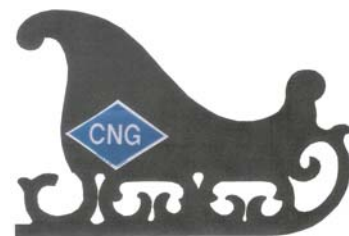


TUG Tidbits



Newsletter of the Natural Gas Transit (& School Bus) Users Group

December 2008

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Natural Gas Transit Fleets Awarded \$13.3 Million by FTA

In the June edition of *TUG Tidbits* we reported that the Federal Transit Administration (FTA) was soliciting grant proposals from clean fuel transit agencies in emissions non-attainment or maintenance areas. FTA has now announced that it has chosen ten transit agencies to receive these grants, and \$13.3 of the \$28.7 million in federal funding will be going for natural gas buses or fueling facility improvements.

Following is a list of transit agencies which will be receiving the grants for their natural gas bus fleets, along with information on the improvements they plan to support with the federal money:

Los Angeles County Metropolitan Transportation Authority (LACMTA) – new facility and equipment

Metropolitan Atlanta Rapid Transit Authority (MARTA) – facility modifications

Metropolitan Suburban Bus Authority (MTA Long Island Bus) – CNG buses

Centre Area Transit Authority (CATA) – hybrid CNG/electric buses

Other FTA grants were awarded to transit facilities for hydrogen, ultra-low sulfur diesel and diesel-electric hybrid bus projects. FTA's announcement of project selections can be found at <http://edocket.access.gpo.gov/2008/pdf/E8-21074.pdf>.

A Billion Million Miles on Alternative Fuels

In March 2005 we reported on an LA Metro presentation summarizing 500 million miles operated on alternative fuels (primarily CNG). Now LA Metro is pleased to report on nearly a billion miles on alternative fuels.

The Los Angeles County Metropolitan Transportation Authority serves one of the nation's largest and most heavily congested urban areas, with over 20 million residents and a service area of nearly 1500 square miles. They are the second largest transit operator of CNG buses in the world (Beijing, China is reported to have the largest fleet).

LA Metro currently operates 2500 buses, 97% of which run on compressed natural gas. As early as 1973 they experimented with emission-reduction technologies and even demonstrated a steam-powered bus to improve local air quality. Both ethanol and methanol powered buses were tried before switching to CNG in 1995.



In Metro's experience CNG buses are about \$50,000 more than diesel to purchase (before FTA's share) and have 10-15% higher maintenance costs. Metro's maintenance facility upgrades also cost \$0.7 - \$1.1 million. CNG bus reliability is comparable to diesel. However the latest fuel costs show Metro paying \$0.48/mile for CNG (including an est. \$0.15/mile for CNG facility maintenance and amortization) compared with \$0.87/mile for diesel. Besides the large saving in fuel cost, the

present \$0.50/gge CNG federal fuel tax credit brought Metro an additional \$35.7 million for the 20-month period from January 2007 through August 2008. Add to these substantial overall cost savings the benefits of cleaner air and the use of a domestic, rather than imported, fuel.

The information in this article was taken from a presentation by John Drayton, LA Metro's Manager of Vehicle Technology. Contact Hank Seiff (see contact information on last page) for a copy of the presentation.

How to Buy Natural Gas Bus Fuel – Presentations from October 23 TUG Webcast Available

In case you missed the October 23 TUG webcast, ***How to Buy Natural Gas Bus Fuel***, the slide presentations are posted at http://www.afdc.energy.gov/afdc/vehicles/natural_gas_users_meeting_archives.html on the Department of Energy's Alternative and Advanced Vehicles website. Just click on the October 2008 webcast to go to the following presentations.

- *Natural Gas Purchasing Options* – Dennis Smith, US DOE
- *Buying Natural Gas, Pierce Transit's Experience* – Gisela Ratajski, Pierce Transit
- *The Natural Gas Market* – Jim Clarkson, RSM

San Diego, Las Vegas and Phoenix Expand CNG Bus Fleets

The San Diego Metropolitan Transit System (MTS), operating 82 fixed bus routes throughout San Diego County, was scheduled to deploy 26 new 60-foot articulated CNG buses as well as 50 new 40-foot CNG buses by the end of November, bringing the agency's total CNG fleet to well over 400 buses. With the new buses fully deployed, total annual CNG fuel consumption is expected to top 6.5 million gallons.

The Regional Public Transportation Authority (RPTA) in Phoenix, AZ is adding 51 new CNG buses to their current contingent, bringing to 132 the total number of CNG buses deployed by RPTA. RPTA is now projected to use more than 900,000 gallons of fuel annually.

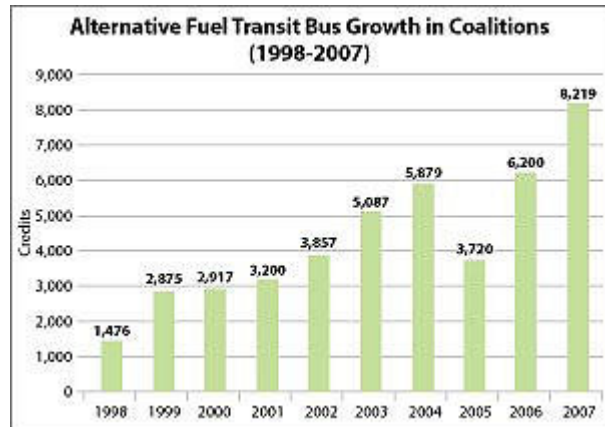
Serving the Greater Las Vegas area, the Regional Transportation Commission of Southern Nevada (RTC) has ordered 45 new CNG buses for delivery in early 2009. When fully deployed, the fleet of 95 CNG buses will consume up to 1.5 million gallons annually. (Source *Clean Energy* Press Release)

Sweden Expands Use of Biomethane Buses

SL, the regional company responsible for bus, tram, subway and railway traffic in and around Stockholm, has announced that, by the end of 2008, it will have 80 buses running on biomethane. Over the next four years, the company says that number will increase to 500. This fleet expansion will be based on an expansion of the local production capacity for biomethane from various locally available organic waste resources. An SL analysis of different fuel alternatives shows that biomethane is the most environmental friendly and economically attractive biofuel alternative. (Source: *NGV Global*)

Alternative Fuel Transit Buses: From Niche to Norm

In 1998 Clean Cities coordinators reported a total of 1,476 alternative fuel transit buses. That number has steadily increased to 8,219 vehicles over the past 10 years, and it continues to grow. Sessions at the 1998 National Clean Cities Conference emphasized the opportunities inherent in alternative fuel vehicle (AFV) niche markets. Targeting niche markets allows coalitions to build strong local markets that provides fleet managers with information they need to make AFV purchase decisions with confidence.



The drop in 2005 data is credited to incomplete data collected by APTA. It did not include AFV bus fleets that collectively operate more than 2,000 CNG buses. This data was recovered in APTA's 2006 survey

To jumpstart Clean Cities' niche market movement, the Department of Energy issued a "niche market challenge" to attendees of the 1998 conference. Clean Cities stakeholders were encouraged to select a niche market as a reasonable target for 100% alternative fuel use. Of the categories discussed (transit buses, police cars, school buses, taxis), transit buses represented the largest number of vehicles and the highest area of interest. Today, as Clean Cities celebrates 15 successful years, the transition to alternative fuel transit buses marks a significant accomplishment.

Alternative fuel buses account for a substantial – and growing – portion of the nation's transit fleet. According to the American Public Transportation Association's (APTA) "2008 Public Transportation Fact Book," in 1997, 6% of approximately 70,000 transit buses operated on some form of alternative power. In 2007, 22% of approximately 80,000 transit buses operated on alternative power, primarily compressed or liquefied natural gas (as well as recent interest in and growth in hybrid electric buses). This overall percentage exceeds the goals established for some regulated fleets by the Energy Policy Act (EPA) of 1992.

Faced with record-high diesel fuel prices and growing pressure from local communities to reduce air pollution, transit agencies are looking to replace aging buses with those that fit their needs and provide the best value. Considerations include central fueling availability, drive cycle, mileage, local availability, regulatory issues, and tax incentives.

Although more recently motivated by attractive fuel prices and tax incentives, the use of alternative fuels in buses started primarily in response to federal and state laws

passed to improve air quality and reduce dependence on foreign oil. Other valid reasons for choosing alternative fuels include:

- Improving public perception of transit to attract new riders
- Using special federal and state funding assistance to purchase alternative fuel buses
- Reducing visible tailpipe emissions
- Reducing noise levels (many AFV engines are quieter than conventional diesel engines)
- Lower and more stable fuel prices **and** federal excise tax credits)
- Special partnering arrangements with fuel providers to build and maintain infrastructure, and
- Achieving energy security by using fuels derived from domestic sources.

Ten years after coalitions were first encouraged to identify viable niche markets in their areas, Clean Cities remains dedicated to growing the alternative fuel transit-bus market. But it doesn't stop there. School buses offer great petroleum – and emission – reduction opportunities and are good candidates for natural gas and biodiesel use. Wherever the application, Clean Cities continues to issue the “niche market challenge” to its coordinators and stakeholders. (Source: *Clean Cities Now*. For more information on Clean Cities, visit <http://www1.eere.energy.gov/cleancities/>)

TUG Manager Retiring

Hank Seiff, who has managed the Natural Gas Transit (and school bus) Users Group since late 2000, is retiring as of December 31, after a total of 46 years in the automotive industry.

John Lapetz, recently retired from Ford Motor Company after 35 years, 28 spent in a variety of global leadership roles in areas of alternative fuels and vehicles, will be taking over as Director of Technology for the Clean Vehicle Education Foundation and manager of TUG activities for the Department of Energy.

After the first of the year, please contact John for any information related to TUG. His phone number is 248-924-3120 and his email is jlapetz@cleanvehicle.org

New Natural Gas Buses in the USA

City of Commerce, California showed off their seven new CNG buses that will replace current diesel transit buses that do not comply with 2009 EPA emission requirements. The buses were purchased from funds the City received in 2002 from a Federal Transit Administration (FTA) grant specifically for the purchase. Claude

McFerguson, assistant director of transportation, said the new buses represent the city's efforts to provide residents with excellent public transportation while improving air quality. The total price of the seven buses, a combination of the federal grant with local funds, was slightly more than \$2.5 million. (Source: *NGV America Newsletter*)

Stillwater, Oklahoma's Oklahoma State University (OSU) plans to convert its campus fleet to NGVs. In a video address by university President Burns Hargis e-mailed to members of the campus community and media members, Hargis said the move was inspired by the "Pickens Plan," which has been developed by OSU alumnus T. Boone Pickens. The OSU fleet has about 800 vehicles, including about 40 buses, along with vans and smaller cars. NGVs would be phased into the fleet as older vehicles are replaced. OSU hopes to convert about 80 percent of its fleet to NGVs and build a CNG refueling station on campus. Work to phase in the NGVs, including most of OSU's 40 campus buses, is expected to take about five years after the station is complete. (Source: *NGV America Newsletter*)

LA Unified School District (LAUSD) will expand its CNG Station to fuel the growing fleet of CNG buses at its Gardena Base. The CNG fueling facility, in operation since 2000, currently fuels about 100 school buses each day. LAUSD plans to station 200 additional buses at this location.

New Natural Gas Bus Purchases Overseas

Viet Nam's Ho Chi Minh City wants passenger buses that run on biomethane instead of diesel to save on fuel costs and reduce air pollution. Since most of the city's bus owners do not have the estimated \$25,000 needed to convert each bus to biomethane, the city plans to provide a subsidy for the conversion or replacement of buses. Vietnam's CNG company produces biomethane and can provide enough fuel to serve the city's bus fleet. PetroVietnam Corp. plans to invest \$252 million to install 360 biomethane refueling stations. The city estimates that emissions can be cut 50% and operating costs can be reduced by over \$8,300 per bus per year compared to diesel buses. (Source: *NGV America Newsletter*)

Lima, Peru's Consortium Lima Bus Internacional, one of the four that plies the Metropolitan corridor, is placing purchase orders for natural gas buses to be used in passenger transport. When financing is ready, they will go to the bus factory and close a purchase deal for a total of 145 units, including articulated vehicles for 160 passengers (18 meters long) and 100 passenger buses (12 meters) for feeder routes. In the case of Lima Bus the supplier will be Peruvian, as the company seeks to rely on Modasa's (which manufactures vehicle bodies) expertise. To fulfill the order, Modasa will import engine and gearbox parts from United States and Canada. The

total investment amounts to 50 million dollars and covers the purchase of vehicles, the establishment of plants and workshops at the beginning and end of the corridor, and the installation of administrative offices. (Source: *NGV Communications Group*)

Toledo will join Spanish cities such as Burgos, Madrid, Valencia, Malaga and Salamanca, which already have green urban buses that run on compressed natural gas. About ten such buses will join the municipal fleet, as was announced by mayor Emiliano Garcia-Page. For its part, the operating company, Unauto, has pledged to enable the refueling stations and engineering and mechanics. (Source: *GNV Magazine*)

Please send all questions, comments, requests for information, etc. to John Lapetz at 248 924 312 jlapetz@cleanvehicle.org. See the TUG website at http://www.eere.energy.gov/afdc/vehicles/natural_gas_users.html and the TUG meeting archives website at http://www.afdc.energy.gov/afdc/vehicles/natural_gas_users_meeting_archives.html