

# San Antonio Workhorses Depend On Propane

*Propane is the fuel of choice for VIA MTA.*

**E**ven for one of the 10 largest cities in the country, San Antonio, Texas' public transit numbers are impressive. The city's VIA buses cover 1230.98 square miles daily. 99% of Bexar County. Close to 38 million passengers rode on VIA's buses, streetcars, and vans during fiscal year 2003-2004. Average weekday ridership on VIA's scheduled services during this period was 113,495. About a quarter of its buses and all of its streetcars and paratransit vans run on propane.

Acknowledged as a leader in using clean fuels for its vehicles, VIA was honored in 2000 with a SuperStar award from the Alternative Fuels Research & Education Division (AFRED) of the Railroad Commission of Texas. In addition, VIA has been nominated for the Propane Education & Research Council's Clean Fleet award.

## **Centralized and Fast**

Appropriate for a town with strong ties to its Old West past, VIA's buses and streetcars run routes laid out with radial and circular lines like a wagon wheel. This route pattern lends itself to a single maintenance and refueling operation, as opposed to several other large public bus fleets that have several maintenance and refueling facilities spread out over their service areas. The agency has five different route categories that efficiently move 113,495 passengers on an average day and even more during big events such as the recent NBA Finals between the San Antonio Spurs and Detroit Pistons.



VIA operates out of a newly remodeled and enlarged central fueling facility, which is at the center of the wagon wheel, that has room for fueling and maintenance. It's an intense operation maintenance. It's an intense operation between runs twice a day, according to Doug Peck, VIA's vice president of maintenance. "Four hundred-plus large buses come through the gates, park, and then are moved through the refueling center and then are gone over by a cleaning crew and maintenance. The service folks have a 13 1/2-minute cycle to get the work done. They operate just like a race car pit crew."

The agency's "pit crew" can handle just about everything on-site- from refueling propane, diesel, and gasoline vehicles, to cleaning, and the gamut of maintenance work. They are trained in-house to perform the various tasks needed to maintain the buses and 104 paratransit vehicles during four shift changes. The agency also takes advantage of any training offered by AFRED or any of its suppliers.

VIA's remodel included enlarging its service area to 10 bays in one location and a small adjacent service area. Nearby are the propane and diesel storage tanks. VIA had one

10,000-gal. and one 18,000-gal. propane tank, which are being replaced by a 30,000-gal. tank that is expected to go online shortly.

The fleet currently includes 67 Champion Bus (Imlay City, Mich.) vehicles, 61 New Flyer (Winnipeg) buses, 19 Chance (now called Optima Bus; Wichita) streetcars, 217 North American Bus Industries (Anniston, Ala.) vehicles, and 64 RTS (Roswell, N.M.) buses. When 78 replacement vehicles arrive by November, 100% of the fleet will be wheelchair-accessible.



The agency's budget is always a concern, but Peck says VIA is open to trying out new technology. One of the agency's latest forays was to test an innovative sonic liquid level stethoscope designed by

Adept Science & Technologies LLC (Los Alamos, N.M.). The results have been very positive, according to Peck, who expects these devices to save the agency money while reducing fuel loss during the filling process as well as lowering evaporative emissions.

As for alternative fuels, a number of San Antonio city agencies have utilized propane as a vehicle fuel off and on since the 1950s. Garbage trucks, public buses, and school buses were among the fleets with the most propane-powered units. One of the most notable propane fleets is operated by the city's Northside Independent School District, which has several hundred propane vehicles in operation and several decades of experience.

Propane has been in constant use at VIA since 1991, according to Peck. The agency began adding propane vehicles to its fleet for several reasons, including less emissions and government incentives. Of VIA's current vehicles, nine of the streetcars and 67 of the 30-ft Champion buses run on propane. The fleet of 104 demand-response paratransit vans, which operates within three-quarters of a mile of the wagon wheel route system, plus 74 service vehicles, use propane. VIA management has been pro-alternative fuel for years. said Peck, it's the engine manufacturers and technology that has had trouble fulfilling the agency's demand.



Since he joined VIA, Peck said it's been a continual learning process for him and the agency. Regulations, technology, and manufacturers have changed quite a bit. VIA was using OHG conversion kits for a while before switching vehicles over to Technocarb Equipment (Abbotsford, B.C.) for its paratransit vans. When VIA puts out a tender for vehicles and engines, it always gives specs for propane along with other fuels. Unfortunately, Peck noted, there isn't always a propane engine available for the bus sizes it needs.

With every tender for new vehicles, VIA always specifies models that meet the latest emission requirements from the Environmental Protection Agency. While the agency is unable to run its entire fleet on clean-burning propane, it now refuels its diesel models with ultra-low-sulfur fuel.

### Operating Expectations

In addition, one of the agency's goals when going with an alternative fuel is that the vehicle operates within 10% of diesel costs. Peck explained that VIA uses the Transit Cooperative Research Program fuel comparison guide, which includes a life cycle analysis. Using that guide, the Champion buses came in at about 8% more than diesel's costs.

One of its recent tenders was for additional streetcars. By August, Peck said, VIA will have received 14 new Optima propane streetcars and will be retiring 14 of the older vehicles, some of which have been in service since 1983. The new Optima streetcars have Cummins 5.9-liter LPG engines, which consume about 10.700 gal. each during a typical year, and two fuel tanks—one large tank across the rear of the vehicle and one smaller one on the side. The buses and streetcars have Slegers



*(The majority of VIA's buses and streetcars are handicapped-accessible with low-floor design. Slegers Engineering tanks are the preferred fuel tanks.)*

Engineering Inc. tanks. All of the streetcars are designed to replicate San Antonio's streetcars from the 1900s.

While the streetcars are used in the central business district, the

Champion buses are used on circular and radial routes among the spokes. The larger buses, which use diesel, run the routes along the wheel spokes. VIA would use propane on these routes if there was a large engine capable of running on propane, said Peck.

## **110,000 Gal./Month Required**

The Champion buses are mid-size vehicles that are outfitted with three Slegers Engineering tanks with a total of about 122 gal. capacity. Also powered by the Cummins 5.9-liter engine, the 67 Champion buses use about 110,000 gal. during an average month.

VIA will be replacing its 104 propane-powered paratransit units with gasoline vehicles. Unfortunately, a recent tender for new vehicles did not garner any bids with propane vehicles. The current fleet is about 11 years old and most of the vehicles have about 700,000 miles on them. Converting the new vehicles to propane is an option, said Peck, depending on the costs and emissions output after the conversion.

Ferrellgas' Central Texas district won the bid for providing VIA's propane last fall. It delivers approximately 17 to 24 transport loads of product a month under its contract, which calls for 2.5 MMgal./year of HD-5 propane. The HD-5 specification was made to ensure the fuel's quality because of issues in the past.

—Ann Rey

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