shown at the North American International Auto Show in January 2000. Other hybrids that are commercially available now include sedans from Fiat and Electric Auto Corp.

Buses are the largest market for commercial hybrids. There are at least six models available ranging from 22-foot shuttle buses to full size 40-foot buses. Most are powered by gasoline or diesel fuel, but some are designed for natural gas or propane.





The number of electric and hybrid electric vehicles in Louisiana is not presently known, but is estimated to be quite low. As costs become lower with increased production, these vehicles are expected to become more common in the near future.

CONCLUSION

Federal and state legislative mandates created a flurry of alternative fuel activity in Louisiana during the first 3-4 years of the 1990s. CNG emerged as the state's alternative fuel of choice, but the anticipated expansion of a statewide infrastructure has failed to develop sufficiently to support the mandates' schedules. In the particular case of CNG, some additional refueling stations have been established to serve a few private fleets. However, the number of public access CNG refueling stations in the state is increasing much slower than envisioned by legislative mandates. Federal and state tax incentives remain in place, but financial assistance to overcome substantial conversion costs and incremental costs for OEM vehicles has not been actively promoted.

Public acceptance of AFVs as personal vehicles remains virtually nonexistent as the high cost of conversion, long payback periods, and the continued lack of a refueling infrastructure as convenient as gasoline thwarts widespread participation. Since most gasoline is purchased by the general public for personal vehicles, a substantial shift to alternative fuels will only occur when the general public participates on a broad scale. The business of converting vehicles in the aftermarket is giving way to original equipment manufacturers (OEM) provision of "factory installed" alternative fuel units. The 2000 model year includes light duty offerings from General Motors, Ford, DaimlerChrysler, Honda, and Toyota along with a number of medium, heavy duty, and off-road vehicles from other manufacturers. Electric and hybrid electric vehicles have the greatest potential for reducing air pollution and crude oil demand, and OEM development activities are encouraging. Whether the ethanol industry will continue to endure, particularly without a substantial subsidy, remains to be seen.

There is no doubt that alternative fuels must be a federal and state priority over the next several years. Federal failure to achieve specified goals has not served as a positive example for the states, but internal audits may help correct the situation in the near future. Increased federal AFV acquisitions will most likely serve as a catalyst for state, parish, and private entities as OEM offerings become more numerous and common. Once an appropriate infrastructure has been established for any given fuel, increased awareness and acceptance by the general public can be expected.

APPENDIX A

LOUISIANA PUBLIC ACCESS FAST-FILL CNG REFUELING STATIONS

(as of June 30, 2000)

*** Indicates restricted or limited public access; advance contact recommended**

Fuelman
8968 South Choctaw Drive
Baton Rouge, LA 70815
Contact: Robert Borne
800-648-7411

Fuelman
4637 Florida Boulevard
Baton Rouge, LA 70805
Contact: Robert Borne
800-648-7411

*Entergy Gas Operations
5755 Choctaw Drive
Baton Rouge, LA 70805
Contact: Robert Borne
800-648-7411

*City of Baton Rouge, Dept. of Public Works
333 Chippewa Street
Baton Rouge, LA 70805
Contact: Roy Hutchinson
225-389-3179

*Louisiana Gas Service
5241 Taravella Road
Marrero, LA 70072
Contact: Bert Randazzo
504-374-7454

*Louisiana Gas Service
2000 Arnoult Road
Metairie, LA 70001
Contact: Bert Randazzo
504-374-7454

*Louisiana Gas Service
2809 Louisville Avenue
Monroe, LA 71201
Contact: Tim Sims
318-325-0671

Fuelman/Entergy Gas Operations
1 Palm Drive
New Orleans, LA 70124
Contact: André Olagues
504-840-2577

*Louisiana Gas Service
101 Apple Street
Norco, LA 70079
Contact: Bert Randazzo
504-374-7454

*Louisiana Gas Service
38144 Post Office Road
Prairieville, LA 70769
Contact: Bert Randazzo
504-374-7454

*ARKLA Gas Company
1262 Dalzell Street
Shreveport, LA 71103
Contact: Bobby York
318-429-4402

NOTE: Louisiana Gas Service facilities service only their private fleet. LGS will assist for emergency needs but prior coordination is necessary.

APPENDIX B

SELECTED LOUISIANA STATE LEGISLATION PERTAINING TO ALTERNATIVE MOTOR VEHICLE FUELS

PAGE

ACT No. 927 of 1990

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SENATE BILL NO. 2
BY MESSRS.NUNEZ, BANKSTON, CHABERT AND HAINKEL AND
REPRESENTATIVES ANDING, HOLDEN, PATTI AND WARNER

AN ACT

To enact Part X of Chapter 7 of Title 30 of the Louisiana Revised Statutes of 1950, consisting of R.S. 30:751 and 752*, and R.S. 39:362.1*, relative to alternative fuels; to provide for the regulation of certain alternative fuels; to provide for conversion to alternative fuels of a certain percentage of state owned vehicles; to provide for reports; to provide for standards; to provide exceptions; and to provide for related matters.

Be it enacted by the Legislature of Louisiana:

Section 1. Part X of Chapter 7 of Title 30 of the Louisiana Revised Statutes of 1950, consisting of R.S. 30:751 and 752*, is hereby enacted to read as follows:

PART X. REGULATION OF COMPRESSED NATURAL GAS USED AS A VEHICULAR FUEL

§751*. Definitions

As used in this Part, the following words and phrases shall have the meanings hereinafter ascribed to them:

A. "Assistant secretary" means the assistant secretary of the Office of Conservation of the Department of Natural Resources.
B. "Compressed natural gas" means natural gas designated for vehicular use that is under pressures exceeding twenty-four hundred pounds per square inch.
C. "Compression and conversion equipment" means all equipment used in the compression, storage, transmission, and decompression of natural gas for the purpose of powering motor vehicles.

§752*. Regulation of compressed natural gas

The assistant secretary shall have the authority to regulate all activities related to the safety of compressed natural gas and shall establish by regulation minimum safety standards for compressed natural gas compression and conversion equipment including the installation and operation of such equipment. For vehicles equipped for and capable of using liquified petroleum gas, each vehicle shall first be inspected for safety of operation by an inspector of the Louisiana Liquefied Petroleum Gas Commission.

Section 2. R.S. 39:362.1* is hereby enacted to read as follows:

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* Subsequently redesignated as R.S. 30:731 and 732, and R.S. 39:364

362.1.* Purchase or lease of fleet vehicles; use of alternative fuels; exceptions

A. (1) After September 1, 1991, the commissioner of administration shall not purchase or lease any motor vehicle for use by any state agency unless that vehicle is capable of and equipped for using an alternative fuel which results in lower emissions of oxides of nitrogen, volatile organic compounds, carbon monoxide, or particulates or any combination thereof which meet or exceed federal Clean Air Act standards. Alternative fuels shall include compressed natural gas, liquefied petroleum gas, reformulated gasoline, methanol, ethanol, electricity and any other fuels which meet or exceed federal Clean Air Act standards.

(2) A state agency may acquire or be provided equipment or refueling facilities necessary to operate such vehicles using alternative fuels by any of the following methods:

(a) Purchase or lease as authorized by law provided that the state shall recoup its actual costs, including finance charges, through reduced costs of operating such vehicles within forty-eight months of the purchase or lease.

(b) Gift or loan of the equipment or facilities.

(c) Gift or loan of the equipment or facilities or other arrangement pursuant to a service contract for the supply of alternative fuels.

(d) Performance-based energy efficiency contracts under the provisions of R.S. 39:1496.1.

(3) The commissioner may waive the requirements of this Subsection for any state agency upon receipt of certification supported by evidence acceptable to the commissioner that either of the following situations apply:

(a) The agency's vehicles will be operating primarily in an area in which neither the agency nor a supplier has or can reasonably be expected to establish a central refueling station for alternative fuels.

(b) The agency is unable to acquire or be provided equipment or refueling facilities necessary to operate vehicles using alternative fuels at a projected cost that is reasonably expected to result in no greater net costs than the continued use of traditional gasoline or diesel fuels measured over the expected useful life of the equipment or facilities supplied.

B. (1) The commissioner shall achieve the following percentages of vehicles capable of using alternative fuels by the times specified:

(a) The percentage shall be equal to or greater than thirty percent of the number of fleet vehicles operated by September 1, 1994.

(b) The percentage shall be equal to or greater than fifty percent of the number of fleet vehicles operated by September 1, 1996.

(2) The secretary of the Department of Environmental Quality shall review this alternative fuel use program on or before December 31, 1996, and, if the secretary determines that the program has been effective in reducing total annual emissions from motor vehicles in the area, the commissioner shall achieve a percentage of fleet vehicles capable of using alternative fuels equal to or greater than eighty percent of the number of fleet vehicles operated by September 1, 1998, and thereafter.

(3) The division of administration in its annual fiscal report to the legislature shall show its progress in achieving these percentage requirements by itemizing purchases, leases, and conversions of motor vehicles and usage of alternative fuels.

C. The commissioner, in the development of the alternative fuel use programs, shall consult with state agency fleet operators, vehicle manufacturers and converters, fuel distributors, and others to delineate the vehicles to be covered, taking into consideration range, specialty uses, fuel availability, vehicle manufacturing and conversion capability, safety, resale values, and other relevant factors. In order to maximize the savings to the state, the commissioner shall attempt to the extent possible to first convert those vehicles that are used the most often for the most

miles. The commissioner may meet the percentage requirements of this Section through purchase or lease of new vehicles or the conversion of existing vehicles, in accordance with federal and state requirements and applicable safety laws and standards, to use the alternative fuels.

D. The commissioner may reduce any percentage specified or waive the requirements of Subsection (B) of this Section for any state agency upon receipt of certification supported by evidence acceptable to the commissioner that either of the following situations apply:

(1) The agency's vehicles will be operating primarily in an area in which neither the agency nor a supplier has or can reasonably be expected to establish a central refueling station for alternative fuels.

(2) The agency is unable to acquire or be provided equipment or refueling facilities necessary to operate vehicles using alternative fuels at a projected cost that is reasonably expected to result in no greater net costs than the continued use of traditional gasoline or diesel fuels measured over the expected useful life of the equipment or facilities supplied.

E. The provisions of this Section shall apply to any vehicles operated by law enforcement agencies or used as emergency vehicles but only to the extent deemed feasible after consultations and considerations of this Section provided in Subsections (C) and (D) and a proper determination made thereon as to the feasiblity thereof.

F. The joint legislative committee on the budget shall exercise oversight over the implementation of the provisions of this Section.

Section 2. At no time shall the state enter into any program providing subsidies or incentive payments for the production of compressed natural gas, liquefied petroleum gas, reformulated gasoline, methanol, or ethanol.

Approved by the Governor, July 25, 1990
Published in the Official Journal of the State:
August 17, 1990.
A true copy:
W. Fox McKeithen
Secretary of State

ACT No. 954 of 1990

— — —

SENATE BILL NO. 309
BY MR. NUNEZ AND REPRESENTATIVES ANDING AND HOLDEN

AN ACT

To enact Part XIII of Chapter 2 of Title 33 of the Louisiana Revised Statutes of 1950, to be comprised of R.S. 33:1418, relative to vehicles owned by political subdivisions; to provide for conversion to alternative fuels of a certain percentage of vehicles owned by political subdivisions; to provide for standards; to provide exceptions; to provide definitions; and to provide for related matters.

Be it enacted by the Legislature of Louisiana:

Section 1. Part XIII of Chapter 2 of Title 33 of the Louisiana Revised Statutes of 1950, comprised of R.S. 33:1418, is hereby enacted to read as follows:

PART XIII. GENERAL PROVISIONS

§1418. Purchase or lease of fleet vehicles; use of alternative fuels; exceptions; definitions

A. (1) A political subdivision may purchase or lease, after September 1, 1991, any motor vehicle, for use by any agency of the political subdivision, if that vehicle is capable of and equipped for using an alternative fuel which results in lower emissions of oxides of nitrogen, volatile organic compounds, carbon monoxide, or particulates, or any combination thereof which meet or exceed federal Clean Air standards. Alternative fuels shall include compressed natural gas, liquefied petroleum gas, reformulated gasoline, methanol, ethanol, electricity, and any other fuels which meet or exceed federal Clean Air standards.

(2) An agency of a political subdivision may acquire or be provided equipment or refueling facilities necessary to operate such vehicles using alternative fuels by any of the following methods:

(a) Purchase or lease as authorized by law.

(b) Gift or loan of the equipment or facilities.

(c) Gift or loan of the equipment or facilities or other arrangement pursuant to a service contract for the supply of alternative fuels.

(3) If such equipment or facilities are donated, loaned, or provided through other arrangement with the supplier of alternative fuels, the supplier shall be entitled to recoup its actual cost of donating, loaning, or providing the equipment or facilities through its fuel charges under the supply contract.

(4) The governing authority of a political subdivision may waive the requirements of this Subsection for any agency of a political subdivision upon receipt of certification supported by evidence acceptable to that governing authority that either of the following situations apply:

(a) The agency's vehicles will be operating primarily in an area in which neither the agency nor a supplier has or can reasonably be expected to establish a central refueling station for alternative fuels.

(b) The agency is unable to acquire or be provided equipment or refueling facilities necessary to operate vehicles using alternative fuels at a projected cost that is reasonably expected to result in no greater net costs than the continued use of traditional gasoline or diesel fuels measured over the expected useful life of the equipment or facilities supplied.

C. (1) Each political subdivision shall achieve the following percentages of vehicles capable of using alternative fuels by the times specified:

(a) The percentage shall be equal to or greater than thirty percent of the number of fleet vehicles operated by September 1, 1994.

(b) The percentage shall be equal to or greater than fifty percent of the number of fleet vehicles operated by September 1, 1996.

(2) The governing authority of each political subdivision shall review this alternative fuel use program on or before December 31, 1996, and, if the governing authority determines that the program has been effective in reducing total annual emissions from motor vehicles in the area, the governing authority shall achieve a percentage of fleet vehicles capable of using alternative fuels equal to or greater than eighty percent of the number of fleet vehicles

operated by September 1, 1998, and thereafter.

C. The governing authority of each political subdivision, in the development of the alternative fuel use program, shall consult with vehicle manufacturers and converters, fuel distributors, and others to delineate the vehicles to be covered, taking into consideration range, specialty uses, fuel availability, vehicle manufacturing and conversion capability, safety, resale values, and other relevant factors. The governing authority may meet the percentage requirements of this Section through purchase or lease of new vehicles or the conversion of existing vehicles, in accordance with federal and state requirements and applicable safety laws and standards, to use the alternative fuels.

D. The governing authority of a political subdivision may reduce any percentage specified or waive the requirements of Subsection B of this Section for any agency of a political subdivision upon receipt of certification supported by evidence acceptable to the governing authority that either of the following situations apply:

(1) The agency's vehicles will be operating primarily in an area in which neither the agency nor a supplier has or can reasonably be expected to establish a central refueling station for alternative fuels.

(2) The agency is unable to acquire or be provided equipment or refueling facilities necessary to operate vehicles using alternative fuels at a projected cost that is reasonably expected to result in no greater net costs than the continued use of traditional gasoline or diesel fuels measured over the expected useful life of the equipment or facilities supplied.

E. The provisions of this Section shall not apply to any vehicles operated by law enforcement agencies or used as emergency vehicles.

F. As used in this Part, "political subdivision" means a parish, municipality, and any other unit of local government, including a school board and a special district, authorized by law to perform governmental functions.

Section 2. At no time shall a political subdivision enter into any program providing subsidies or incentive payments for the production of compressed natural gas, liquefied petroleum gas, reformulated gasoline, methanol, or ethanol.

Approved by the Governor, July 25, 1990.
Published in the Official Journal of the State:
August 22, 1990.
A true copy:
W. Fox McKeithen
Secretary of State

ACT No. 531 of 1990

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SENATE BILL NO. 3
BY MESSRS. NUNEZ AND BANKSTON AND REPRESENTATIVES HOLDEN AND PATTI

AN ACT

To amend and reenact R.S. 45:1163(A), relative to regulation by the Public Service Commission; to provide for deregulation of direct sales of natural gas used in certain motor vehicles; and to provide for related matters.

Be it enacted by the Legislature of Louisiana:

Section 1. R.S. 45:1163(A) is hereby amended and reenacted to read as follows:

§1163. Power to regulate rates and service; exceptions

A. The commission shall exercise all necessary power and authority over any street railway, gas, electric light, heat, power, waterworks or other local public utility for the purpose of fixing and regulating the rates charged or to be charged by and service furnished by such public utilities; however, no aspect of direct sales of natural gas by natural gas producers, natural gas pipeline companies, natural gas distribution companies, or any other person engaging in the direct sale of natural gas to industrial users for fuel or for utilization in any manufacturing process, or to any person for use in vehicles capable of using compressed natural gas which when combusted results in comparably lower emissions of oxides of nitrogen, volatile organic compounds, carbon monoxide, or particulates or any combination thereof shall be subject to such regulation by the commission. In addition, a schedule of rates of an electric cooperative shall not require approval of the commission if the schedule previously was approved by the board of directors of the electric cooperative and by the federal government or any agency thereof, nor shall the authority of the commission extend to the service rendered by electric cooperatives except to the extent provided in R.S. 45:123 and in orders of the commission promulgated to effectuate the purposes of R.S. 45:123.

Approved by the Governor, July 19, 1990.
Published in the Official Journal of the State:
August 7, 1990.
A true copy:
W. Fox McKeithen
Secretary of State

ACT No. 1060 of 1991

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SENATE BILL NO. 537

BY SENATOR BANKSTON AND REPRESENTATIVES ADLEY, ALARIO, R. ALEXANDER, ANDING, ANSARDI, ARMSTRONG, ATER, BACQUE', BRADLEY, BRUN, CARRIER, CRANE, DASTUGUE, DIXON, DOWNER, DUKE, FORSTER, HAIK, HEBERT, HOLDEN, IVON, JACKSON, KIMBALL, LABORDE, MCCLEARY, MCDONALD, MCFERREN, ODINET, ORR, PATTI, PRATT, REILLY, ROACH, ST. RAYMOND, SALTER, SINGLETON, SIRACUSA, SITTIG, JACK SMITH, SOUR, STELLY, STINE, STRAIN, STEVE THERIOT, THOMPSON, VOLENTINE AND WARNER

AN ACT

To enact R.S. 47:38 and 287.756 relative to taxation; to provide with respect to an income tax credit for conversion of vehicles to alternative fuel usage; to provide for definitions; to provide for the calculation of such credit; to provide for carry forwards; and to provide for related matters.

Be it enacted by the Legislature of Louisiana:

Section 1. R.S. 47:38 and 287.756 are hereby enacted to read as follows:

§38. Tax credit for conversion of vehicles to alternative fuel usage

A. The intent of this Section is to provide an incentive to persons or corporations to invest in qualified clean-burning motor vehicle fuel property. Any person or corporation investing in such property as specified herein shall be allowed a credit against the tax liability due under the income tax as determined pursuant to Subsection C of this Section.

B. As used in this Section, the following words and phrases shall have the meaning ascribed to them in this Subsection:

(1) "Alternative fuel" means a fuel which results in comparably lower emissions of oxides of nitrogen, volatile organic compounds, carbon monoxide, or particulates, or any combination thereof and includes compressed natural gas, liquefied natural gas, liquefied petroleum gas, reformulated gasoline, methanol, ethanol, electricity, and any other fuels which meet or exceed federal clean air standards.

(2) "Qualified clean-burning motor vehicle fuel property" means:

(a) Equipment installed to modify a motor vehicle which is propelled by gasoline so that the vehicle may be propelled by an alternative fuel;

(b) A motor vehicle originally equipped to be propelled by an alternative fuel but only to the extent of the portion of such motor vehicle which is attributable to the storage of such fuel, the delivery to the engine of such motor vehicle of such fuel, and the exhaust of gases from combustion of such fuel;

(c) Property which is directly related to the delivery of an alternative fuel into the fuel tank of a motor vehicle propelled by such fuel, including compression equipment, storage tanks and dispensing units for such fuel at the point where such fuel is so delivered.

C. The credit provided for in Subsection A of this Section shall be twenty percent of the cost of the qualified clean-burning motor vehicle fuel property.

D. In cases where no credit has been claimed pursuant to Subsection C of this Section and in which a motor vehicle is purchased by a taxpayer with qualified clean-burning motor vehicle fuel

property installed by the manufacturer of such motor vehicle and the taxpayer is unable or elects not to determine the exact basis which is attributable to such property, the taxpayer may claim a credit in an amount not exceeding the lesser of twenty percent of ten percent of the cost of the motor vehicle or one thousand five hundred dollars.

E. If the tax credit allowed pursuant to Subsection A of this Section exceeds the amount of income taxes due or if there are no state income taxes due on the income of the taxpayer, the amount of the credit not used as an offset against the income taxes of a taxable year may be carried forward as a credit against subsequent income tax liability for a period not to exceed three tax years.

F. A husband and wife who file separate returns for a taxable year in which they could have filed a joint return may each claim only one-half of the tax credit that would have been allowed for a joint return.

* * *

§287.756. Tax credit for conversion of vehicles to alternative fuel usage

A. The intent of this Section is to provide an incentive to persons or corporations to invest in qualified clean-burning motor vehicle fuel property. Any person or corporation investing in such property as specified herein shall be allowed a credit against the tax liability due under the income tax as determined pursuant to Subsection C of this Section.

B. As used in this Section, the following words and phrases shall have the meaning ascribed to them in this Subsection:

(1) "Alternative fuel" means a fuel which results in comparably lower emissions of oxides of nitrogen, volatile organic compounds, carbon monoxide, or particulates, or any combination thereof and includes compressed natural gas, liquefied natural gas, liquefied petroleum gas, reformulated gasoline, methanol, ethanol, electricity, and any other fuels which meet or exceed federal clean air standards.

(2) "Qualified clean-burning motor vehicle fuel property" means:

(a) Equipment installed to modify a motor vehicle which is propelled by gasoline so that the vehicle may be propelled by an alternative fuel;

(b) A motor vehicle originally equipped to be propelled by an alternative fuel but only to the extent of the portion of such motor vehicle which is attributable to the storage of such fuel, the delivery to the engine of such motor vehicle of such fuel, and the exhaust of gases from combustion of such fuel;

(c) Property which is directly and exclusively related to the delivery of an alternative fuel into the fuel tank of a motor vehicle propelled by such fuel, including compression equipment, storage tanks and dispensing units for such fuel at the point where such fuel is so delivered.

C. The credit provided for in Subsection A of this Section shall be twenty percent of the cost of the qualified clean-burning motor vehicle fuel property.

D. In cases where no credit has been claimed pursuant to Subsection C of this Section and in which a motor vehicle is purchased by a taxpayer with qualified clean-burning motor vehicle fuel property installed by the manufacturer of such motor vehicle and the taxpayer is unable or elects not to determine the exact basis which is attributable to such property, the taxpayer may claim a credit in an amount not exceeding the lesser of twenty percent of ten percent of the cost of the motor vehicle or one thousand five hundred dollars.

E. If the tax credit allowed pursuant to Subsection A of this Section exceeds the amount of income taxes due or if there are no state income taxes due on the income of the taxpayer, the amount of the credit not used as an offset against the income taxes of a taxable year may be carried

forward as a credit against subsequent income tax liability for a period not to exceed three (3) tax years.

F. A husband and wife who file separate returns for a taxable year in which they could have filed a joint return may each claim only one-half of the tax credit that would have been allowed for a joint return.

Section 2. The provisions of this act shall be effective for all taxable periods beginning after December 31, 1990.

Approved bythe Governor, July 29, 1991.
Published in the Official Journal of the State:
August 28, 1991.
A true copy:
W. Fox McKeithen
Secretary of State

ACT No. 169 of 1992

— — —

HOUSE BILL NO. 527
BY REPRESENTATIVES STEVE THERIOT, ACKAL,ALARIO, COPELIN, AND DEWITT
AND SENATORS BANKSTON, BRINKHAUS, FIELDS, KELLY, NUNEZ, AND JOHNSON

AN ACT

To amend and reenact R.S. 47:38(B)(2) and (D) and 287.757(B)(2) and (D), to provide that the tax credit for the purchase of qualified clean burning motor vehicles or for certain cost incurred to convert motor vehicles to use certain alternative fuels shall apply only to vehicles registered in Louisiana; and to provide for related matters.

Be it enacted by the Legislature of Louisiana:

Section 1. R.S. 47:38(B)(2) and (D) and 287.757(B)(2) and(D)are hereby amended and reenacted to read as follows:

§38. Tax credit for conversion of vehicles to alternative fuel usage

* * *

G. As used in this Section, the following words and phrases shall have the meaning ascribed to them in this Subsection.

* * *

(2) "Qualified clean-burning motor vehicle fuel property" means:

(a) Equipment installed to modify a motor vehicle which is propelled by gasoline so that the vehicle may be propelled by an alternative fuel provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

(b) A motor vehicle originally equipped to be propelled by an alternative fuel but only to the extent of the portion of such motor vehicle which is attributable to the storage of such fuel, the delivery to the engine of such motor vehicle of such fuel, and the exhaust of gases from combustion of such fuel provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

(c) Property which is directly related to the delivery of an alternative fuel into the fuel tank of a motor vehicle propelled by such fuel, including compression equipment, storage tanks, and dispensing units for such fuel at the point where such fuel is so delivered provided such property is located in Louisiana.

* * *

D. In cases where no credit has been claimed pursuant to Subsection C of this Section and in which a motor vehicle is purchased by a taxpayer with qualified clean-burning motor vehicle fuel property installed by the manufacturer of such motor vehicle and the taxpayer is unable or elects not to determine the exact basis which is attributable to such property, the taxpayer may claim a credit in an amount not exceeding the lesser of twenty percent of ten percent of the cost of the motor vehicle or one thousand five hundred dollars provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

* * *

287.757. Tax credit for conversion of vehicles to alternative fuel usage

* * *

B. As used in this Section, the following words and phrases shall have the meaning ascribed to them in this Subsection:

* * *

(2) "Qualified clean-burning motor vehicle fuel property" means:

(a) Equipment installed to modify a motor vehicle which is propelled by gasoline so that the vehicle may be propelled by an alternative fuel provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

(b) A motor vehicle originally equipped to be propelled by alternative fuel but only to the extent of the portion of such motor vehicle which is attributable to the storage of such fuel, the delivery to the engine of such motor vehicle of such fuel, and the exhaust of gases from combustion of such fuel provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

(c) Property which is directly and exclusively related to the delivery of an alternative fuel into the fuel tank of a motor vehicle propelled by such fuel, including compression equipment, storage tanks, and dispensing units for such fuel at the point where such fuel is so delivered, provided such property is located in Louisiana.

* * *

D. In cases where no credit has been claimed pursuant to Subsection C of this Section and in which a motor vehicle is purchased by a taxpayer with qualified clean-burning motor vehicle fuel property installed by the manufacturer of such motor vehicle and the taxpayer is unable or elects not to determine the exact basis which is attributable to such property, the taxpayer may claim a credit in an amount not exceeding the lesser of twenty percent of ten percent of the cost of the motor vehicle or one thousand five hundred dollars, provided such motor vehicle is registered with the Louisiana Department of Public Safety and Corrections.

* * *

Section 2. The provisions of this Act shall be effective for all taxable periods beginning on or after January 1, 1992.

Approved by the Governor, June 8, 1992.
Published in the Official Journal of the State:
July 1, 1992.
A true copy:
W. Fox McKeithen
Secretary of State

SPECIAL FUELS TAX LAW

R.S. 47:801 to 47:815.1

(As amended through the 1999 Regular Session)

801. Definitions

As used in this Part the following words, terms, and phrases have the meaning ascribed to them in this Section, except where the context indicates a different meaning:

(1) "Bulk", as used in connection with the sale and handling of special fuels, means a quantity of distillate fuel in excess of five (5) gallons, and any quantity of liquefied gas other than in cylinders containing one hundred (100) pounds or less.

(2) "Dealer" means and includes every person who sells special fuels at retail and delivers such special fuels into the fuel supply tanks of motor vehicles.

(3) "Exporting" means taking special fuels out of this state in the fuel supply tanks of a motor vehicle.

(4) "Importing" means bringing special fuels into this state in the fuel supply tanks of a motor vehicle.

(5) "Interstate User" means any person who imports or exports special fuels into or out of this state in the fuel supply tanks of motor vehicles owned or operated by him.

(6) "Motor Vehicle" means and includes any automobile, truck, truck-tractor, tractor, bus, vehicle, or other conveyance which is propelled by an internal combustion engine or motor, and is licensed, or required to be licensed, for highway use.

(7) "Person" includes, in addition to the definition contained in R.S. 47:2, all cities, municipalities, and other subdivisions, departments, agencies, boards and instrumentalities of a state.

(8) "Special Fuels" means and includes all combustible gases and liquids used or suitable for use in an internal combustion engine or motor for the generation of power for motor vehicles, except such fuels as are subject to the tax imposed by Part I of Chapter 7 of Title 47 of the Louisiana Revised Statutes of 1950.

(9) "Supplier" means any person who sells or delivers special fuels to a user or dealer in this state for resale or use.

(10) "Use" or "Used" means,

  (a) Keeping special fuels in storage and selling, using or otherwise dispensing, for the operation of motor vehicles.

  (b) Selling special fuels in this state to be used for operating motor vehicles.

  (c) Operating a motor vehicle in this state with special fuels.

  (d) Importing special fuels into this state.

(11) "User" means and includes every person who delivers or causes to be delivered any special fuels into the fuel supply tanks of motor vehicles owned or operated by him.

(12) "Dyed fuel" means any fuel meeting the definition of special fuels that is required to be dyed pursuant to the requirements of the Internal Revenue Service and is destined for tax-exempt uses or other uses as specifically authorized.

802. Imposition of tax

A. There is hereby levied a tax of sixteen cents per gallon on all special fuels, as defined in R.S. 47:801, when sold, used, or consumed in the state of Louisiana for the operation of motor vehicles, licensed or required to be licensed. for highway use, to be computed, collected,

reported, and paid as hereafter set forth, except that whenever liquefied petroleum gas or compressed natural gas is sold to, delivered to, or used by any person who pays the annual fuel tax levied under the provisions of R.S. 41:802.3, the imposition of the tax levied under the provisions of this Section shall not apply.

B. The full amount of taxes collected pursuant to this Section shall be credited to the Bond Security and Redemption Fund.

C. The monies shall be used solely to fund projects of the Highway Priority Program (R.S. 48:228 et seq.), the Parish Transportation Fund (R.S. 48:751 et seq.), the Statewide Flood-Control Program (R.S. 38:90.1 et seq.), and the Parish Bridge Replacement Program. Such monies shall be expended solely from year to year as appropriated by the legislature for the purposes of the Highway Priority Program, the Parish Transportation Fund, and the Statewide Flood-Control Program.

802.l. Refunds; undyed diesel fuel used for other than highway purposes

A. Prior to purchasing undyed special fuel for nontaxable purposes, a user must meet the following requirements and conditions in order to file a claim for refund or credit.

(1) The user must make application to receive approval from the Department of Revenue, on forms prescribed by the secretary, stating the purposes for which such fuel will be used.

(2) The user must furnish a copy of the department's approval to his supplier prior to purchasing fuel.

B. Users, meeting the qualifications of Subsection A, who have paid the taxes levied under R.S. 47:802(A) and 820.1(A) on undyed special fuels may obtain a refund when the fuel is used for a purpose other than in a vehicle licensed or required to be licensed for highway use. This refund can be exercised under one of the following options, each of which shall foreclose the user from exercising any oher option as related to the same period and fuel:

(1) Users may file a quarterly refund claim with the secretary of the Department of Revenue setting forth the amount of fuel purchased during the quarter with the amount of tax paid, the licensed suppliers from which the fuel was purchased and the purpose for which the fuel was used on forms prescribed by the secretary.

(2) Users may assign the right to their refund to the licensed suppliers who sold or delivered the fuel to the user. Such licensed suppliers shall issue a credit to the user for the the tax and, having done so, may then claim the credit on the return filed for the reporting period in which the credit was given.

C. The secretary shall promulgate rules and regulations for the administration and enforcement of this Section.

802.2. Refunds: licensed vehicles used by commercial fishermen

A. The secretary of the Department of Revenue shall make refunds of special fuels taxes on undyed tax-paid special fuels used in any vehicle utilized by a licensed commercial fisherman in the administration of business associated with commercial fishing only when the requirements of this Section have been fully complied with.

B. A claimant for a refund pursuant to this Section shall be registered with the secretary of the Department of Revenue prior to filing for a refund. Claims for refund must be filed within six months after the date of purchase on forms prescribed by the secretary. Purchases that are dated six months prior to filing the claim shall be disallowed and the claim reduced by the amount shown on the invoice. No more than one claim shall be filed for any particular period and all

claims shall be signed by the claimant or his authorized agent.

C. An authorized refund claimant shall submit a claim indicating the miles traveled and gallons purchased for the period in which the claim is filed, together with the original special fuels invoice completely filled out. Special fuels invoices which do not meet the requirements of R.S. 47:806(B)(2)(a) shall be disallowed.

802.3. Users of liquefied petroleum gas or compressed gas annual fuel tax; certain vehicles excepted

A. The owner or operator of a motor vehicle, having a gross weight of ten thousand pounds or less which is propelled by an internal combustion engine or motor capable of using liquefied petroleum gas or compressed natural gas as fuel shall pay the special fuels tax by paying either an annual flat rate in the amount of eighty percent of one hundred fifty dollars, based on a sixteen-cent-per-gallon special fuels tax rate or a variable rate of eighty percent of the current special fuels tax rate. The variable tax computation shall be based on estimated fuel efficiency of twelve miles per gallon, but not to exceed the annual flat rate. In the event of an increase or reduction of the special fuels tax, the annual flat rate shall increase or decrease based on one hundred fifty dollars at a sixteen-cent-per-gallon special fuels tax rate rounded to the nearest dollar, and the variable rate shall be based on eighty percent of the per-gallon special fuels tax in effect.

B. The owner or operator of a motor vehicle having a gross weight of more than ten thousand pounds and which is propelled by an internal combustion engine or motor capable of using liquefied petroleum gas or compressed natural gas, shall pay the special fuels tax by paying the rate of eighty percent of the special fuels tax rate in effect on all such fuel so used. The aggregate annual tax paid by such person shall not be less than eighty percent of one hundred fifty dollars based on a sixteen-cent-per-gallon special fuels tax per motor vehicle. For the purpose of determining the amount of the tax and enforcing this Subsection, the number of gallons of liquefied petroleum gas or compressed natural gas used the previous year on the highways of this state shall be determined by using the following schedule for calculating the number of miles per gallon:

	TYPE OF- VEHICLE	MILES PER GALLON
1.	Any motor vehicle with two axles which has a gross license tag weight classification of 10,000 pounds to 20,000 pounds	9
2.	Any motor vehicle with two axles which has a gross license tag weight classification in excess of 20,000 pounds	7
3.	Any motor vehicle or motor vehicles with a combination of three axles	6
4.	Any motor vehicle or motor vehicles with a combination of four axles	5
5.	Any motor vehicle or motor vehicles with a combination of five axles	4

C. The full amount of taxes collected pursuant to this Section shall be credited to the Bond Security and Redemption Fund. After a sufficient amount is allocated from that fund to pay all obligations secured by the full faith and credit of the state which become due and payable within any fiscal year, the treasurer shall pay one-half of the amount of taxes collected pursuant to this Section into a special fund, which is hereby created in the state treasury and designated as the Louisiana Highway, Flood Control, and Drainage Priority Fund. The treasurer shall credit the remainder of taxes collected pursuant to this Section into the state general fund.

D. The monies in said fund shall be used solely to fund projects of the Highway Priority Program

(R.S. 48:228, et seq.), the Parish Transportation Fund (R.S. 48:751, et seq.), the Statewide Flood-Control Program (R.S. 38:90.1, et seq.), and the Parish Bridge Replacement Program. Any surplus remaining to the credit of the fund on June thirtieth of each year, after all appropriations of the preceding fiscal year have been made, shall remain to the credit of the fund. Such monies shall be expended solely from year to year as appropriated by the legislature for the purposes of the Highway Priority Program, the Parish Transportation Fund, and the Statewide Flood-Control Program, and no part thereof shall revert to the general fund. Any amounts earned through investment of the monies in the fund shall remain to the credit of the fund and shall not revert to the state general fund.

E. Nothing in this Section shall be construed to apply to nonresident private carriers of passengers temporarily located in or operated on the highways of this state for a period of not more than thirty days; nor shall this Section apply to motor vehicles which are owned and operated by persons who have furnished a bond as required by R.S. 47:807(C) and which are domiciled in a state other than Louisiana.

F. The owner of any school bus, including school board owned buses, which transports Louisiana students and which is propelled by an internal combustion engine or motor capable of using liquefied petroleum gas or compressed natural gas as fuel shall pay the special fuels tax by paying an annual flat rate in the amount of one-half of the lesser of the regular flat rate or one-half of the variable rate as determined in Subsection A of this Section. In the event of an increase or reduction of the sixteen cent per gallon special fuels tax, the annual flat rate shall be based on one-half of the flat rate levied under the provisions of Subsection A of this Section.

G. In order to enforce the provisions of this Section as applicable to motor vehicles which are propelled by an internal combustion engine or motor capable of using liquefied petroleum gas or compressed natural gas, no such vehicle shall be issued a motor vehicle inspection certificate, as required by R.S. 32:1304, without a current decal as evidence of tax payment.

802.4 Louisiana Truck Center, authorization

The secretary of the Department of Revenue shall provide the personnel and equipment required to fully implement the provision of R.S. 32:390.23 as it relates to taxes and fees assessed and collected by this department.

803. Collection and payment of tax

A. (1) The tax levied hereunder shall be collected or paid by suppliers on all special fuels sold or delivered by them, except the following:

(a) Those fuels required to be indelibly dyed and chemically marked in accordance with regulations issued by the secretary of the Treasury of the United States under 26 U.S.C. 4082 and pursuant to the regulations of the United States Environmental Protection Agency.

(b) Those fuels sold and delivered in bulk to state agencies, parish and municipal governments, and other political subdivisions of the state of Louisiana who have obtained a certificate from the Department of Revenue, and which fuels arre to be used for purposes other than in a vehicle licensed or required to be licensed for highway use.

(c) Liquefied petroleum gas and compressed natural gas.

(2) The tax shall be collected and paid by suppliers on dyed fuel authorized for highway use by certain vehicles under 26 U.S.C. 4082 and the regulations adopted thereunder.

(3) Undyed special fuels when sold or delivered to a user for a purpose other than a vehicle

licensed or required to be licensed for highway use, may be subject to a refund or credit under R.S. 47:802.1.

B. The tax levied hereunder shall be paid by any interstate user on special fuels imported into this state by him.

C. The tax levied hereunder shall be paid by any person who uses special fuels in this state on which the tax levied hereunder has not been paid.

803.1 Cooperative agreements between states for collection and payment of taxes

A. In lieu of the requirements of this Part with respect to licensing, bonding, reporting, and auditing, the secretary may, when in the interest of the state and its residents, enter into the International Fuel Tax Agreement or other cooperative compacts or agreements with another state or other states or provinces to permit base state or base jurisdiction licensing of persons importing motor fuel or diesel fuel into this state and liable for the tax levied by this Part, and to provide for the cooperation and assistance among the member states and provinces in the administration and collection of motor fuels consumption or use taxes.

B. The secretary is authorized to enter into such agreement on behalf of the state of Louisiana; but such agreement, arrangement, declaration, or amendment shall not be effective until stated in writing and filed with the secretary.

C. An agreement may provide:

(1) For determining the base state for users, user records requirements, audit procedures, exchange of information, and persons eligible for tax licensing;

(2) For defining qualified motor vehicles;

(3) For determing if bonding is required;

(4) For specifying reporting requirements and periods including defining uniform penalty and interest rates for late reporting;

(5) For determining methods for collecting and forwarding of motor fuel taxes and penalties to another jurisdiction; and

(6) For any other provisions as will facilitate the administration of the agreement.

D. The secretary may, as required by terms of the agreement, forward to officers of another state any information in the secretary's possession relative to the manufacture, receipt, sale, use, transportation, or shipment of motor fuels by any person. The secretary may disclose to officers of another state the location of offices, motor vehicles, and other real and personal property of users of motor fuels.

E. The agreement may provide for each state to audit the records of persons based in the state to determine if the motor fuel taxes due each state are properly reported and paid. Each state shall forward the finding of the audits performed on persons based in the state to each state in which the person has taxable use of motor fuels. For persons not based in this state and who have taxable use of motor fuels in this state, the secretary may serve the audit findings received from another state in the form of a proposed assessment of the person as though an audit was conducted by the secretary.

F. Any agreement entered into under this Section shall not preclude the secretary from auditing the records of any person covered by the provisions of this Part.

G. The secretary may promulgate rules and regulations for the administration and enforcement of any such agreement.

H. The legal remedies and procedures for any person served with an order or proposed assessment under this Part shall be as prescribed by law.

I. Persons licensed in accordance with the provisions of such agreement shall be considered fully

licensed in Louisiana as a Motor Fuel/Diesel Fuel Importer For Use.

804. Separate storage tanks for taxable special fuels and for tax-free storage

A. All users, dealers, and suppliers of special fuels who maintain their own storage tanks in this state except users of liquefied petroleum gas or compressed natural gas as fuel, are required to have a separate storage tank for taxable special fuels, which tanks are to be physically separate and apart from any other tanks or fueling units, and to indicate it by placing thereon or nearby in a conspicuous place the words "Tax-Paid Fuels" in letters not less than five inches high. Suppliers are required to collect the tax on all special fuels delivered into such tanks.

B. All suppliers, dealers, and users who have facilities for storing special fuels other than liquefied petroleum gas or compressed natural gas not intended for motor vehicle use and which facilities are suitable to fuel motor vehicles using special fuels other than liquefied petroleum gas or compressed natural gas, shall mark such storage facilities with the words "Dyed Fuel–Not for Motor Vehicle Use" in letters not less than five inches high, and suppliers may deliver into such storage without collecting the tax levied hereunder. If such tanks are not provided then all special fuels delivered by suppliers into storage tanks suitable for fueling motor vehicles become taxable.

C. Any special fuel other than liquefied petroleum gas or compressed natural gas which is not intended for motor vehicle use and is stored in separate facilities as provided in Subsection B of this Section must be indelibly dyed and chemically marked in accordance with regulations issued by the secretary of theTreasury of the United States under 26 U.S.C. 4082.

805. Bulk sales

Except in the case of tax-paid deliveries into the fuel supply tanks of motor vehicles, it shall be unlawful to make bulk sales of special fuels to any user or dealer who is not licensed as such, when the supplier knows, or reasonably should know the purchaser is not a licensed user or dealer. When a user or dealer's license has been revoked and written notice of the revocation has-been received by the supplier from the secretary, it shall be unlawful for the supplier to make bulk sales or deliveries to such user or dealer of special fuels on which the tax has not been paid unless delivery is into facilities which are not suitable for fueling motor vehicles.

806. Records required; invoices; false records a violation

A. (1) Every supplier, dealer, or user licensed, or required by law to secure a license, to sell, deliver, or to use special fuels, shall keep a complete record of all special fuels purchased or received and sold, delivered, or used by them showing for each purchase, receipt, sale, delivery, or use:
   (a) The date;
   (b) The name and address of the seller or of the person from whom received, and if sold or delivered in bulk quantities, the name and address of the purchaser or recipient;
   (c) An accurate record of the number of gallons of each product used for taxable purposes with quantities measured by a meter; and
   (d) Inventories of special fuels on hand at the end of each month except for those special fuels in a tank marked "Not for Motor Vehicle Use."

(2) These records shall be kept until the taxes to which they relate have prescribed, and shall be open to inspection by the secretary of Revenue or his authorized representative upon

request.

B. (1) For each bulk sale and delivery of special fuels, whether or not subject to tax hereunder, the record required shall include an invoice with serial numbers printed thereon showing the name and address of both the supplier and purchaser, and the complete information set out hereinabove for each such sale, one counterpart of which shall be delivered to the purchaser and another counterpart kept by the supplier or dealer for the period of time and purpose above provided.

(2) (a) For each delivery of special fuels into the fuel supply tank of a motor vehicle, the required record shall include a serially numbered invoice issued in not less than duplicate counterparts on which shall be printed, or stamped with a rubber stamp the name and address of the supplier, dealer, or user making such delivery and on which shall be shown, in spaces to be provided on such invoice, the date of delivery, the number of gallons, the kind of special fuels delivered, the total mileage of the motor vehicle into which delivered, such mileage to be evidenced by odometer or hub meter reading or in the case of interstate passenger buses registered with the Interstate Commerce Commission by such documentation acceptable by the secretary, and the state highway license number or unit number of said motor vehicle. The invoice shall reflect that the tax has been paid or accounted for on each of the products delivered. One counterpart of the invoice shall be kept by the supplier, dealer, or user making such delivery as a part of his record and for the period of time and purposes hereinabove provided. Another counterpart shall be delivered to the operator of the motor vehicle and carried in the cab compartment of the motor vehicle for inspection by the secretary or his representatives, until the fuel it covers has been consumed.

(b) With respect to users who purchase in bulk, for each delivery of special fuels into the fuel supply tank of a motor vehicle the required record shall include a serially numbered invoice issued in not less than duplicate counterparts on which shall be typed, handwritten, printed, or stamped with a rubber stamp the name and address of the supplier, dealer, or user making such delivery and on which shall be shown, in spaces to be provided on such invoice, the date of delivery, the number of gallons, the kind of special fuels delivered, the total mileage of the motor vehicle into which delivered, such mileage to be evidenced by odometer or hub meter reading or in the case of interstate passenger buses registered with the Interstate Commerce Commission by such documentation acceptable by the secretary, and the state highway license number or unit number of said motor vehicle. The invoice shall reflect that the tax has been paid or accounted for on each of the products delivered. One counterpart of the invoice shall be kept by the supplier, dealer, or user making such delivery as a part of his record and for the period of time and purposes hereinabove provided. Another counterpart shall be delivered to the operator of the motor vehicle and carried in the cab compartment of the motor vehicle for inspection by the secretary or his representatives, until the fuel it covers has been consumed.

(3) In lieu of the invoices required herein, a computer record generated by a cardlock or meter system may be used for purposes of substantiating a claim for a tax refund otherwise provided by law which is submitted by a Louisiana bonded interstate user or a user licensed under the provisions of the International Fuel Tax Agreement to the Department of Revenue for special fuels purchased or received, and sold, delivered or used, where such special fuels were purchased or received from an attended or unattended location through use of a cardlock or meter system maintained and controlled by a supplier licensed for the tax free purchase of special fuels, provided that such records contain the information required in

Subsection A of this Section as applicable, and notwithstanding that the computer record may contain such information for multiple special fuels transactions.

C. (1) The provisions of this Section shall not apply to the owner or operator of a private passenger motor vehicle or truck having a gross weight of six thousand pounds or less which is propelled by an internal combustion engine or motor which uses a fuel taxed under the provisions of this Part other than liquefied petroleum gas or compressed natural gas and which is licensed, or required to be licensed, for highway use.

(2) The provisions of this Section shall not apply to the owner or operator of a motor vehicle, truck, or truck-tractor which is owned and operated exclusively for commercial use within this state by a business domiciled within this state, which is propelled by an internal combustion engine or motor which uses a fuel taxed under the provisions of this Part other than liquefied petroleum gas or compressed natural gas, and which is licensed, or required to be licensed, for highway use.

D. On all deliveries of special fuels to a user by common or contract carriers, the shipper shall stamp on the manifest or bill of lading in letters not less than one-quarter inch high "Tax Paid" whenever the tax levied hereunder has been paid, and "Not For Motor Vehicle Use" whenever the tax levied hereunder has not been paid. It shall be a violation of this Part for any driver for a carrier to deliver special fuels covered by a manifest or bill of lading stamped "Not For Motor Vehicle Use" into a tank marked "Tax-Paid Special Fuels."

E. The willful issuance of any invoice, bill of sale or receipt which is false, untrue or incorrect in any material particular or the alteration, or changing except for errors, or forging any such invoice, bill of sale or receipt, or any duplicate of any such receipt pertaining to special fuels, shall constitute a violation of this Part.

F. (1) The provisions of this Section shall not apply to the owner or operator of a motor vehicle having a gross weight of ten thousand pounds or less which is propelled by an internal combustion engine or motor which uses liquefied petroleum gas or compressed natural gas as fuel if the owner or operator elects to pay the flat rate available under R.S. 47:802.3.

(2) If the owner or operator of a vehicle described in Paragraph (1) elects to pay the variable rate available under R.S. 47:802.3, said owner or operator shall maintain records to verify total mileage of that vehicle in order to comply with the provisions of R.S. 47:802.3. The secretary shall provide for a procedure for such record keeping.

G. The owner or operator of a motor vehicle having a gross weight in excess of ten thousand pounds which is propelled by an internal combustion engine or motor which uses liquefied petroleum gas or compressed natural gas as fuel shall maintain records to verify total mileage of that vehicle in order to comply with the provisions of R.S. 47:802.3(B). The secretary shall provide for a procedure for such recordkeeping.

H. In lieu of the invoices required herein, a computer-generated record may be used for the purposes of substantiating the same information required on the invoices for which substituted.

806.1. Records and reports required by installers of liquefied petroleum gas and compressed natural gas carburetion equipment

Any person who installs or alters liquefied petroleum gas or compressed natural gas carburetion equipment shall file with the secretary of the Department of Revenue a written report, on forms prescribed by the secretary, whenever he installs or alters such equipment. This report shall be filed not later than fifteen days after the installation or alteration of the equipment. This person shall maintain records of every installation or alteration for a period of three years, which records shall be open to inspection at all reasonable times by the secretary or his authorized representative.

807. Licenses and bond for suppliers, dealers and users

A. No person shall commence operations as a supplier, dealer, or user without first procuring a license for that purpose from the secretary, which license shall be issued without charge and remain in effect until revoked as hereinafter provided.

B. Each application for a license as a supplier, dealer, or user of special fuels and each such license shall have as a condition that the applicant and holder shall comply with the provisions of this Part. Each application for a license as a dealer or user and each such license shall have as a further condition that the applicant and holder shall not deliver or permit delivery into the fuel supply tanks of motor vehicles of any special fuels which have been purchased tax free by the applicant or holder, except for liquefied petroleum gas or compressed natural gas which is delivered to a user under the provisions of R.S. 47:802.3. A taxable use of special fuels purchased tax-free by an applicant for, or a holder of, a dealer or user's license, in addition to the penal provisions hereafter prescribed, shall in the discretion of the secretary forfeit the right of the applicant or holder to purchase special fuels tax free for a period of not more than one year from the date of such offense.

C. (1) Each application submitted by a supplier or interstate user for a license shall be accompanied by a surety bond of a surety company authorized to do business in this state, in favor of the secretary of the Department of Revenue and satisfactory to him and in an amount to be fixed by him of not less than two thousand dollars nor more than eighty thousand dollars for a supplier and not less than one thousand dollars nor more than forty thousand dollars for an interstate user, guaranteeing the payment of any and all taxes, penalties, interest, attorney fees, and costs levied by, accrued, or accruing under this Part. However, the secretary is authorized to waive the furnishing of this surety bond by any supplier who has and agrees to maintain assets in Louisiana of a net value of not less than one and one-fourth times the amount of the bond which would otherwise be required, who has had a bond on file with the department for a period of not less than three years, and who has not been delinquent in remitting taxes accrued or accruing under this Part during the three-year period immediately preceding application by the supplier for waiver of the bond. If any supplier whose bond has been waived by the secretary becomes delinquent in remitting taxes due under this Part, the secretary may require that such supplier furnish a bond in the amount required in this Subsection, and such supplier shall not be eligible for a waiver of a bond for a period of three years thereafter. Any violation of this Part shall be cause for revocation of any license issued hereunder.

D. A supplier may operate under his supplier's license as a dealer or as a user without securing a separate license but he shall be subject to all other conditions, requirements, and liabilities imposed by this Part upon a dealer or a user. A licensed dealer may use special fuels in motor vehicles owned or operated by him without securing a separate license as a user, subject to all conditions, requirements, and liabilities imposed herein upon a user.

807.1. Application, payment of tax, decals; penalties

A. Any person who wishes to operate, upon the highways of this state, a motor vehicle which uses or is capable of using liquefied petroleum gas or compressed natural gas as motor fuel shall make application, on or before July thirty-first of each year, to the secretary of the Department of Revenue for a permit to operate the motor vehicle on the highways of this state. The application shall be made on a form furnished and prescribed by the secretary and shall contain any information which the secretary may reasonably require.

B. The applicant shall pay to the secretary, at the time that application for a permit is made, the tax levied under R.S. 47:802.3. Upon payment of the tax and approval of the application, the secretary shall issue to the taxpayer a permit to operate the motor vehicle upon the highways of this state for the period from July first to June thirtieth. If a person makes application after July thirty-first, the amount of the tax due shall be reduced by one-twelfth for each month which has elapsed since July first.

C. Any person who operates more than one motor vehicle using or capable of using liquefied petroleum gas or compressed natural gas shall pay the tax and obtain a permit for each motor vehicle which he wishes to operate upon the highways of this state.

D. Upon issuance of a permit, the secretary shall issue to the taxpayer a decal for each motor vehicle, which shall be in a form prescribed by the secretary. Each decal shall be affixed to the motor vehicle in the manner prescribed by the secretary so that the decal is clearly visible.

E. The secretary shall provide a procedure for the payment of the tax and the issuance on an annual basis.

F. Any person who sells or transfers title of a motor vehicle which is propelled by an internal combustion engine or motor capable of using liquefied petroleum gas or compressed natural gas as fuel shall transfer the permit at the time of the transfer of the vehicle. The secretary shall prescribe a procedure for such transfer of permits and the Department of Revenue shall be notified at the time of any such transfer.

G. It shall be a violation of this Part for any person to operate or cause to be operated a motor vehicle upon the highways of this state which is subject to the requirements of this Part upon which the tax has not been paid or for which no permit has been issued or to which no decal has been attached. In addition to all other liability, such person shall be liable for a penalty of twenty-five dollars for the first violation and a penalty of seventy-five dollars for each subsequent violation.

808. Reports; deductions in computing tax; revocation of license; flat rate accounts

A. (1) Every supplier shall, on or before the twentieth day of each calendar month, file with the secretary, on forms prescribed by him, a report accounting for the special fuels handled during the preceding month, showing:

(a) Total quantity of each kind of special fuels purchased and received from sources within this state and total quantity received from sources outside of this state.

(b) Total quantities of special fuels sold or delivered to dealers and users upon which the tax levied hereunder was collected and total quantity sold and delivered without collecting the tax levied hereunder.

(c) Quantities of special fuels sold and delivered into the fuel supply tanks of motor vehicles.

(d) Quantities of special fuels delivered into fuel supply tanks of motor vehicles owned, leased, or operated by the supplier and quantities used by him for other purposes.

(e) Quantities of special fuels lost by fire or other accident.

(f) Quantities of special fuels lost by shrinkage or evaporation; and

(g) Quantities of special fuels on hand at the beginning and at the end of the month covered by the report.

(2) With the report the supplier shall remit the total amount of the tax due.

B. All interstate users who have furnished a surety bond required under R.S. 47:807 shall file a quarterly report with the secretary of the Department of Revenue. The quarters shall end on March 31, June 30, September 30, and December 31 of each year, and the report shall be mailed

together with payment of the tax due by the 25th day of the month following the end of each quarter. Reporting forms shall be prescribed by the secretary of the Department of Revenue and shall show itemized quantities of special fuels purchased along with the fuels purchased and used in all other states and the miles traveled in each state, together with any other information requested by the secretary.

C. In computing the tax due, a supplier may make a deduction in the amount of three percent of the net taxable gallons after deducting approved refunds sold during the preceding calendar month as compensation for collecting and remitting the tax, and as an allowance for evaporation.

D. The license of a supplier, dealer, user or bulk user may be revoked by the secretary for violation of any of the provisions of this Part after a hearing as provided by R.S. 47:1544 through 1547. Should his license be revoked after such hearing, any supplier, dealer, or user may bring an action against the secretary in the district court of his domicile within fifteen days of the date of revocation to determine whether or not said supplier, dealer, or user has in fact violated any of the provisions of this Part. If the court determines that the provisions of the law have been violated by said supplier, dealer, or user, it shall maintain the secretary's action in revoking said license.

E. Special fuels, when sold, used, consumed, or otherwise acquired and measured in liters rather than gallons, shall be converted to gallons for tax reporting purposes by dividing the liters by the metric conversion factor of 3.7854, the accepted metric system equivalent of one U.S. gallon.

F. The provisions of this Section shall not apply to suppliers of or users who purchase in bulk liquefied petroleum gas or compressed natural gas as a motor fuel.

809. Power to stop and investigate vehicles; assessment and collection

A. In order to enforce the provisions of this Part the secretary or his authorized representative or any weights and standards police officer is empowered to stop any motor vehicle which appears to be operating with special fuels for the purpose of examining the invoices and for such other investigative purposes reasonably necessary to determine whether the taxes imposed by this Part have been paid, or whether the vehicle is being operated in compliance with the provisions of this Part.

B. If, after such examination or investigation, it is determined by the secretary or his authorized representative or any weights and standards police officer that the tax imposed by this Part has not been paid with respect to the fuels being used in said vehicle, the secretary or his representative, or any weights and standards police officer shall immediately assess the tax due together with the penalty hereinafter provided, to the owner of said vehicle, and give said owner written notice of the assessment by handing it to the driver of the vehicle.

C. The secretary or his representative or any weights and standards police officer is hereby empowered to impound any vehicle found to be operating in violation of this Part or any vehicle for which inspection has been refused until such time as inspection has been completed or any tax and penalties assessed as provided herein have been paid.

D. Upon issuance of the written notice of assessment in the form of a violation ticket by the secretary or his representative or any weights and standards police officer, the procedure for collection and payment of the penalty assessed shall be the same as that provided for the payment and collection of penalty in R.S. 32:389(C).

810. Prima facie presumptions

A. Any supplier, dealer, or user who shall fail to keep the records, issue the invoices, or file the

reports required by this Part, shall be prima facie presumed to have sold, delivered, or used for taxable purposes all special fuels shown by a duly verified audit by the secretary, or any authorized representative, to have been delivered to such supplier, dealer, or user and unaccounted for at each place of business or place of storage from which special fuels are sold, delivered, or used for any taxable purposes.

B. The secretary is hereby authorized to fix or establish the amount of taxes, penalties, and interest due the state of Louisiana from such records of deliveries or from any records or information available to him, and, if the tax claim as developed from such procedure is not paid, such claim, and any audit made by the secretary, or an authorized representative, or any report filed by such supplier, dealer, or user, shall be admissible in evidence in any suit or judicial proceedings filed by the secretary and shall be prima facie evidence of the correctness of said claim or audit; provided that the prima facie presumption of the correctness of the claim may be overcome by evidence adduced by the supplier, dealer, or user.

811. Export of tax paid special fuels; tax refunds or credit; interstate users

A. An interstate user of special fuels who is a bonded user of special fuels in the state of Louisiana may receive a tax refund or tax credit on that amount of tax paid on special fuels purchased in this state which exceeds the amount of fuel that would be consumed, based on the total motor vehicle mileage in the state. An interstate user of special fuels must be bonded and file reports in all states in which he operates in accordance with the requirements of those states.

B. An interstate user may determine his average number of miles of motor vehicle travel per gallon of fuel by dividing the total miles traveled by the number of gallons consumed in the entire operation of his vehicles. If an interstate user cannot furnish satisfactory evidence of his average number of miles per gallon of fuel, the Department of Revenue shall determine the rate to be applied to such user, which in no event shall exceed an average of five miles per gallon of fuel.

812. Violations; cargo tank to carburetor connection; operation without speedometer or hub meter; operation without name and address on trucks; invoice

A. It shall be a violation of the Special Fuels Tax Law for a motor vehicle to operate within the state of Louisiana:

(1) When transporting special fuels in any cargo tank from which special fuels are sold or delivered that is connected by pipe, tube, valve, or otherwise with the carburetor or with the fuel supply tank feeding the carburetor of the motor vehicle transporting said products.

(2) Without an odometer or hub meter which is kept at all times in good operating condition to correctly measure and register the miles traveled by such vehicle. Interstate passenger buses registered with the Interstate Commerce Commission not so equipped shall not be in violation of this Part if a record of miles traveled is maintained on a form or report approved by the secretary of the Department of Revenue and is carried in the vehicle at all times.

(3) Without the true owner's name and address or adequate identification, or in the case of an interstate motor carrier under whose authority the vehicle is operated and who is registered with the Interstate Commerce Commission , the name or trade name only, on the cab in letters not less than two inches high. The name and address of the owner must be legible at a distance of twenty-five feet. Pickup trucks or any truck of manufacturer's rating carrying capacity of two thousand pounds or less is excluded from this Subsection, unless the truck is a public for hire truck used primarily for transporting cargo.

(4) Unless the person operating the vehicle has in his possession an invoice for the fuel which

meets the requirements of R.S. 47:806.

(5) In addition to any other penalties which may be incurred, there is hereby levied a specific penalty of fifty dollars for each violation of the provisions of this Subsection. This penalty shall be assessed by the secretary of the Department of Revenue or his representative or the weights and standards police officer and shall be collected in the same manner as is provided for the collection of tax in R.S. 47:809.

B. (1) It shall be unlawful for any person to operate motor vehicles registered for or required to be registered for highway use with undyed special fuel that has not been taxed or with special fuel which contains any evidence of the dye or chemical marker as required pursuant to the regulations promulgated under 26 U.S.C. 4082. Those vehicles allowed to use dyed fuel on the highway under 26 U.S.C. 4082 or regulations adopted thereunder, but which are subject to the state tax, shall not be considered in violation of this Subpart.

(2) No supplier or dealer of special fuels or any other person shall sell or offer to sell special fuels that contain any evidence of the dye or chemical marker unless the fuel dispensing device is clearly marked with a notice that the fuel is dyed or chemically marked. Any dyed fuel that is sold or held for sale by any person for any use that is not a nontaxable use; any dyed fuel held for use or used by any person for a use other than a nontaxable use and such person knew, or had reason to know, that such fuel was dyed; or any person who willfully alters, or attempts to alter, the strength or composition of any dye or marker in any dyed fuel is subject to a penalty.

(3) Any person violating any provision of this Subsection is subject to a penalty in the amount of ten dollars for every gallon of fuel involved or one thousand dollars whichever is greater. The penalty increases with subsequent violations by multiplying the penalty amount by the number of prior violations. If the penalty is imposed on any business entity, each officer, employee, or agent of the entity who willfully participated in any act giving rise to the penalty is jointly and severally liable with the entity for the penalty. This penalty shall be assessed and collected in the same manner as is provided for in Paragraph (5) of Subsection A of this Section.

(4) Any authorized representative of the secretary of the Department of Revenue or officer authorized under R.S. 47:809 who has reasonable grounds to suspect a violation of this Subsection may inspect the fuel in the fuel supply tank of any motor vehicle or the fuel storage facilities and dispensing devices of any special fuels supplier, dealer, and user to determine compliance.

C. All specific penalties collected by the Department of Public Safety and Corrections or the Department of Transportation and Development in accordance with this Part shall be paid to the secretary of the Department of Public Safety and Corrections or the Department of Transportation and Development, whichever agency issued the violation ticket, who shall pay said penalties into the state treasury on or before the twenty-fifth day of each month following their collection and, in accordance with Article VII, Section 9 of the Constitution of Louisiana, such funds shall be credited to the Bond Security and Redemption Fund.

813. Violations declared misdemeanors

Any person who shall violate any of the provisions of this Part shall be guilty of a misdemeanor, and, upon conviction, be fined in an amount not exceeding one thousand dollars ($1,000.00), or imprisonment not to exceed two (2) years, or both, at the discretion of the court.

814. Administration; rules and regulations; costs of administration; disposition of monies collected

A. The administration of this Part shall be by the secretary of the Department of Revenue who shall have authority to adopt and enforce rules and regulations not inconsistent with this Part of this Chapter 7 necessary and convenient for the enforcement of the provisions of this Part and collection of the taxes, penalties, and interest in this Part provided.

B. In the case of farmers who operate trucks licensed for farm use, which trucks use undyed special fuels other than liquefied petroleum gas and compressed natural gas for their operation, the secretary shall, when requested, reach an agreement with such farmers wherein the amount of fuel used in each truck shall be determined by an estimate and the tax paid each month on the basis of said estimate. In no case is the secretary authorized to estimate the number of gallons used by any farmer at less than seventy-five gallons per month per vehicle. This provision applies only to farmers operating vehicles and equipment on the same special fuels except liquefied petroleum gas and compressed natural gas for both taxable and nontaxable purposes, and in such case the farmer shall be relieved of the necessity of compliance with the provisions of R.S. 47:804, 806, and 812(A)(4) in reference to such use.

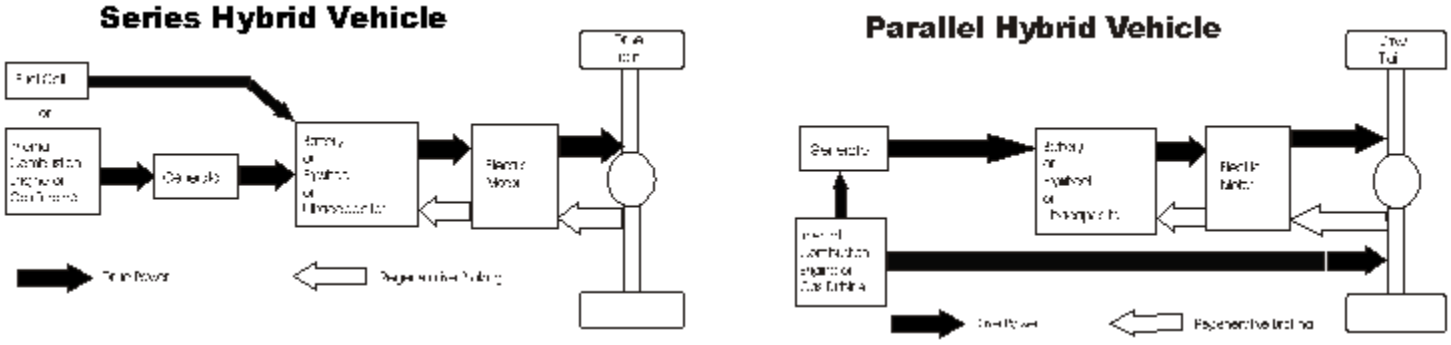
815. Special fuels dispensing machines; requirements

Each tank through which a special fuel is dispensed shall have clearly displayed on it only one sign which refers to taxes and it shall state "ABOVE PRICE INCLUDES ALL LOCAL, STATE, AND FEDERAL TAXES."

815.1. Special fuel; advertised price; requirement

The advertised price of special fuels dispensed by a retail dealer shall include all taxes levied and collected on such fuel. Any advertisement of a price shall also clearly state whether the price is a "cash price" or a "credit price".

TRANSPORTATION INFRASTRUCTURE MODEL



FOR ECONOMIC DEVELOPMENT

R.S. 47:820.1 to 47:820.6*
(As amended through the 1999 Regular Session)

820.1 Imposition of tax

A. There is hereby levied a tax of four cents per gallon on all gasoline and motor fuels as presently taxed by the provisions of Part I of this Chapter and on special fuels as presently taxed by the

provisions of Part V of this Chapter. The tax imposed herein shall be in addition to any other tax imposed on gasoline and motor fuels and special fuels.

B. The tax imposed herein shall be levied, collected, and administered in the same manner as provided in this Chapter for the taxes levied on gasoline and motor fuels and on special fuels. The secretary may promulgate rules and regulations as necessary for the administration of this Part.

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* Only R.S. 47:820.1 is reproduced here. R.S. 47:820.2 to 820.6 deal with the distribution of the proceeds of the tax imposed by R.S. 47:820.1.

Louisiana's **Compressed Natural Gas Regulations**, published by the Louisiana Department of Natural Resources, Office of Conservation, Pipeline Division, can be found on the Department's internet web site at: <**www.state.la.us/osr/lacl43v09/43v09.pdf**>. For additional information, contact the Pipeline Division, P.O. Box 94275, Baton Rouge, LA 70804-9275; telephone 225-342-5513 or 342-5516.

APPENDIX C

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