FUELS & FLEETS

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CNG and Beyond in Los Angeles

LA Metro Is Looking for More CNG Buses, Perhaps 900 of Them, Also Wants Buses That Are Even Cleaner – as CNG Was to Diesel

The Los Angeles County Metropolitan Transportation Authority said goodbye to its last diesel bus last year. Now LA Metro is looking to buy as many as 900 new workhorse CNG vehicles.

At the same time, under a separate solicitation, LA Metro has budgeted up to $30 million for as many as 30 zero- and near-zero-emission buses, effectively setting the table for the next step change.

The new buses are to be cleaner than compressed natural gas in the way that CNG was cleaner than diesel, says John Drayton, the agency's Advanced Transit Vehicle Consortium VP.

The zero-emission buses could be battery electric, or fuel cell electrics, he says –whatever it takes.

The near-zero buses are to be 75% cleaner than the current requirements of the California Air Resources Board, among the world's strictest. Plug-in hybrids might qualify, or some new approach. "Metro is technologically agnostic," Drayton says. But perhaps not economically agnostic, however, as the agency will be looking closely at life-cycle costs, including infrastructure and maintenance expenses.

Bids for the super clean buses are due **April 30** under solicitation **OP33202790**.

For the conventional CNG buy, LA Metro is figuring 275 buses for 2014 and again in 2015, with options for 250 in 2016 and 100 for contract operators, making a possible total of 900. They are to be standard 40-foot vehicles with the stipulation that engines be electrically cooled, with electric HVAC, and electric passenger doors. Electric power steering and compressors are optional.

Bids for the CNG buses are due **May 4** under solicitation **OP33202869**.

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Cummins for ISX15 G as CWI's ISX12 G Makes Splash at MATS... Page 5

GM Adds Bi-Fuel CNG Pickups

In part to allay 'range anxiety' similar to that faced by electric vehicle operators, GM is offering a bi-fuel option. As with GM's dedicated-CNG vans, Impco will handle the new pickups. Page 6

NGVs & Propane Get CEC Funding

A-Z Bus and others share in more than $8.5 million in California Energy Commission buy-down money for gaseous fuel vehicles. Page 7

Bob Lutz on March 22

GE and Chesapeake

You may think of General *Electric,* but GE is weighing into natural gas vehicles too – the multinational is teaming with Chesapeake Energy for both CNG and LNG.

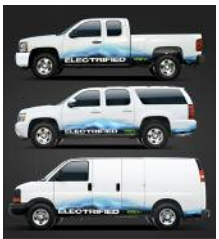
See Page 11

Electric & Hybrid Vehicles

Beta Via Trucks Handed to PG&E

Declaring a new era in transportation electrification and a "game-changing" vehicle that will save money while protecting the environment and curbing oil imports, Pacific Gas & Electric welcomed the first "beta" full-size range-extended battery electric trucks from Utah's Via Motors *(F&F Strategies, January 16)* in San Francisco on March 22.

"We can improve our environment *and* reduce our operating costs," PG&E transportation director Dave Meisel said.



Via Motors offers full-size pickups, SUVs, and vans

Because they're expected to run primarily on battery power, each truck has the potential to pare fuel costs by $2,700 per year, said PG&E senior VP Greg Pruett. Beyond reducing fuel costs and emissions, the "revolutionary" exportable power feature will allow PG&E to reduce customer power outages, he said.

"Electrification is a compelling business case," said Bob Lutz, the former GM vice-chairman who now sits on the Via board. "You're taking fuel out of the equation in the vehicles that we use a ton of it in, in their conventional form."

PG&E will evaluate the Via truck with durability of the eREV (Extended-Range Electric Vehicle) driveline the "numero uno" benchmark, Meisel said. PG&E has about 3,500 of the pickup type, and buys 400 to 500 per year.

Via's price is $79,000, which COO Alan Perriton said will drop to $69,000 with the first 12 months of production and to about $64,000 "shortly thereafter."

"This vehicle is going to allow us to become effectively energy-independent," Perriton said.

"It will have a ripple effect through the industry."

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Via Motors COO Alan Perriton, PG&E transportation director Dave Meisel, PG&E senior VP Greg Pruett, ex-GM vice chair and Via board member Bob Lutz, and Via CEO Kraig Higginson as the first of the 'beta' version of Via's electric trucks were handed over this past Thursday in San Francisco

Coda Opens California Assembly Facility

Coda Automotive, pre-eminent among the startup automakers striving to deliver battery cars to consumers, formally opened its final assembly facility in Benicia, Calif., north of San Francisco this month.

"This is just the beginning," said Coda chairman Mac Heller. "Our founding mission at Coda is to put an electric car in every garage in the world."

"Never has the case for what we do been clearer."

Coda vehicles, shipped as gliders from China to the Port of Oakland, are trucked to Benicia to have their 100-kilowatt PowerPhase Pro drivelines from UQM Technologies (**AMEX:UQM**), Tianjin Lishen lithium ion battery packs and other components installed. Work is performed by employees of Benicia-based Amports, said Amports operations VP Jimmy Triplett.

Coda has 30 partner companies in the Americas, Asia and Europe, Heller said. Among them is GE, for WattStation chargers offered for sale by Coda dealers. GE supplied an array of 16 30-amp chargers arranged in four lanes for charging the new EVs off the Benicia line.

The initial car driven out of the factory by supervisor Kevin Field had a 31-kilowatt-hour battery pack promising 125 miles on a charge. The basic car is priced at $37,250 (before incentives). Leather seats, premium audio and floor mats brought the sticker price of the ceremonial first vehicle to $39,739 (Bluetooth hands-free cellphone connectivity is standard). The Coda sedan with 36-kwh pack providing 150-mile range starts at $39,900.

Coda also announced the Martin Automotive Group in West Los Angeles and Fladeboe Automotive Group in Irvine, Calif. as its first dealers in the Los Angeles region.

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'Never before has the case for what we do been clearer,' said Coda Automotive chairman Mac Heller (tall, front-and-center) as the first vehicle rolled out of the final assembly facility in Benicia, Calif. on March 12. On March 16 Coda announced its first deliveries.

Hybrid & Electric Vehicles

EVI Medium Trucks for Frito-Lay

Following a successful trial, Stockton, Calif.-based Electric Vehicles International has kicked off an expanded electric vehicle pilot project with Frito-Lay, which EVI notes has North America's seventh-largest privately owned fleet.

The PepsiCo unit has committed to purchasing five additional EVI-MD trucks – medium duty battery electric vehicles based on the Daimler Freightliner M2 Business Class chassis. The vehicles have 99-kilowatt-hour lithium iron phosphate battery systems from EVI affiliate Valence Technology (**NASDAQ:VLNC**), and PowerPhase 150 drivelines from Colorado's UQM Technologies (**AMEX:UQM**).

The result is "the most versatile and flexible class 6 electric vehicle on the market," EVI says, boasting a 90-mile single-charge range, top speed of 65 miles per hour, and excellent hill performance.

"The EVI electric vehicles give Frito-Lay another promising option to help meet our long term goal of being the greenest fleet in North America," Frito-Lay senior director of fleet capability Mike O'Connell says in an EVI release.

Frito-Lay, said EVI sales VP Frank Jenkins, "is the ideal customer and fleet application."

Jenkins is based at EVI's new facility outside Detroit.

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Car Charging Group Targets Europe

Citing an initial infusion of $1 million and the expectation of $1.5 million more within 60 days, the Miami Beach-based Car Charging Group is setting up Car Charging Europe, in which the investors will hold 5%.

"Like us, our investors believe in the significant growth opportunities that exist in the European EV marketplace as well as our ability to leverage our success in the United States into Europe," Car Charging CEO Michael Farkas said in a release. "Europe represents a very exciting opportunity as EVs are rapidly becoming mainstream due to the high cost of fuel, significant governmental support and widespread consumer interest."

Car Charging Group, Inc. (**OTCBB:CCGI**), promises a comprehensive turn-key EV charging service, with installation, maintenance and related services included, "reducing the capital costs for a property owner to zero." The firm has more than 30 strategic partnerships including municipalities, shopping malls, parking garages, retail parking, multi-family residential and commercial properties "totaling more than six million parking spaces with all partner locations expected to have high numbers of EVs at their locations." Commercial partners include Ace Parking, Central Parking, Equity Residential, Icon Parking, Rapid Parking, USA Parking, and Walgreens (*F&F,* Sept. 26).

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$10 Million for ZECT

The U.S. Department of Energy has floated a solicitation for Zero Emission Cargo Transport via the National Energy Technology Laboratory in West Virginia.

The agency has $10 million for ZECT, and says it anticipates making one or two awards this fiscal year, for a minimum of $2 million each, depending on the size of awards and available money. Cost-sharing of 50% is required too.

Applicants must be include OEM partners, with operations to take place in severe Clean Air Act nonattainment areas, which means the Los Angeles South Coast Air Basin in California and Houston-Galveston-Brazoria areas in Texas.

Hybrid vehicles are eligible as long as they operate with zero emissions for most of the time.

All projects must include a demonstration phase, and take into account real world market viability.

Data collection "should at a minimum include vehicle efficiency, cargo ton-miles per vehicle and fleet, petroleum consumption (if any), hydrogen consumption (if any), charging profiles, including times, duration, and electricity used, operational profiles, including times of operation, type of operation, and loading, accessory loading, time stamps, capital costs, operating costs, maintenance logs, maintenance costs, information related to the potential for electromagnetic interference, fuel cell specific information (if applicable), and battery specific data including state of charge, voltage, current, and temperatures," DoE says.

Bids under funding opportunity **DE-FOA-0000669** are due at close of business on **May 15**.

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Hybrid & Electric Vehicles

A123 Lithium Packs for New Geely Plug-in

A123 Systems (**NASDAQ:AONE**) says that Advanced Traction Battery Systems, its joint venture in Shanghai with SAIC Motor Corp, has been picked to develop lithium ion battery packs for a new plug-in hybrid electric sedan from Geely, "one of the fastest-growing automakers in China and the parent company of Volvo Car."

A123 says it will supply 20Ah Nanophosphate brand prismatic cells to ATBS for battery packs for Geely's new PHEV, which is expected to launch in China in 2014.

Geely is a global automaker with more than 30 different models in its portfolio, and produced more than 430,000 vehicles last year, A123 says. "We believe that China, the largest and fastest growing auto market in the world, represents a significant opportunity for our technology," A123 automotive solutions VP Jason Forcier said in a release.

The 20Ah prismatic cells, the company says, "are designed to deliver high power, increased safety, extended life and a higher usable energy over a wider state-of-charge, enabling Geely to optimize the efficiency of its design and maximize vehicle range."

A123 has also reported a new framework agreement with SAIC for ATBS, and that the partners "are carrying out a feasibility study to define the business plan and required investment for a jointly developed battery manufacturing facility in China."

A123 sales grew significantly in 2011, but losses widened too, and the firm emphasized the potential of stationary markets as it reported its results on March 8.

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Hydraulic Hybrids

More Parker Autocar RunWise E3s

Watch for more sales of Autocar E3 hydraulic hybrid refuse trucks as Parker Hannifin, supplier of the vehicle's RunWise hydraulic hybrid drivetrain, reports average fuel savings of more 43% – with 99% uptime – validated behind more than a year of testing in south Florida.

"We have six that have been running for more than 15 months," says Danny Diaz of Miami-Dade County. "They've exceeded our expectations." Miami-Dade has a U.S. EPA Emerging Technology grant it expects to offset the incremental cost of further vehicles.

How many is the county buying? "A conservative number would be about 15 trucks," Diaz says.

According to Parker, the Miami-Dade E3s burn some 36 gallons of fuel per day compared with other vehicles in the fleet which use 63 gallons. Brake energy recovery for the RunWise hydraulic system is 71%, as compared with just 21% for a hybrid electric, Parker's Tom DeCoster said at the Green Truck Summit in Indianapolis.

Municipalities in Texas, North Carolina, Florida and Indiana have placed orders, Parker says. Austin, for example, has ordered four of the hydraulic hybrids (*F&F*, August 15).

Also operating the pre-production RunWise E3s are the cities of Hialeah and Miami. According to Parker, Miami has purchased five additional Autocar E3s "after operating one truck on city routes during the past year and witnessing close to 50% fuel savings."

The City of Seymour, Ind. expects late-May delivery of a single RunWise E3 truck, applying a grant through DoE Clean Cities to offset the incremental cost of about $120,000, according to Seymour public works director Dick Wilde. The total cost of the vehicle, with Labrie side-loader body, is about $445,000, Wilde told *F&F*. A test vehicle in Seymour showed a fuel savings of about 50%, he says.

The Town of Cary, N.C. took delivery of a Parker RunWise-Autocar E3 truck last week.

'Faster, More Dependable, Less Noise'

Operators have reported positive driving experiences and increased route productivity too, Parker says. "The hybrid is faster, more dependable, experiences less noise in the cab and has not encountered any problems," Miami operator Scotty Rodgers says in Parker's release. "The truck moves very smoothly from stop to stop allowing me to get through my route more quickly."

Parker says it is expanding its Miami-based service network as well. "The service team has helped the fleets answer any questions they might have about the system while recording and validating the performance of the trucks," the company says. "Key measures include reduced fuel consumption, improved route efficiency, and reduced carbon emissions.

"Importantly, maintenance has been reduced on the brakes which have yet to require replacement and are anticipated to last up to eight times longer than on the conventional fleet also reducing airborne brake dust particulates."

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Natural Gas Vehicles

Heavy Exposure

CWI's ISX12 G Garners Attention at MATS, Cummins Promises Its Own 15-Liter Engine

The engine that's been an open secret as the key to increased penetration of natural gas in over-the-road trucking got heavy exposure at the Mid America Truck Show in Louisville last week, just one month after the 11.9-liter, spark-ignition powerplant was formally announced as the ISX12 G from Cummins Westport, Inc.

Separately from the CWI joint venture, Cummins, Inc. has announced development of its own 15-liter, spark-ignition natural gas engine, to be called the ISX15 G.

Kenworth Promotes the ISX12 G

Like CWI's 8.9-liter ISL G, the ISX12 G can power trucks using either CNG or LNG fuel. It will employ three-way catalyst aftertreatment, packaged as a muffler and maintenance free. No diesel particulate filter or selective catalytic reduction aftertreatment will be required.

The engine features Cummins Westport's proprietary stoichiometric combustion with cooled exhaust gas recirculation (SEGR), first introduced on the ISL G.

Paccar's Kenworth unit has been quick to jump on the ISX12 G bandwagon, showing a CNG-powered T660 at MATS. The new engine will also be available on T800, T800 short hood, and Kenworth W900S models, with a range of ratings to 400 horsepower and 1,450 ft-lbs of torque, optional engine brake, and manual and automatic transmissions.

Field testing meanwhile continues, CWI says, with ISX12 G production expected to begin in early 2013.

The engine will be built on a Cummins line in Jamestown, N.Y., and will be backed by a Cummins base warranty of two years, 250,000 miles, and 6,250 hours of operation. Extended coverage options will be released closer to production. Service, parts and training support will be delivered by the Cummins service network.

Aerodynamic T660 is one of the trucks Kenworth will offer with the new ISX12 G dedicated-natural gas engine from Cummins Westport, Inc.

"This is an important product development for Cummins Westport given the increasing demand for natural gas vehicles in the heavy-duty market," Jim Arthurs, the new CWI president, said in a release.

ISX12 G: it's big

"The ISX12 G will offer customers heavy-duty performance, reliability, and durability, and a choice of either compressed natural gas or liquefied natural gas as a fuel," Arthurs said.

"Kenworth continues to work closely with Cummins Westport in the development and testing of this engine to ensure we can offer customers an engine platform that works well with Kenworth chassis," Kenworth natural gas vehicle marketing manager Michelle Harry said in her firm's MATS announcement. "This partnership allows us to provide trucks that offer excellent, low-emission solutions combined with outstanding efficiency, horsepower and torque," she said.

'Perfect Size'

"The ISX12 G will really complete Kenworth's line of factory-installed natural gas engines, which includes the 15-liter Westport HD and the 8.9-liter Cummins Westport ISL G," added Andy Douglas, Kenworth national sales manager for specialty markets.

"The ISX12 G is a perfect size for the operational needs of those regional and refuse haulers that require a little more power and torque than offered by the ISL G, but that don't need as much as provided by the HD."

Target markets at ISX12 G launch are North American regional haul and vocational truck/tractor, and refuse applications, CWI says, "where demand for natural gas vehicles is growing.

"Anticipated end-use applications in the regional haul market segment include intermodal and distribution operation, pickup and delivery. Potential post-launch market opportunities include motor coach and specialty vocational applications."

As for the ISX15 G from Cummins, Inc., "Cummins is committed to making the right investments in the technologies that strengthen our leadership position in natural gas," heavy duty engine VP Ed Pence said in a release. The dedicated-natural gas ISX15 G will challenge the mostly natural gas (pilot-diesel), ISX-based Westport GX engine marketed by Westport Innovations – Cummins's joint venture partner for up-to-12-liter spark engines.

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Natural Gas Vehicles

GM Offers Bi-Fuel CNG Pickups for 2013

"It's all about energy diversity," GM commercial product and specialty vehicles director Joyce Mattman said as GM announced gasoline-CNG bi-fuel pickups for 2013 earlier this month.

GM has offered dedicated-compressed natural gas vans, fitted with CNG fuel systems by Impco Automotive in Union City, Ind. since late 2010.

Now, in part to allay "range anxiety," the new CNG pickups will be bi-fuel vehicles boasting 650 miles of combined CNG and gasoline range. Impco will handle the bi-fuel pickups too.

GM is emphasizing robust

"This is really the product that our commercial customers, our fleet customers, have been asking for," Mattman said.

They can start placing orders next month, she said, and deliveries will commence late in 2012.

The bi-fuel CNG-gasoline Chevrolet Silverado and GMC Sierra 2500 HD extended cab pickup trucks will be available in both short bed and long bed models, said gaseous fuels product manager Mike Jones.

GM will use its 6.0-liter V-8 engines with gaseous-prep hardened valves and seats, he said, and injectors by Bosch. A single Type III (aluminum liner and carbon composite overwrap) CNG cylinder will hold 17 gasoline gallon equivalents of CNG, allowing room in the truck bed for a robust protective cabinet.

'Send in as Many Orders as You Can'

What's more, Jones explained, the fuel tank will be mounted to the frame itself, not the truck body. The bi-fuel vehicle will have a 36-gallon gasoline tank.

"We're collaborating with Impco on engineering, design and testing of the vehicle," Jones said.

"This process is considered a factory installation," Mattman said.

She declined to speculate on volumes, but said that sales people are being encouraged to move as many of the bi-fuel CNG trucks as they can.

"Work to send in as many orders as you can and we'll build them," she said.

The trucks are built in Fort Wayne, Ind., and sent to Impco in Union City for their gaseous fuel systems.

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Westport 12-Liter HPDI for Weichai

Westport Innovations (**Toronto: WPT**; **NASDAQ:WPRT**) is bringing its high pressure direct injection technology to China via Weichai Westport, which is to market an 11.6-liter Weichai Power engine, the WP12, modified to run mostly on natural gas using Westport HDPI technology.

The WP12HPDI Landking engine was announced during the China National People's Congress at the Beijing Diaoyutai State Guesthouse.

The Weichai Westport joint venture dates from 2008 (*F&F,* July 21, 2008). It currently markets 6.8-, 7.1-, 9.7, and 11.6-liter spark-ignition natural gas engines.

The HDPI product fills a gap in the natural gas engine market for heavy duty trucks in China, Westport says. It is being tested by the Shaanxi Automobile Group.

Weichai Westport facility in Weifang

The 12-liter Weichai Westport HPDI engine delivers the same power and torque as its diesel counterpart: 480 horsepower at 2100 rpm, with maximum torque of 1970N.m/1200 ~ 1500rpm). "The engine's power and torque is 20% and 20-25% higher than that of the spark ignition natural gas engines respectively," the announcement states. "Hence, it solves the problem of large plateau power loss for gas engines."

According to Weichai Power reports, as cited by Westport, Weichai holds approximately 40% of the heavy duty truck engine market for trucks greater than 14 tons. The firm sold more than 200,000 heavy-duty engines for the six months ended June 30, 2011. In 2010, heavy duty truck sales in China exceeded 1 million units.

"There are enormous potential fuel savings to be made if Chinese fleets adopt natural gas technology for transportation," said Westport Innovations CEO David Demers.

"The successful progress of the Weichai Westport HPDI engine marks a historic shift," he said.

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Lincoln Gets DoT Titan Permit

Nebraska's Lincoln Composites and its Hexagon Composites parent report a special DoT permit allowing the manufacture, sale and use of high-volume carbon fiber Titan transport modules in the U.S.

The permit allows Lincoln to enter the U.S. bulk hauling market with cylinders ranging from 450 to 8,500 liters for natural gas, hydrogen, and certain inert gases.

The Titan product is so far approved and sold in Vietnam, Malaysia, Colombia, the Dominican Republic, Peru, Thailand and Indonesia. The big cylinders have thus far been used primarily for industrial gas supply, in lieu of pipelines.

The special DoT permit is valid until **December 31, 2013**.

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Gaseous Fuels

CEC Antes $8.5 Million for Gaseous Fuels

The California Energy Commission has announced further funding of $8,554,000 "to help bring natural gas and propane-powered shuttle buses, cars and trucks to California's roadways" as part of the agency's AB 118-authorized Alternative and Renewable Fuel and Vehicle Technology Program. The money could bring as many as 357 new natural gas-powered vehicles and 110 propane-powered vehicles into service.

Coupled with the low cost of compressed natural gas, the AB 118 money "will give our California based dealers a pricing advantage to enter the market with our new line of green alternative fueled line of cab forward trucks," said Frank Ziegler, sales director at Santa Ana-based Greenkraft.

Nearly $1.6 Million for A-Z Bus

Greenkraft has been awarded $400,000 for the buy-down of 20 natural gas vehicles in the 14,001- to-26,000-lb gross vehicle weight range. The firm is promoting a line of propane- and natural gas-fueled vehicles, including trucks from JAC, China's Anhui Jianghuai Automobile Company, in which it installs 6.0-liter GM engines (*F&F,* Jan. 30).

CEC incentive reservations are awarded in blocks to vehicle manufacturers or their designated dealers, the agency says. Incentives are passed to buyers at the point of sale.

JAC truck from Greenkraft

This month's largest CEC recipient, A-Z Bus Sales (Colton, Calif.), was awarded $500,000 for the buy-down of 25 propane-fueled school buses and $384,000 for a dozen large natural gas buses, all manufactured by Blue Bird. A-Z is also receiving $500,000 for the buy-down of 25 propane school buses by Collins Bus, and $200,000 for 10 natural gas buses manufactured by Arboc Specialty Vehicles.

Arata Equipment (for American LaFrance) of San Carlos and the out-of-state manufacturers Autocar, Crane Carrier, Kenworth, and Peterbilt were each awarded $884,000 to help buy down 34 natural gas fueled trucks apiece.

propane and more from A-Z

Among this month's smaller CEC awardees are Towne Ford of Redwood City, Big Valley Ford of Stockton, Hansel Ford of Santa Rosa, Serramonte Ford of Colma, Galpin Motors of North Hills, Tuttle-Click Ford of Irvine, Bonander Buick GMC of Turlock, and American Honda – $198,000 for 66 Honda Civic Natural Gas sedans.

Purchasers agree to operate their vehicles in California on the alt fuel at least 90% of the time for three years.

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Apache for Tulsa Public Access CNG

Apache Corp has opened the first of 13 compressed natural gas fueling stations planned for 2012. The new CNG outlets will make for a company-wide total of 20 by year-end.

The firm will hold a grand opening ceremony at its new public access station in Tulsa, Okla. on **Monday, April 2.**

Also early in April, Apache will open its second public access CNG station, in Lafayette, La.

Equipment for both was supplied by ANGI, which won eight of nine CNG station awards made by Apache last year. Apache, a Houston-based independent E&P –exploration and production company – already had seven CNG stations supporting its U.S. fleet, which currently includes about 250 bi-fuel CNG-gasoline Chevrolet Silverado pickups with Impco systems.

Public-access CNG in Tulsa

The firm expects to have about 350 NGVs by year-end, and 80% of its thousand-vehicle U.S. fleet to be CNG-capable by the end of 2015. Apache will evaluate new OEM offerings including bi-fuel Ram trucks from Chrysler, says natural gas transportation fuels director Frank Chapel.

Apache is building three more public access stations in Texas: two in Midland and one in Houston.

"These stations," Chapel says, "will further support Apache's mission to promote natural gas as the alternative transportation fuel of choice and complement the firm's employee CNG vehicle incentive program.

"All full-time employees who purchase a new dedicated CNG vehicle or convert a new or used vehicle receive a VISA credit card for their next $5,000 of CNG purchases," Chapel says. "In addition, the participating employee is reimbursed by either Apache or state income tax incentives for 50% of the additional cost of the CNG dedicated or converted vehicle" (*F&F,* September 26).

Apache, VP Frank Chapel, 713-296-7479; frank.chapel@apachecorp.com; www.apachecorp.com

ANGI, Jared Hightower, 940-367-3132; jhightower@angienergy.com; www.angiinternational.com

Ferus Deploys First LNG Tractor

Calgary-based Ferus, a cryogenics specialist, has deployed the first LNG tractor in Alberta, a Peterbilt 367 with Westport HD fuel system and 15-liter engine.

The truck will transport liquid nitrogen to energy industry customers in the central Alberta corridor, the firm says.

Ferus claims a single-fill range of more than 430 miles for the vehicle, and says it intends to add additional units "with the ultimate goal of converting its entire transportation fleet to run on natural gas."

Ferus owns and operates eight cryogenic plants in western Canada, the northeast U.S. and Rocky Mountain region, and has "a fleet of over 300 transportation and storage assets... designed for oilfield operations."

Ferus, president Richard Brown, 403-695-1484 or toll-free 866-401-6861; dickbrown@ferus.ca; www.ferus.ca

Natural Gas Vehicles

Clean Energy for Saddle Creek Fueling

Clean Energy Fuels (**NASDAQ:CLNE**) has signed a 10-year pact with Saddle Creek to build natural gas fueling stations to support the logistics firm's expanding natural gas-powered truck fleet.

Saddle Creek is a third-party supply chain logistics (3PL) outfit that integrates transportation, warehousing, contract packaging and fulfillment services. It operates 29 facilities across the country with more than 14 million square feet of warehousing space, Clean Energy says.

The first of a planned network of compressed natural gas fueling stations opened in December at Saddle Creek's headquarters campus in Lakeland, Fla. "Designed to fuel up to 120 CNG trucks per day, it is equipped with four fast-fill pumps and 20 time-fill hoses." Under consideration are Saddle Creek locations in Atlanta, Charlotte, and Dallas.

Saddle Creek fielded 40 long-range CNG Freightliner Business Class M2 112 trucks with Agility Fuel Systems tank assemblies for work in Florida and southern Georgia last year (*F&F,* October 17).

Separately, Clean Energy opened Florida's first public-access airport CNG station, at Tampa International.

Clean Energy, Jim Harger, 562-493-2804, ext 223; jharger@cleanenergyfuels.com; www.cleanenergyfuels.com

Saddle Creek, John Erwin, 863-668-4274; john.erwin@saddlecrk.com

Saddle Creek, Brad Rolland, 863-668-4232; brad.rolland@saddlecrk.com; www.saddlecrk.com

Agility, VP Scott Lucero, 909-350-7500; slucero@agilityfs.com; www.agilityfuelsystems.com

DoE Oil Reduction Rule from NGVAmerica

The U.S. Department of Energy issued proposed regulations that instruct federal agencies about their obligation to reduce petroleum consumption and increase alternative fuel use in motor vehicles.

The proposal covers light, medium and heavy- duty fuel consumption in on-road vehicles. It includes exceptions for certain emergency, military and other types of special use vehicles.

The new rules implement provisions required in the Energy Independence and Security Act (EISA) of 2007. Section 142 of EISA (P.L. No. 110-40) requires federal agencies, not later than **October 1, 2015**, to reduce petroleum consumption by 20% and to increase alternative fuel use by 10% compared to 2005 baseline fuel consumption. DoE's notice indicates that the rules establish firm requirements that remain in place in future years, meaning that petroleum consumption must be no more than 80% of the level consumed in 2005 and alternative fuel use must not fall below 110% of the level consumed in 2005.

In reality, most agencies will likely have to increase their alternative fuel use much more unless they can identify a way to significantly reduce their overall motor vehicle fuel use (since petroleum use cannot grow). Another factor that could increase federal alt fuel use, NGVAmerica notes, is President Obama's May 2011 Presidential Memorandum, which directs that all future light duty vehicles leased or purchased by federal agencies must be alternative fueled vehicles.

Comments on the **proposed regulation**, fuel use targets and the guidelines for agency plans are due **April 11**.

NGVAmerica, Jeff Clarke, 202-824-7364; jclarke@ngvamerica.org; www.ngvamerica.org

Quantum Notches More Type IV Orders

Quantum Fuel Systems last week reported additional purchase orders exceeding $700,000 for its Type IV all-composite tanks, said to be "the lightest in the industry."

Quantum, Hernan Henriquez, 949-399-4520; hhenriquez@qtww.com; www.qtww.com

Gastank Sweden for 3B Fiber CNG Tanks

Belgium's 3B, Holland's DSM and Gastank Sweden are talking up new advanced materials for manufacturing superior CNG fuel cylinders, including high-strength glass fiber to eliminate costly carbon and a unique inner liner to eliminate methane permeation issues.

Even though there is no safety hazard, the slight smell of natural gas in natural gas vehicles can dissuade buyers – and prevent automakers from designing NGVs with the fuel tanks inside, Gastank Sweden founder and president Kurt Berglund told *F&F.*

Use of Akulon Fuel Lock brand polyamide (nylon) polymer from DSM Engineering Plastics eliminates the problem, he says.

In a release with DSM, Berglund says that tests by Powertech Labs "did not detect any loss of gas via permeation" in a new 32-liter compressed natural gas fuel cylinder, the Gastank 32. "This unprecedented result makes our lightweight, zero permeation composite CNG tanks a benchmark within the composite cylinder manufacturing industry," Berglund said.

"Akulon Fuel Lock," says DSM application development manager Tim Vorage, "shows a permeation factor at least 150 times lower than high density polyethylene." It's more temperature resistant too, reducing creep issues and permitting composite overwrap material to be cured more quickly. 3B supplies its HiPer-tex brand glass fiber for the cylinders, allowing the Gastank Sweden product to "bridge the gap between heavy weight steel and high cost carbon fiber composites," Berglund said.

CNG cylinders made with the 3B fiber were shown at the NGV2010Roma world meeting in Italy nearly two years ago (*F&F,* June 14, 2010).

The use of Akulon liners, Berglund says, is new.

3B was recently purchased by India's Braj Binani Group.

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High Horsepower

First True Marine Hybrid is LNG-Fueled

DNV and FellowSHIP project partner Eidesvik Offshore are testing a 500-kilowatt lithium polymer battery pack to be installed early next year in Eidesvik's Viking Lady OSV.

The North Sea offshore supply vessel is already the first in the world with a fuel cell, DNV says, as it was fitted in 2009 with a methane-fed, 330-kilowatt molten carbonate unit from Germany's MTU Onsite Power.

The ship with Wärtsilä prolusion is one of three Eidesvik Offshore vessels operating on LNG.

Fuel savings are projected at 20% to 30%, and, given current high fuel costs, "the return on investment period for the hybrid system is estimated to be less than two years," DNV says. "We know that the hybrid system will reduce the energy consumption," DNV project manager Bjørn-Johan Vartdal says in a release. "When in harbor," he said, "the ship should be able to operate on the fuel cell and its battery power alone."

The robust lithium polymer battery unit is supplied by Vancouver-based Corvus Energy, which uses cells from Dow Kokam. For a commercial installation, a larger battery unit – on the order of 2 megawatts – is expected.

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Eidesvik Offshore, Kjell Sandaker, kjell.sandaker@eidesvik.no; www.eidesvik.no

Viking Lady and the West Phoenix deepwater rig in the UK North Sea

Norway's Color Line Seeks New LNG Ferry

Color Line, which operates four ferry services based in three Norwegian cities, is taking bids for a brand-new ship, to be liquefied natural gas-fueled, to operate between Sandefjord and Strømstad (Sweden).

"With optimized hull and efficient propulsion machinery," Color Line says, it will be one of the most environmentally friendly and quiet day ferries in the world, serving the two city centers.

Color Line notes that it began implementing shore power for electricity for its ships berthing in Oslo this past autumn.

The firm's new 525-foot LNG ferry, with capacity for some 2000 people and 500 cars, will be ready for the summer 2014 season on the Sandefjord-Strømstad route.

Color Line info, VP Mr. Helge Otto Mathisen, +47-9922-3330; helge.otto.mathisen@colorline.no; www.colorline.no

Work Truck / Green Truck

'Biggest Work Truck Event in History'

Green Truck and Work Truck Show Set Records, Expanded Show In Indianapolis Again in 2013

This month's Work Truck Show in Indianapolis, "was the biggest work truck event in history," the National Truck Equipment Association reports. The March 6-8 event broke all standing event records, NTEA says, "with a verified 10,408 attendees checking out work trucks and equipment from 563 exhibitors."

The preceding NTEA-Calstart Green Truck Summit also hit new highs, with a keynote address from U.S. Energy Secretary Steven Chu helping to attract a record 772 attendees – a 13% increase over last year's record turnout, NTEA said.

GTS 2012 presentations

"We will build on this momentum as we prepare to bring an even bigger Show back to Indianapolis for an unprecedented third straight year in 2013," NTEA executive director Steve Carey said in a release.

"We're expanding next year's Show floor – and have already sold 92% of available space," Carey said.

Other Work Truck Show 2012 highlights included a sold-out President's Breakfast with keynote address by George W. Bush, during which Jim Carney, NTEA senior executive director, was recognized for his 36-year career with the NTEA. He will retire **April 30**.

The Work Truck Show 2013 returns to the Indiana Convention Center in Indianapolis **March 6-8, 2013** – again with more than 500,000 square feet of exhibit space.

Educational programming, including the Green Truck Summit, starts on **March 5**, a Tuesday.

NTEA, Kathy Swartzentrover, 248-489-7090, ext 108; kathy@ntea.com; www.ntea.com

Calstart-Green Truck Summit, Sue Romeo, 626-744-5686; sromeo@calstart.org; www.calstart.org

Many a Clean Fuels Launch

More than 120 exhibiting companies launched at least 140 new products at the Work Truck Show in Indianapolis. Among the many notable debuts were a CNG pickup truck from Chrysler Ram Trucks, General Motors' bi-fuel 2013 Chevrolet Silverado and GMC Sierra 2500 HD extended cab pickups, and gaseous fuel NPR HD trucks – both compressed natural gas and propane – from Isuzu Commercial via Utilimaster. Freightliner Custom Chassis Corp introduced its dedicated-propane S2G.

Westport LD and Venchurs were among the new upfitters increasing the choices in CNG trucks, while the veterans BAF, Impco Automotive and Landi Renzo USA showed new vehicle types and announced new customer relationships. Truck electrification was in evidence too with products ranging from Motiv's versatile open architecture design for battery electrics to battery aerial lifts from Altec and Terex. Variable Torque Motors and Lightning Hybrids offered hybrid electric and hydraulic hybrid retrofits, respectively.

In heavier vehicles, Freightliner showed a new CNG model, the SD114, and Navistar International showed a new CNG DuraStar.

Paccar's Kenworth and Peterbilt units brought Eaton-drive hybrid electric and CNG-fueled trucks, respectively.

Events

Energy Independence Summit This Week

March 25-28, Energy Independence Summit 2012 hosted by the Transportation Energy Partnership. Renaissance Arlington Capital View Hotel in Arlington, Va. (immediately outside Washington).

Westport Innovations, Encana and Clean Energy Fuels are gold sponsors. Emphasis on funding and incentives.

Nancy Sutley, chair of the White House Council on Environmental Quality, is a keynote speaker.

for TEP (at Clean Fuels Ohio), Sam Spofforth, 614-884-7336; sam@cleanfuelsohio.org or (at the East Tennessee Clean Fuels Coalition) Jonathan Overly, 865-974-3625; jgoverly@utk.edu; www.transportationenergypartners.org

EVs Land, Sea & Air This Week

March 27-28, Electric Vehicles Land, Sea & Air USA 2012, billed as "the only event covering all forms of EVs and their parts for land, sea and air."

DoubleTree Hilton Hotel in San Jose, Calif.

Optional Masterclasses **March 26 & 29**.

Save 25% on conference and Masterclass registrations with Fleets & Fuels promotional code **FAF25**.

Organized by the UK's IDTechEx.

IDTechEx, Teresa Henry, +44-1223-813703; t.henry@IDTechEx.com; www.idtechex.com

Opportunities in China This Week

March 29, Advanced Transportation Market Opportunities in China. Craneway Pavilion in Richmond, Calif. Seminar organized by the U.S. Department of Commerce and UPS, with backing of Calstart and the Port of Richmond.

Oakland Export Assistance Center, director Rod Hirsch, 510-273-7350; mobile 510-604-4187; rod.hirsch@trade.gov; www.calstart.org

The Battery Show 2012

November 13-15, The Battery Show 2012. Suburban Collection Showplace in Novi, Mich. Will include Charging Infrastructure Expo 2012, a new event – "the whole supply chain," says Adam Moore of organizer Smarter Shows, "will come together under one roof in the heart of the EV industry.

"This a free-to-attend, business-to-business buying forum," Moore says. "Charging Infrastructure Expo will provide the opportunity for all business' looking at their EV footprint, giving employees, customers and fleets the opportunity to speak directly with the leaders, whilst witnessing the technology first hand."

Smarter Shows (UK), Adam Moore, +44-1306-743811 or toll-free 877-842-6289; adam.moore@smartershows.com; thebatteryshow.com

LNG Premiers in Ohio Next Week

Clean Fuels Ohio is talking up the opening of Ohio's first LNG fueling station for trucks, a Clean Energy Fuels station hosted by Pilot Flying J in Seville, off I-71 west of Akron.

The new Clean Energy station will initially support liquefied natural gas trucks deployed by contract freight carrier Dillon Transport to deliver raw materials to Owens Corning production plants (*F&F,* December 12).

Dillon earlier this year deployed 14 LNG Peterbilt 384s, also with partner Clean Energy Fuels (**NASDAQ:CLNE**) for Owens Corning in Irving, Texas.

The Ohio LNG station and Dillon's ten trucks there were funded in part by Clean Fuels Ohio through a grant from the U.S. Dept. of Energy Clean Cities program.

Columbus-based Clean Fuels Ohio is hosting opening ceremonies at the Seville LNG station on the morning of **April 4**, followed by an LNG Trucking Workshop at noon.

Clean Fuels Ohio, Andrew Conley, 614-884-7336; andrew@cleanfuelsohio.org or Clean_Fuels_Ohio@mail.vresp.com (to RSVP); www.cleanfuelsohio.org

Ryder's Greg Swienton at ACT Expo

Momentum is gathering for ACT Expo, as organizer Gladstein, Neandross and Associates has confirmed Ryder System chairman and CEO Greg Swienton as a keynote speaker on **May 17**.

Greg Swienton

The Alternative Clean Transportation Expo 2012 – billed as "North America's largest convergence of alternative fuels stakeholders each year" – runs **May 15-17** at the Long Beach Convention Center in Long Beach, Calif.

"As the first fleet provider to make heavy-duty natural gas vehicles available for lease and rental," said GNA CEO Erik Neandross, "Ryder is a leader in the alternative fuels space and has made a significant commitment to provide companies with new technologies to meet their sustainability objectives.

CNG, LNG and More

Swienton will discuss Ryder's leadership and commitment to trucks powered by compressed natural gas, liquefied natural gas, and hybrid electric drive systems.

He will provide an update on Ryder's multiple public-private partnerships to deploy hundreds of heavy-duty natural gas trucks. Ryder has also recently introduced a "Flex-to-Green" flexible lease program that provides the maintenance and service benefits of a standard Ryder Full Service Lease with the flexible option to replace a leased diesel vehicle with a natural gas vehicle.

GNA, VP Anne Hellwig, 310-573-8558; anne@gladstein.org; www.actexpo.com

Meetings!!

Click here for instant access to a complete listing of upcoming meetings and conferences courtesy *Fleets & Fuels*

Strategies

GE Energy & Chesapeake-Peake

Venerable Giant Makes Commitment to NGVs, Teams with Chesapeake for Both CNG and LNG

GE is weighing into natural gas vehicles, teaming with Chesapeake Energy for both compressed natural gas and liquefied natural gas fueling.

GE – General Electric – is augmenting its high-volume natural gas products oriented to power generation with new products aimed at fueling NGVs.

Chesapeake, the leading independent natural gas E&P (exploration and production) company, is helping GE place its Micro LNG and CNG In A Box products through a new affiliate called Peake Fuel Solutions. (Chesapeake is backing Clean Energy to establish truck stop LNG fueling, and is helping 3M develop lighter and cheaper CNG fuel cylinders.)

"Over the years, we have developed complex, large-scale turbocompression machinery required for LNG applications," GE Oil & Gas global services VP Andrew Way said at GE's Micro LNG was unveiled in Italy.

GE offers equipment for both CNG and LNG vehicle fueling

"By leveraging our proven expertise, we now have developed a specific solution to address smaller-scale requirements."

The GE-Peake partnership, Chesapeake Energy CEO Aubrey McClendon said as CNG In A Box was announced this month, "combines Chesapeake's natural gas expertise with GE's extensive global manufacturing capabilities and will bring transformative products to industries and individual consumers across the U.S."

Beginning thus autumn, the companies said, GE will provide more than 250 of the modular and standardized CNG compression stations.

The compact CNG units will be unveiled at the NACS 2012 meeting in Las Vegas early the coming October, says Norman Herrera, a Chesapeake market development director. NACS stands for National Association of Convenience Stores.

An initial CNG In A Box is to support Chesapeake NGVs by August, GE says.

CNG In A Box units feature Gemini compressors (acquired by GE in 1999) and Wayne dispensers (acquired in 2011), including Wayne point-of-sale knowhow. Optimum integration of in-house equipment will make for superior fuel delivery with lower-horsepower compression, even with low inlet pressures, GE says, promising pricing, across a six-box line, that's more attractive than "than all the other major competitors in the market." CNG will be available at rate up to 7.5 GGE – gasoline gallon equivalents – per minute.

The new skid-mounted Micro LNG stations are likewise highly integrated, GE says, and are engineered for minimal methane consumption per ton of LNG produced.

The new NGV fueling products fall under GE's Ecomagination brand, which also encompasses electric vehicle chargers, smart grid products, and dozens of energy-saving technologies, up to and including locomotives and jet engines.

Likewise, beyond road NGVs, Chesapeake Energy's new Peake Fuel Solutions unit is eyeing marine and rail applications for natural gas fuel.

Chesapeake Energy at a glance

Headquarters: Oklahoma City, Oklahoma
Employees: 10,000
Products: natural gas
Sales & Earnings: Net earnings of $1.6 billion on total sales of $11.6 billion in 2011.

Chesapeake Energy has invested $150 million Clean Energy Fuels toward establishment of truck stop fueling in the U.S., and more recently put $10 million into an effort by 3M to apply proprietary polymer materials for better CNG tanks. Chesapeake is second only to ExxonMobil in U.S. natural gas production, with large positions in numerous shale gas projects.

Key Contacts at Chesapeake-Peake

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Mark Harris (Peake Fuel Solutions), 405-935-6475; mark.harris@chk.com

Chesapeake Energy Corp
6100 North Western Avenue
Oklahoma City, OK 73118
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GE at a glance

Headquarters: Fairfield, Connecticut
NGV Headquarters: Houston, Texas
Employees (company-wide): 301,000
NGV Products: liquefied natural gas and compressed natural gas via new Micro LNG and CNG In A Box
CNG Suppliers: Hoerbiger, Swagelok, Parker
Sales & Earnings: Net earnings of $13.12 billion on total sales of $147.3 billion in 2011.

GE is one of the world's largest and most venerable industrial institutions. Tracing its origins to Thomas Edison in 1878, it is only firm to have been listed on the Dow Industrial Index since 1896.

Key Contacts at GE

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