

# ***TUG Tidbits***



***Newsletter of the Natural Gas Transit Users Group***

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**December, 2005**

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## **Successful Fall TUG Meeting in Gwinnett County, GA**

This year's TUG meeting, October 26-28, was hosted by the Gwinnett County DOT in Lawrenceville, GA (just outside Atlanta). It focused on natural gas buses for small to medium-sized public agencies. Topics included how the energy and highway bills affect transit, CNG compressor packagers, CNG cylinder safety, and natural gas bus incidents. The group found out how local small transit agencies have successfully integrated CNG buses in their systems and have used inventive methods to provide low-cost fueling infrastructure. Proceedings of that meeting have been sent to each of you and copies of most of the presentations are available on the web site mentioned below. If you'd like more information or want to add any of your colleagues to our mailing list to keep up on TUG activities, contact Hank Seiff (see last page for contact information).

## **Fire and Police Department Training on Natural Gas Transit**

At the October TUG meeting in Lawrenceville, GA, Frank Clark of Gwinnett County DOT described how they trained their local first responders (fire, police, EMT, etc.) on the proper response to natural gas transit or fueling station “incidents.” Their PowerPoint® presentation and their training video are available from Hank Seiff. Listed below are publicly available materials which can help you provide this training for your staff and local first responders:

- [Natural Gas Vehicle Emergency Response Training Program](http://www.energy.ca.gov/afvs/ngv_emergency_response/index.html) – California Energy Commission - [http://www.energy.ca.gov/afvs/ngv\\_emergency\\_response/index.html](http://www.energy.ca.gov/afvs/ngv_emergency_response/index.html)
- [Compressed Natural Gas: A Suite of Tutorials](#) (includes CNG 101, CNG Emissions Information, Gas vs Electric Drive worksheet, Buffer vs Cascade storage worksheets, etc.) – National Renewable Energy Laboratory – CDs available from Hank Seiff ([hseiff@cleanvehicle.org](mailto:hseiff@cleanvehicle.org), 703-534-6151)
- [Emergency Response Procedures for Natural Gas Transit Vehicles](#), Transportation Research Board - [http://gulliver.trb.org/publications/tcrp/tcrp\\_syn\\_58.pdf](http://gulliver.trb.org/publications/tcrp/tcrp_syn_58.pdf)
- [Transit Bus SWAT and Fire Training Video](#), Gwinnett County, GA DOT - available from Hank Seiff ([hseiff@cleanvehicle.org](mailto:hseiff@cleanvehicle.org), 703-534-6151)

## Have your CNG Cylinders been Properly Inspected?

Like gasoline or diesel fuel systems (or tires and brakes), a Compressed Natural Gas vehicle's fuel system should be inspected periodically. In fact, the US Department of Transportation (FMVSS 304) requires this statement on the label of all CNG cylinders used on motor vehicles:

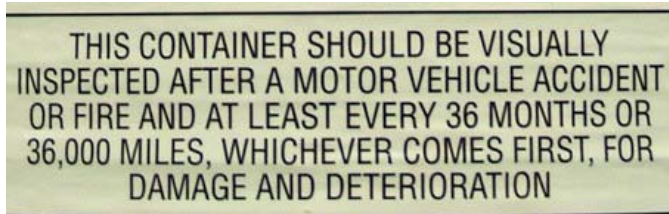


Image courtesy of Lincoln Composites, Inc.

Following a standard developed by natural gas vehicle industry engineers (CGA C-6.4) a qualified cylinder inspector will note cuts, cracks, gouges, abrasions, discoloration, broken fibers, loose brackets, damaged gaskets or isolators, heat damage or other problems and recommend proper action to assure fuel system safety.

A qualified inspector must have:

- knowledge of the types of containers used in CNG vehicle systems, and damage allowances for each type, and
- understanding of inspection requirements, tests, procedures, etc., and
- the container manufacturer's current inspection guidelines readily available.



Photo courtesy of AFV International

A qualified CNG cylinder inspector also must:

- have a minimum of two years experience conducting container inspections, or
- be supervised by someone with two years experience, or
- be approved by the container manufacturer, or

- be certified as an inspector by an organization with NGV training centers, an “authority having jurisdiction,” or a nationally recognized certification testing organization.

If your fleet does not have a qualified inspector, some CNG vehicle manufacturers, local gas utilities and cylinder manufacturers offer cylinder inspection services by qualified inspectors. If yours do not, a list of CSA-certified inspectors can be found at <http://webext.csa.ca/cng/cngmain.asp#searchinspector>. CSA is the only nationally recognized organization certifying CNG cylinder inspectors in the US and Canada. Key in your state or province name (spelled out, not abbreviated), hit “Search” and a list will come up. Click on a name and get detailed information on that person.

If you would like to be trained and CSA-certified as a qualified CNG cylinder inspector, these organizations provide training for and administer the CSA certification test:

**National Alternative Fuels Training Consortium** - <http://www.naftc.wvu.edu/>

Contact: Al Ebron ([al.ebron@mail.wvu.edu](mailto:al.ebron@mail.wvu.edu) or 304-293-7882)

**AFV International** - [www.afvtraining.net](http://www.afvtraining.net)

Contact: Bill McGlinchey ([w.mcglinchey@worldnet.att.net](mailto:w.mcglinchey@worldnet.att.net) or 304-296-6568)

**Natural Gas Vehicle Institute** - <http://www.ngvi.com/>

Contact: Leo Thomason ([leo@ngvi.com](mailto:leo@ngvi.com) or 800-510-6484)

**Advanced Transportation Technology** - [http://www.attcolleges.org/att\\_colleges.html](http://www.attcolleges.org/att_colleges.html)

Contact: Cal Macy ([cmacy@lbcc.edu](mailto:cmacy@lbcc.edu) or 562-938-3067)

**Energy Transfer Technology** -

[http://www.energytransfertechnology.com/auto\\_truck\\_&\\_fleet.htm](http://www.energytransfertechnology.com/auto_truck_&_fleet.htm)

Contact: Scott Hammer ([trainingresults@verizon.net](mailto:trainingresults@verizon.net) or 814-455-4024)

Scholarships for cylinder inspection training and certification testing are available for qualifying technicians or organizations through a US Department of Energy program administered by the Clean Vehicle Education Foundation (CVEF). Contact Hank Seiff, CVEF’s Director of Technology at [hseiff@cleanvehicle.org](mailto:hseiff@cleanvehicle.org); or 703-534-6151.

**Be sure your CNG vehicle cylinders are inspected - for safety’s sake!**

## **New TUG Website Goes On-Line**

Visit <http://www.nrel.gov/vehiclesandfuels/ngvtf/tug.html> for the new TUG website, hosted by DOE’s National Renewable Energy Lab (NREL). The web page tells about the Natural Gas Transit Users Group (TUG) and summarizes the benefits of natural gas buses. More importantly, it provides a portal to a members-only site which includes the agenda, proceedings and presentations from the October TUG meeting hosted by the Gwinnett County, GA DOT, with more to be added at a later time. For a username and password which will allow you to access the members-only

site (<http://www.nrel.gov/extranet/vehiclesandfuels/tug/>), contact Hank Seiff at the phone or email at the bottom of this newsletter.

## **WMATA Opens New CNG Bus Facility**

WMATA (Washington DC Metro) has opened its renovated Four Mile Run Metrobus facility in nearby Arlington, VA.

“The \$22 million renovation was approved by Metro’s Board of Directors in October 2002 and includes installation of a fueling station for Metro’s clean-running, compressed natural gas (CNG) buses.

“We are extremely excited about the completion of this project and the modifications that were made to the maintenance/service bays and structures at Four Mile Run,” said Chris Zimmerman, Arlington County Board Vice Chairman and a Metro Board Member. “The renovations included electrical and structural changes needed to support a large CNG bus fleet. Even more, these enhancements were implemented as the division continued to operate daily, providing for the service and maintenance needs of the hundreds of buses already housed at this division.”

“Among the renovations are enhanced ventilation and heating; new generators for backup emergency power; upgrades and the addition of doors and walls to achieve more stringent fire ratings; installation of a methane detection and control system, and installation of an emergency lighting system which requires an upgrade of various electrical components. “The renovation allows Metro to store up to 175 new CNG buses at Four Mile Run, which are part of a new 250 CNG bus order. The remaining 75 buses will be shared between Four Mile Run and the Bladensburg Bus Division in Northeast Washington, D.C., which was the first facility to house CNG buses.

“We have a commitment to our customers and to the Washington Metropolitan region to provide reliable, safe, customer-friendly bus transportation,” explained Jack Requa, Metro’s Chief Operating Officer for Bus. “A big part of that is our commitment to improve the region’s air quality.” Zimmerman added: “The arrival of these new CNG buses continues a commitment on the part of the Metro Board to do its part to improve regional air quality, which has been labeled by the Environmental Protection Agency as at risk for being a non-attainment area as it relates to air quality.” (quotations from WMATA Press Release)

WMATA representatives at the October TUG meeting also told us that the original master plan to expand CNG to other garages in the DC Metro system will be put on hold once the current 250 bus order is filled. Not all of WMATA’s 10 bus depots are good candidates for conversion to natural gas. Several garage facilities are now approaching 85-100 years of age and pose significant challenges to modernize and bring

them up to meet current building codes. Some of the garages have very low ceiling heights, which would interfere with roof mounted CNG tanks or batteries (for electric hybrid buses). The two facilities that have been converted to CNG will essentially have all new buses while those at the other eight depots are aging (many over 20 years old). So, for the next several bus purchase cycles WMATA plans to buy a mix of ULSD diesel and hybrid electric-diesel buses to gain experience with those new technologies and renew the fleet in areas served by some of the other garages.

The facility challenges related to their older garages and, as with all public transit agencies, local political issues, are very real for WMATA and must be addressed. The decision of which kind of bus they will buy in the future (CNG, hybrid, conventional diesel, or some other technology) will most likely be re-visited every time the agency goes out for a major bus procurement. But for now, WMATA's maintenance staff reports that their CNG bus fleet has been extremely reliable and they are very happy with its overall performance.

### **“New” NG Bus Engines for Sale**

Freightliner has eight “brand new Cummins 8.3 ISC Plus engines set up for NG transit applications” which they would like to sell for about 2/3 of new price. We believe these are “C Gas Plus” engines. One is 250 hp, two are 275 hp and five are 280 hp. We believe these engines have automotive emissions certifications, rather than urban bus certifications, so a Cummins distributor would have to install a different calibration and change the data plate on each engine before it could be used on a transit bus.



Photo provided by Richard Barton

They would also require the proper oxidation catalyst. For further information, contact Richard Barton at 503-978-8154 or [richardbarton@pdxftl.com](mailto:richardbarton@pdxftl.com).

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