

TUG Tidbits



Newsletter of the Natural Gas Transit Users Group

September, 2005

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TUG Meeting October 26-28

The next meeting of the Natural Gas Transit Users Group (TUG) will be hosted by Gwinnett County DOT (Lawrenceville, GA, near Atlanta). starting at 2 p.m. on October 26 and ending at noon on the 28th. The meeting will focus on natural gas buses for small-to-medium size public transit agencies. Topics include fire and police department training in natural gas transit, presentations by CNG compressor packagers, natural gas bus incidents, and CNG cylinder safety. We will tour also Gwinnett County's time-fill fueling facility and Cobb Community Transit's CNG fueling facility. Although both were initially designed to keep costs down for these smaller transit properties, there are valuable lessons to be learned that all properties can benefit from. Visit http://www.nrel.gov/vehiclesandfuels/ngvtf/tug_meeting.html for more information. Contact Hank Seiff at hseiff@cleanvehicle.org or 703-534-6151 for an agenda and registration materials. **There is no cost to attend TUG meetings!**

YOLO County, CA in the Spotlight

Much of the following article is taken from the Woodland (Yolo County) *California Daily Democrat*:

"Since YOLOBUS began operating buses fueled by compressed natural gas 12 years ago, emissions from its bus fleet have been reduced by nearly one million pounds, according to transit officials. This is equivalent to the weight of the entire YOLOBUS fleet of 37 large buses, said Terry Bassett, executive director of the Yolo County Transportation District.

The YOLOBUS natural gas fleet has driven more than 11 million miles - enough miles to circle the globe 446 times. YOLOBUS is the public transit operator in Yolo County, serving the cities and rural communities in Yolo County, Sacramento International Airport, and downtown Sacramento.

‘Had we stuck with our older fleet of diesel buses, we would have put over 850,000 pounds of nitrous oxides into the air, plus another 100,000 pounds of particulate matter,’ said Bassett ...’ The Sacramento region, including Yolo County, is in a severe non-attainment air basin. The region is under intense pressure from federal authorities to reduce and contain such emissions.”

NGVCommunications, a publication of the Natural Gas Vehicle Coalition, also highlighted Yolo County, saying: “YOLOBUS and Unitrans, the two transit systems serving Yolo County, CA, have announced a continued program to help reduce summertime ozone. On days that are declared "Spare the Air" days by air quality control officials, the public can ride the bus free. All large buses operated by YOLOBUS throughout the year and Unitrans during the summer run on CNG. The program is being paid for by a grant from the Federal Transit Administration. The grant to YOLOBUS of \$62,290 will cover up to 24 free-ride days over two years. About 70 percent of the Sacramento region's air pollution is caused by emissions from internal combustion engines.”

‘70s Fuel Saving Tips Still Good

Remember the 1970s and the oil shortages and long gas lines of 1973 and 1978? The Federal Government set up a Voluntary Truck and Bus Fuel Economy Program to work with vehicle operators and manufacturers to improve fuel economy. Some of the fuel-saving tips suggested almost 40 years ago are still good to help combat today’s high fuel prices, for example:

- Idling – Low idle on a diesel engine uses ½ - 1 gallon per hour. Natural gas engines use more. High idle uses more. Do you need to idle your buses for a half hour before they leave in the morning? Do your drivers need to idle buses during “dead time” during the day, especially in nice weather? Are your engines in such sad shape that they won’t restart if they are turned off?
- Acceleration/Deceleration – We know it’s hard to change driver habits and buses often seem to need “pedal to the metal” to keep up, but it’s a fact that driving “gently” gets better mileage than full throttle acceleration and hard braking.
- Tire Pressure – The Department of Transportation has found that approximately 7% of all heavy truck tires are underinflated by 20 psi or more and only 44% are within ±5 psi of their target pressure. They estimate the fuel economy loss due to improper tire inflation is about 0.6% for typical truck operations. Does your bus fleet do better than truck fleets on tire inflation?

- Properly Maintained Engine and Drive Train – This is obviously a “no-brainer.” But we’ve had transit agencies say they let their buses idle for long periods during the day for fear they won’t restart if shut off. So engine maintenance is worth a mention.
- Synthetic Lubricants – Synthetic engine oil can be worth one or two percent in fuel economy. Synthetic gear lubes also help.
- Top Speed – We know this sounds stupid for most transit bus agencies, but top speed has a big effect on fuel economy. In the 70s the Voluntary Fuel Economy Program found in tests of real heavy-duty vehicles that each mph over 55 costs 2.2% on fuel.
- Driver Training and Incentives – Driver training for better fuel economy is another “no brainer.” Driver incentives are another matter. But the Voluntary Program did find that some fleets successfully monitored vehicle/driver fuel mileage and provided incentives to drivers who saved fuel, giving some of the money saved back to the driver who saved it.
- Additives, Gadgets and Gizmos – When fuel prices go up or fuel gets scarce, be aware of advertisements for “magic” fuel and lubricant additives, electronic or magnetic devices that “orient fuel molecules,” etc. Almost without exception, they don’t work! Nobody’s yet found that 100-mpg carburetor your dad said the vehicle manufacturers were hiding 50 years ago!
- How to Determine Potential Fuel Saving – Short-term, uncontrolled tests give questionable results. But controlled test procedures have been developed by the Society of Automotive Engineers and the Technology and Maintenance Council of the American Trucking Associations. Contact Hank Seiff at 703-534-6151 or hseiff@cleanvehicle.org for more information.

Energy and Highway Legislation Offer Incentives to Transit Fleets

When he signed both the Energy Policy Act and the Highway Bill, the President set the stage for a new era of growth for natural gas vehicles in the transit industry. Skyrocketing diesel prices already have caused sharp increases in the cost of owning and operating diesel transit buses. Those cost are expected to increase further when the new diesel sulfur and engine emissions rules go into effect late next year. Meanwhile, financial incentives in the Energy and Highway Bills will significantly reduce the cost of buying and using natural gas buses. Taken together, these factors are making natural gas buses more economically attractive than they have ever been. The most important NGV incentives in the two bills are the following:

- **A Credit for the Purchase of Natural Gas Buses:** The Energy bill provides an income tax credit for the purchase of natural gas vehicles – including buses. Importantly, for non-tax-paying entities, such as public transit agencies, the *seller* of the vehicle is permitted to take the credit, and, after negotiations between the tran-

sit agency and bus manufacturer, it is expected that some or all of that savings would be passed on to the transit agency. The amount of the credit is limited by a cap on the incremental cost of the bus and varies according to the size and emissions performance of the bus. So, for example, a natural gas-powered transit bus weighing more than 26,000 lbs that meets stringent emission standards is eligible for a tax credit of \$32,000 per bus. The credit is effective on purchases made after December 31, 2005 and expires December 31, 2010.

- **Credit for the Natural Gas Vehicle Fuel:** The Highway Bill provides an *excise* tax credit (referred to as the Volumetric Excise Tax Credit for Alternative Fuels or VEETC) to the seller of CNG or LNG of 50 cents per gasoline-gallon-equivalent (gge) for CNG and 50 cents per liquid gallon for LNG. In cases where there is no sale involved, such as where a CNG station is owned and operated by a transit agency, the user is eligible to take the credit. The size of the credit is not dependent on any excise tax owed. So, for fuel sold or used by a transit operation, the Treasury Department periodically during the year will issue a check to the seller (or user, if eligible) equal to 50 cents for every gge of CNG and every liquid gallon of LNG sold or used as a motor fuel. The credit begins on October 1, 2006 and expires on September 30, 2009.
- **Credit for Installation of NGV Fueling Stations:** The Energy Bill provides an income tax credit to the buyer of natural gas refueling equipment, up to \$30,000 in the case of large stations and \$1,000 for home refueling appliances. As with the vehicle purchase credit, for non-tax-paying entities, the seller of the fueling equipment can take the credit. The credit is effective on purchases placed in service after December 31, 2005 and expires December 31, 2009.

Policymakers at all levels of government are concerned about our dependence on foreign oil, and, therefore, are providing all types of incentives to encourage fleets to switch to non-petroleum fuels. These three incentives are part of the federal effort. There are other programs in the Energy and Highway Bills that may also provide financial incentives to transit fleets to switch to NGVs. These are in addition to existing programs such as DOT's CMAQ and the Clean Fuel Formula Grant programs. With engine manufacturers such as Cummins-Westport and Deere announcing that they will be offering 2010 compliant heavy-duty engines by 2007, transit agencies that switch to NGVs will be able to save money while helping to reduce urban air pollutants, greenhouse gases and use of foreign oil.

For more information about the Energy or Highway bill incentives, contact Paul Kerkhoven of the Natural Gas Vehicle Coalition at pkerkhoven@ngvc.org or 202-824-7363.

LA Metro Takes Delivery of CNG “Metro Liners” for Orange Line

Los Angeles County Metropolitan Transportation Authority has taken delivery of the first 30 of 200 NABI 60-foot articulated CNG buses. These futuristic NABI CNG “Metro Liner” buses, powered by Cummins Westport L Gas Plus engines and fueled from SCI CNG tanks, will whisk passengers along the new Orange Line, a 14-mile dedicated busway following an old railroad line connecting Warner Center with the North Hollywood Metro Rail station.



LA Metro reports that “the Orange Line will include 13 stations at major activity centers such as Valley College, the Van Nuys Government Center and Pierce College. The stations will feature original art as well as lighting, seating, security cameras, public telephones, bicycle racks and ticket-vending machines.” Of LACMTA’s 2500-bus fleet, 2000 are fueled by CNG.

Philippines Get First Natural Gas Buses

The following article is taken from *NGVCommunications*, the newsletter of the Natural Gas Vehicle Coalition:

“The Philippine Department of Energy (DOE) has taken delivery of the first eight natural gas buses, which will operate in Metro Manila. The buses are powered by Cummins Westport low-emissions natural gas engines. Philippine President Gloria Arroyo and DOE Secretary Raphael Lotilla were among the first passengers of the first CNG bus at the launch ceremony at the presidential palace in Manila. President Arroyo has actively promoted the use of natural gas in public transportation since early 2004, and recently unveiled her Natural Gas Vehicle Program for Public Transport (NGVPPT). Last September in Beijing, she witnessed the signing of supply agreements between Cummins Westport and Philippines bus operators. ‘We need to reduce our country's dependence on imported oil and our vulnerability to spiking world oil prices. We are committed to fast tracking the implementation of the NGVPPT with the continued roll-out of more CNG buses,’ said Secretary Lotilla. Lotilla expressed optimism that the full deployment of over 100 CNG-fuelled buses will be completed soon. The government has just announced that it plans to have 2,000 CNG buses driving major Metro Manila routes by 2010. For more information, contact Barbara Barry at 604-718-2046 or invest@westport.com.”

Please send all questions, comments, requests for information, etc. to Hank Seiff at 703-534-6151 or hseiff@cleanvehicle.org.

The photo of Gwinnett County CNG buses in the heading was provided by Dennis Smith of DOE. The photo an LA Metro “Metro Liner” CNG bus in the “LA Metro” article was provided by LACMTA.