



From the Hill

President Issues Executive Order on Alternative Fuels

On December 13, 1996, President Clinton signed Executive Order 13031, which calls on each Federal agency to develop and implement ways to meet the alternative fuel vehicle (AFV) acquisition requirements of the Energy Policy Act (EPA) of 1992.

The executive order requires each agency to submit detailed reports within 60 days of the signing of the order to the Office of Management and Budget detailing its compliance with the EPA sections regarding AFVs.

Annual reports of the same nature must follow. "Our organization will carefully track AFV acquisitions by the Federal agencies," said Phil Lampert, project coordinator at the National Ethanol Vehicle Coalition. "If the states can operate all these years with unfunded mandates, then we should expect no less from the Federal government."

With the reports, the agencies must include explanations if requirements are not met, and specific plans to come into compliance with the regulations.

In what could be a boost to medium-, heavy-duty, and zero-emission vehicle (ZEV) sales, new initiatives have been put in place to aid agencies in meeting EPA requirements. "Each medium-duty and ZEV shall count the same as two light-duty vehicles, and each dedicated alternative fuel heavy-duty vehicle shall count as three light-duty AFVs," the order states.

"We commend the President for recognizing the significant environmental and energy security benefits of EVs," said Kateri Callahan, executive director of the Electric Transportation Coalition. "We hope this will cause the Federal agencies to finally take seriously their requirements and begin to aggressively purchase AFVs."

The only exceptions made in the executive order are for law-enforcement, emergency, and national defense vehicles;

however, "each agency that acquires or utilizes any such vehicles shall include in its report an explanation of why an exemption is claimed..."

Although the U.S. Department of Energy (DOE) will no longer provide financial assistance to Federal agencies for procuring AFVs, DOE is required to provide technical assistance to other Federal agencies.

Congress Paves the Way for Propane Council

Before adjourning, the 104th Congress passed the Propane Education and Research Act of 1996, a bill designed to facilitate the creation of the Propane Education and Research Council. The bill was signed by President Clinton in October and became Public Law 104-284.

The council will comprise industry representatives and will be funded by sales of odorized propane, initially at a rate of one-tenth of a cent per gallon, up to one-half of a cent per gallon at the Council's discretion. Its purposes are to foster programs designed to develop clean and efficient propane utilization equipment, and to educate the public on propane safety and use. A portion of the programs could be designed to address transportation propane use.

IN THIS ISSUE

- From the States 2
- On the Road. 3
- Hot off the Press. 4
- At the Fuel Pump 5
- Funding. 5
- Clean Cities Update 5
- From Motor City 6

Continued on page 2

Continued from page 1

House Task Force Introduces NGV Incentives Package

The new Congress will address one order of alternative fuels business when it considers the Natural Gas Vehicle Incentive Act of 1996. Introduced in September by Rep. Joe Barton (R-TX) and other members of the House Natural Gas Vehicle Task Force, the bill (H.R. 4288) addresses many issues the industry and fleets named as priorities during task force hearings held in 1996.

"This piece of legislation provides the incentives necessary to get natural gas vehicles (NGVs) to the critical masses," said Richard Kolodziej, president of the Natural Gas Vehicle Coalition. "Instead of fleet operators expending effort trying to avoid mandates, they can

find new, innovative ways to become eligible for the incentives."

If passed, H.R. 4288 would establish a number of incentives—tax credits for vehicles, stations, and fuel; an increase in the allowable rate of depreciation for natural gas fuel sites and vehicles from 5 years to 3 years; and a reduction in the excise tax on liquefied natural gas to the level for compressed natural gas (CNG). It also would allow ultra-low emission vehicles (ULEVs) to use high-occupancy vehicle lanes.

Furthermore, the bill would grant Federal contracting preference to contractors and subcontractors that use natural gas or ULEV-certified vehicles, and specify 90% Federal funding for any capital project related to the acquisition of ULEV-certified or natural gas buses instead of the current 80% transit funding formula. The U.S. Environmental Protection

Agency also would be required to establish an emissions reduction credit program for ULEVs and a fueling infrastructure.

Because NGVs still face some technical and market hurdles, the bill establishes a 5-year research and development program at DOE. The program would address on-board storage technology, engine design, and fueling technology.

More importantly, the bill would eliminate AFV fleet mandates. The fuel provider fleet mandate established under EPCRA (1992) would end after the 1999 model year, and the state, local, and private fleet mandates would be repealed. Certain states and fuel providers have been required to purchase AFVs starting with the 1997 model year, and DOE is reviewing public comments on a local and private fleet program that could begin in 2002.



From the States

New York Bond Act

In November, New York residents used their votes to give clean fuel programs a \$75 million boost. The funding was part of the \$1.75 billion Clean Water, Clean Air bond act signed by Governor George Pataki last year.

The act requires that:

- New York's Office of General Services will establish a program to acquire "clean-fuel vehicles" (compressed natural gas, electric, ethanol, hydrogen, methanol, and propane) for the state and develop the needed infrastructure.

- The Office of General Services will establish state use, testing, and evaluation of clean-fuel technologies.
- Assigned state agencies shall issue a report to the governor by April 1, 1997, stating their alternative fuel vehicle (AFV) strategy, necessary amendments to state procurement policies, and recommendations to encourage clean-fuel vehicle use by individuals and private fleets (General Services will then begin implementing those recommendations and strategies).
- The New York State Energy Research and Development Authority and Department of Transportation will provide state assistance payments to state and local governments for clean-fuel bus projects, and will provide funding for a single facility to evaluate heavy-duty vehicle emissions.

California Vetoes AFV Incentive

California Governor Pete Wilson (R) recently vetoed legislation that would have allowed inherently low emission vehicles to use high-occupancy vehicle (HOV) lanes regardless of the number of passengers. Wilson's action is compatible with the California Department of Transportation's reluctance to allow any exceptions to the multi-passenger requirement for HOV lanes.

Virginia, Arizona, and Georgia are the only states that currently allow alternative fuel vehicles to use HOV lanes regardless of the number of passengers. The practice is recommended by the U.S. Environmental Protection Agency but goes against U.S. Department of Transportation regulations (see the Fall 1996 issue of *AFDC Update*, p.3)



On the Road

Stealth Bus to Patrol Los Angeles Streets?

The Los Angeles Metropolitan Transit Authority (LAMTA) recently unveiled the prototype of a new Advanced Technology Transit Bus (also known as the "Stealth Bus") that uses a Detroit Diesel CNG engine to generate the electricity for two electric motors at the rear wheels.

The bus, developed by Northrop Grumman, offers an 80% emissions reduction over diesel, and the design could eventually accommodate a zero emission fuel cell. Composite materials similar to those used in the B-2 bomber result in a weight savings of almost 9,000 pounds over a conventional CNG bus. The bus also is a low-floor design, which eliminates the need for wheelchair lifts. The buses' modular design means the engine can be removed for service and repaired by two people in only 15 minutes, far less than the several hours required for a conventional bus, according to the LAMTA.

"The result is a more reliable and fuel-efficient vehicle that produces lower emissions than a conventional diesel-powered bus, and ultimately will provide longer service to the LAMTA and other transit operators around the country," said LAMTA Board Chairman Larry Zarian.

The LAMTA is the project manager for the \$51 million program, which began 4 years ago and was made possible by a grant from the Federal Transit Administration. Cutbacks in the aerospace industry meant

high-tech engineers were available for this new market, said LAMTA project manager Jim Pachan, and Northrop Grumman took on the task of designing the lightweight, low-emission transit bus.

The first two prototypes will be tested for endurance and reliability. "We want to try and break them to learn their limits," Pachan said. Four additional prototypes will be produced by the end of 1997 and will travel across the country for testing in different climates and terrain. If all

goes well, the design could be ready for commercialization as early as 1998 at a price competitive with other transit buses.

"Our goal now, in addition to managing the prototype evaluation phase of the program through its completion, is to work with a manufacturer with the high-volume production capacity to produce these advanced transit vehicles in quantity," said Kent Kresa, Northrop Grumman president and chief executive officer.

Another California Company Makes the Switch

Ashland Chemical, Inc., has announced that it will phase out individual gasoline-powered cars in its fleet and replace them with M85 Ford Taurus. The M85 Taurus is priced \$345 less than its gasoline equivalent. "We will keep an eye on the market before



M85 is available at 60 stations between Los Angeles and Sacramento, CA.

deciding to expand any further," said an Ashland official.

Currently, 60 public fueling stations offer M85 between Los Angeles and Sacramento, Ashland's base of operations.

New York City Increasing Its Use of Alternative Fuels

The New York City Transit Authority has requested bids for a purchase order to add 140 compressed natural gas (CNG) buses to its Gleason Depot fleet. The 3,800-bus fleet currently includes 34 CNG buses. New York City's Department of Transportation will add to the growing local alternative fuel market with its order for 173 CNG buses for delivery in 1998 or 1999.

The transit authority will continue to purchase CNG buses for emissions benefits, and it will look for more cost-effective ways to clean up tailpipe exhaust.

New York City Transit hopes to do that with the diesel-electric hybrid bus. The first hybrid buses in a 10–15 bus demonstration are expected to go into service by the end of 1997. Hybrid buses have already demonstrated fuel economy improvements of 30%, said project manager Vince Pelligrino.

Iowa DOT Blends Biodiesel in Heavy-Duty Vehicles

Iowa's Department of Transportation (DOT) recently purchased 23,000 gallons of biodiesel from NOPEC Corp., to use in dump trucks and front-end loaders in 5% blends throughout the winter months. Economic factors will determine whether Iowa DOT will

continue the program beyond original plans. At \$4.30 per gallon, Iowa DOT is paying approximately \$3.50 more per gallon than it would pay for petroleum-based fuel.

"The biodiesel will be blended with conventional diesel at 19 sites statewide over a 1-year period," said Dena Gray-Fisher, a public information officer for Iowa DOT. "Biodiesel is a new way for us to test the alternative fuels market and its effectiveness."

Washington Police Fleet Goes Natural

King County, WA, has been operating alternative fuel vehicles (AFVs) since 1991, and today operates 98 propane/gasoline bi-fuel vehicles and 158 CNG/

gasoline bi-fuel vehicles as police cruisers. "We use alternative fuel vehicles in our fleet because we want to set an example for others. We feel it is the right thing to do and King County was the first to step forward," said King County Fleet Manager Windell Mitchell.

Seventy-four cruisers in King County, WA, run on CNG and gasoline. The sedans have accumulated more than 5 million miles of service with no major problems, according to Mitchell. "Police sedans equipped with CNG fueling have been involved in three separate accidents, but the CNG fueling system, including the tank, was never compromised," Mitchell said.




Hot off the Press

Heavy-Duty Trucks on Ethanol

Ethanol use in heavy-duty engines is generating new interest, partly because of its successful demonstration in four line-haul trucks in Archer Daniel Midland's (ADM) fleet. For the past 4 years, ADM, a major U.S. agriculture company and ethanol producer, tested 95% ethanol blends in four 1992 Detroit Diesel 6V92 engines. The fuel use, maintenance, and other performance data were logged by the National Renewable Energy Laboratory's Alternative Fuels Data Center (AFDC). Those results are described in a recently released case study titled *Running Line-Haul Trucks on Ethanol: The Archer Daniels Midland Experience*.



ADM line-haul truck running on ethanol

 The report is available from the National Alternative Fuels Hotline or on the AFDC's site on the World Wide Web: http://www.afdc.doe.gov/demoproj/hdv/casestudy_adm.pdf.

UPS Aims to Double NGV Fleet by 1998

Thanks in part to a \$230,000 grant from the U.S. Department of Energy (DOE), UPS said it plans to

double the nation's largest private fleet of compressed natural gas (CNG) vehicles, already totaling more than 580 package delivery vans in 14 cities nationwide.

The Kentucky Clean Fuels Coalition provided an additional \$10,000 for research in the Louisville/Jefferson County metropolitan area, where the company plans to convert 50 gasoline- and diesel-powered vans to run on CNG.



At the Fuel Pump

EV Charging Sites in Arizona

Electric vehicle drivers can charge while they eat and shop at three new sites between Phoenix and Tucson, AZ. The 240-volt inductive charging units were installed by Arizona's Salt River Project and will support the market launch of General Motors' EV1 at area Saturn dealerships. Conductive charging will be added later. The sites will charge an EV1 from 10% to 70% in about an hour. The units are located at Scottsdale Fashion Square, Biltmore Fashion Park, and Superstition Springs Center.

National Biodiesel Board Makes Changes


The National Biodiesel Board (NBB) has appointed Jeffrey Horvath to the position of Executive Officer of NBB and Kenlon Johannes to executive director of the National Biodiesel Foundation (NBF).

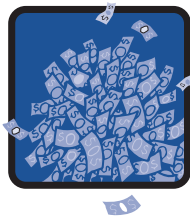
Horvath labeled biodiesel an "unknown" fuel. He blames its obscurity on lack of educational training from the Federal government relating to biodiesel emissions, economic return to farmers, and viability in the transportation sector. Under EPA regulations, biodiesel is considered an alternative fuel only when used in neat, or 100% form.

NBF was founded in 1994 to aid the NBB in accelerating and expanding the use of biodiesel as an alternative fuel source.

Finding Fuel

The AFDC's World Wide Web site provides detailed information on alternative fuel refueling sites around the country. Current numbers are 95 methanol, 1,425 compressed natural gas, 65 ethanol, 3,298 propane, 110 electric charging, and 51 liquefied natural gas locations. But the numbers are growing and keeping up can be difficult. For that reason, fuel suppliers can now provide information on new sites via the Web by filling out a form on the AFDC's fuel page. All information is verified before it is made available to the public.

 For fuel site information on the Internet, go to the AFDC's home page, www.afdc.doe.gov, and click on "Alternative Fuels Refueling Sites." To enter your own site, click on "Web User Refueling Site Update Form."



Funding

USPS, DOE Team Up to Clean Air, Introduce CNG Mail Truck

The U.S. Department of Energy (DOE) and the United States Postal Service (USPS) held a joint press conference in December 1996 to showcase 54 compressed natural gas (CNG) prototype 2-ton mail delivery vehicles.

"We already have more than 7,000 CNG-powered light-duty mail trucks on the road today," said Roy Betts, a spokesperson for the USPS. "Our partnership

with DOE will only lead to finding new ways to utilize alternative fuels in our delivery trucks."

The CNG medium-duty vehicles will be among the first built by an original equipment manufacturer (Freightliner Custom Chassis Corporation) and powered by a CNG-fueled Cummins engine. The vehicles will be used to deliver mail in Atlanta, GA.; Denver, CO.; El Paso, TX.; Huntington Beach, CA; and New York City.




Clean Cities Update

New Designations

- Hampton Roads, VA, 10/4/96
- Long Island, NY, 10/18/96
- San Diego, CA, 12/12/96
- Detroit, MI/Toronto, ON, 12/18/96
- Cincinnati, OH, 1/29/97
- Evansville, IN, 1/30/97
- Red River Valley, ND, (postponed because of severe weather)

Conference Set for June

The U.S. Department of Energy's Clean Cities program will hold its Third National Clean Cities Conference and Exposition June 24-26, 1997, in Long Beach, CA. The event will be hosted by the City of Long Beach, which more than 2 years ago was the first California community to receive Clean Cities designation.

 For more information on these or other related items, call the Clean Cities Hotline at 1-800-CCITIES, e-mail ccities@nrel.gov, or visit the World Wide Web site: www.ccities.doe.gov.



From Motor City

Honda Announces Natural Gas Civic

American Honda will enter the fleet market for the first time next year with a dedicated compressed natural gas (CNG) Civic sedan touted as “the cleanest vehicle with an internal combustion engine.” As part of its marketing efforts, the company also has opened a toll-free “Clean Car Honda” hotline at 888-CC-HONDA.

The 1998 Civic GX holds up to 9.6 gasoline gallon equivalents of fuel and touts a fuel economy of 35.8 mpg for a range of up to 340 miles. It also meets California ultra low-emission vehicle and Federal inherently low emission vehicle standards.

When the car was introduced in October 1996, it came off the assembly line in East Liberty, OH. The engine and transmission came from Honda’s other Ohio manufacturing facilities.

Alternative Fuel Bus Purchases on the Rise

Twenty percent of all transit buses ordered during the first six months of 1996 operate on compressed natural gas (CNG), according to the American Public Transit Authority (APTA) 1997 Fuel Transit Book.

“Major cities across the country are ordering more buses running on CNG,” said Terry Bronson, a statistician for APTA. The APTA study includes 73% of all transit buses and 90% of all alternative fuel buses.



The 1998 dedicated CNG Honda Civic GX

Los Angeles Metropolitan Transit Authority officials say that by the end of 1998, they plan to add more than 350 CNG buses to their fleet of 180 already in operation. According to the study, New York City Department of Transportation, Long Island Bus, and Atlanta Rapid Transit Authority ordered 174, 151, and 118 buses, respectively.

Ford Motor Company Continues to Offer AFV Rebates

Ford first offered its E85 Taurus for \$345 less than the gasoline-powered model. Then it teamed up with FuelMaker Corporation to present \$1,000 rebates to consumers who purchase a natural gas vehicle with a home refueling unit. Now, Ford is offering free conductive charging wall boxes with the first 1,000 1998 Ford Ranger electric vehicles (EVs) ordered before March 31, 1997. The wall boxes cost between \$700 and \$1,000 apiece, depending on the model.

“It is important to the success of the EV market that we do everything possible to support our customers, especially those who are making the commitment to get out there first,” said John Wallace, director of Ford’s alternative fuel vehicle program.

The conductive charging wallbox was designed to be compatible with the Ford, Honda, and Chrysler EV offerings. The three auto manufacturers worked with SCI Systems Inc., Electric Vehicle Infrastructure Inc., and Edison EV to develop common specifications.

Conductive charging is based on the same systems used in homes or offices to power items such as computers and hair dryers. Most automakers prefer this method over the more expensive inductive charging.

Volvo Testing Natural Gas in the United States

Volvo Cars of North America, Inc., is testing a fleet of Volvo 850S vehicles that run on gasoline and CNG. The company recently installed a CNG filling station at its Rockleigh, NJ, headquarters.

Courtesy of American Honda Motor Company, Inc./ PIX 01083

EV1s Hit the Streets

The first customers of General Motor's (GM) EV1 took delivery of their new EVs on December 5, 1996. The vehicles are available through 26 Saturn dealerships in the greater Los Angeles, San Diego, Phoenix, and Tucson areas. The Saturn Corporation announced last fall that the EV1 will be offered through a 36-month GMAC lease at a capitalized lease cost of \$33,995.

"We're excited, and our retailers are enthused," said Joe Kennedy, Saturn's vice president of Sales, Service and Marketing. "Together, GM and Saturn are ready to prove that this new generation of vehicle can be a market-place success."

The capitalized cost on which the consumer's lease payments will be based can be considerably reduced by available Federal, state, and/or local financial credits, according to Saturn. For example, a 10% (\$3,400) Federal tax credit can reduce the capitalized lease cost to \$30,595. In addition, EV1s leased and delivered within California's South Coast Air Quality Management District may


IRS Offers Alternative Fuel Vehicle Tax Deduction Form

It's tax time again and the IRS is offering a toll-free phone number for consumers in need of an alternative fuel vehicle tax deduction booklet. To order publication #535, call 1-800-829-3676.

also be eligible for an additional \$5,000 "buy-down" credit, resulting in a \$25,595 capitalized cost. Vehicles leased in Arizona qualify for a 60% reduction in annual registration fees, offering those who lease EV1s a potential savings of more than \$2,100 during the term of the lease.

The EV1 will be made available to retail customers through a \$0-down payment/36-month/30,000-mile GMAC lease program. A refundable security deposit is required. Approximate monthly payments for the vehicle would range from \$480 to \$640 per month, based on capitalized cost examples of \$25,595 and \$30,595, respectively. Customers can also opt for a one-time GMAC lease payment ranging from \$15,783 to \$21,328.

The required 240-volt Delco Electronics Magne Charge inductive charger is not included in the vehicle lease. The wall-mount version of the charger may be purchased at the manufacturer's suggested retail price of \$1,995 or may be leased separately for approximately \$50-\$55 per month through Edison EV, GM's Authorized Charger Service Provider.

 For more information, call 1-800-25-ELECTRIC or visit the EV1's site on the World Wide Web: <http://www.gmev.com>.

Nissan Goes Lithium-Ion with Its Electric Vehicle

When Nissan introduces its electric vehicle (EV) to the California market in early 1998, it will use lithium-ion batteries jointly developed by Nissan and Sony Corporation. These advanced EV batteries are now in common use in computers, video cameras, and other consumer products. When adapted for EV use, they have about three times the energy density of conventional lead acid batteries and more than 1.5 times that of nickel-metal hydride batteries. In addition, Nissan reports that the batteries have an exceptionally long life.

The new Nissan EV will be a four-passenger compact van built on an all-new platform that is designed to accommodate either a gasoline engine or an electric motor. The battery charger will use an inductive charging system. The battery, powertrain, and control system are the same as those used in the Prairie Joy EV, which will be available in Japan in spring 1997. Nissan announced that the vehicle will have a driving range of more than 120 miles and acceleration performance similar to that of gasoline-powered vehicles.

Under the terms of a memorandum of agreement with the California Air Resources Board (CARB) concluded in March, Nissan will provide a demonstration fleet of 30 EVs to a select number of California fleet users in 1998. An additional 90 demonstration units will be available to fleet users in 1999 and 2000, with retail sales beginning shortly thereafter. Under the agreement with CARB, Nissan will actively maintain the demonstration fleet for at least 3 years and will begin driving tests in the United States next summer.

1997 Vehicles in the AFDC

Several alternative fuel vehicles (AFVs) are available today. Photos of and details on 1997 model year AFVs can be found on the AFDC's World Wide Web site: <http://www.afdc.doe.gov/vehicles/97OEM/97vehicles.html>.

Press releases and announcements of new AFV projects and offerings as well as other alternative fuel news can be found at: <http://www.afdc.doe.gov/vehicles/PressRel/articles.html>.

Engine Manufacturers Plan Cleaner Off-Road Engines

Last fall, manufacturers of diesel-powered, non-road engines joined the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board in signing a Statement of Principles that calls for additional exhaust emission reductions from farm

tractors, forklifts, road construction vehicles, and earth-moving equipment.

According to the EPA, these engines account for about 10% of the nation's oxides of nitrogen emissions. Discussions are under way for participants to develop a joint government/industry research program for developing advanced technologies that will reduce emissions even more while

maintaining performance, reliability, and safety. The EPA will also propose an optional set of low-level emission standards to encourage the use of clean alternative fuels and innovative diesel technologies.

❖ *For information on currently available alternative fuel off-road equipment, call the National Alternative Fuels Hotline at 1-800-423-1DOE.*

How to Reach Us

*Have news to share? Comments on the new format?
Need more information?*

Let us know:

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