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CalNGV News

The newsletter of the California Natural Gas Vehicle Coalition

News Briefs

Study: LNG Trucks Cut Emissions 21 Percent LNG trucks using a Westport ISX G engine have 21 percent lower greenhouse gas (GHG) emissions than an equivalent diesel truck, according to a study by the California research firm TIAX. A typical Westport LNG truck operating at the San Pedro Bay ports will cut 21 tons of GHG emissions a year, the firm found.

"Using the example of the San Pedro Bay ports, operating 8,400 LNG container-hauling trucks at the ports could realize the equivalent of removing over 39,000 cars from the road or 176,400 tons of GHG reductions annually," said Mike Gallagher, president and chief operating officer at Westport Innovations, in the company's Dec. 8 announcement.

Westport and Clean Energy Fuels Corp. commissioned TIAX to develop a lifecycle cost and emissions estimator for the comparison of current and future heavy-duty engines fueled by diesel or natural gas. The model includes three different heavy-duty applications for California: urban buses, refuse haulers, and heavy-duty (long-haul) trucks. Well-to-wheels emissions were factored using California's modified GHG Regulated Emissions and Energy in Transportation (CA-GREET) model.

The report provides well-to-wheels emissions analyses for 11 natural gas fuel pathways. These pathways deliver 18–25 percent lower GHG emissions (with an all–North American natural gas supply) compared with the cleanest available diesel

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Coalition Files LCFS Comments

Response to latest draft regulation argues for changes to support alternative fuels growth

The Coalition filed comments Dec. 19 on CARB's December draft of the Low Carbon Fuel Standard (LCFS) regulation, addressing issues relevant to the natural gas industry as well as provisions that could help—or harm—the ability of all low-carbon fuels to achieve significant market penetration in California.

The comments address proposed regulatory language in several areas:

Applicability The Coalition reiterates its recommendation that fuels compliant with the 2020 standard should be exempt from the LCFS unless the regulated party for that fuel wishes to generate LCFS credits.

'There is simply no way the state will meet its LCFS goal ... by 2020 without including diesel.'

In addition, the Coalition is seeking an explanation of why 3.6 million gasoline gallon equivalents (gge) was set as the threshold for fuels distributed in low volumes to qualify for exemption from the LCFS, and requests an increased threshold to accommodate biomethane facilities. Whatever the threshold, the exemption should apply to individual low-volume fuel providers, not to all statewide sales of the fuel, the comments say, and owners of home refueling appliances should be categorically exempt. The comments also urge CARB to consider biomethane volumes separately from a producer's sales of CNG and LNG, so that research and technology advancement for biomethane are not impeded.

Standards The Coalition strongly supports applying the LCFS to both diesel and gasoline—as the draft regulation does—and urges CARB to reject the Western States Petroleum Association's request to limit the standard to gasoline. "There is simply no way the state will meet its LCFS goal … by 2020 without including diesel," the comments say, adding that while there may be some question about whether diesel fuel will meet the 2020 standard, currently available alternative fuels that are suitable for diesel applications—like CNG and LNG—meet the standard today.

The Coalition also again recommends establishing a "straight line" compliance curve between 2010 and 2020. "This approach will recognize the need to achieve the 2020 goal incrementally, but will also recognize the full value of

credits generated in early years by low-carbon fuels," the comments say.

The current draft regulation is heavily backloaded, requiring only a 0.8 percent reduction in carbon intensity in the first four years of the LCFS. In addition, refiners are asking CARB to essentially divide the 10-year compliance schedule into two 5-year phases, and their proposal appears to suggest that the second phase would be conditioned on CARB making certain findings.

"We are very concerned that some parties are setting the table to justify their failure to meet the 2020 standard and to eliminate the 2020 requirements, particularly for the diesel pathway," the comments say.

Compliance The Coalition is recommending further refinements to the definition of the regulated party for natural gas: For CNG, the regulated party should be the entity that holds title to the fuel when it is compressed and dispensed to motor vehicles. For biomethane, the regulated party should be the biomethane producer, unless the producer has a written agreement with the owner of the fuel-dispensing facility transferring the responsibility to that facility. For LNG, the Coalition is requesting further discussion with CARB before making a recommendation.

Under quarterly reporting requirements, the Coalition proposes deleting the requirement for metering at each fuel dispenser, and instead requiring each facility to report the amount of CNG and LNG dispensed that displaces gasoline or diesel. All LNG dispensed should be presumed to displace diesel. All CNG dispensed should be presumed to displace gasoline or diesel consistent with a ratio established by CARB based on current CNG usage records.

LCFS Credits and Deficits The Coalition recommends eliminating a new provision capping the use of prior-year LCFS credits at 20 percent of a regulated party's annual obligation.

CARB apparently is concerned that early credits will flood the market, allowing a regulated party to meet its obligations with early-year credits rather than by reducing the carbon intensity of its fuel. However, "This proposal, combined with the backloaded compliance schedule, amounts to a powerful double hit against low-carbon fuels, and especially very-low-carbon fuels like biomethane that will be compliant in the early years," the Coalition says. "A vibrant, fully valued credit market is essential if these fuels are to gain a foothold in a market that is overwhelmingly dominated by high-carbon fuels."

Besides, the comments note, "Large credits can be generated only if large volumes of low-carbon fuel are being produced and sold into the California transportation market. We do not understand why that achievement should be severely discounted. Instead it should be encouraged."

If CARB insists on a cap, the Coalition asks that the regulation clarify that prior-year credits can be sold outside the LCFS market. In addition, the Coalition proposes that CARB delete language prohibiting an external third party from buying, selling, or trading LCFS credits, or state that parties other than the regulated party may purchase, sell, and trade LCFS credits.

Biomethane The Coalition is requesting clarification of the draft regulation's definition of "biomethane," noting that it must include biogenic gas derived from landfills, wastewater treatment plants, and dairy farms. The comments also recommend that CARB delete "pipeline quality" from the definition because all pipeline owners require natural gas entering their pipeline to be pipeline quality, and the specification could be interpreted as excluding biogenic natural gas that's trucked to a fueling facility. ◗

CARB Truck Rule Opens Opportunities

CARB has adopted a Statewide Truck and Bus rule for on-road heavy-duty diesel vehicles that requires owners of more than 400,000 state-registered vehicles and 500,000 out-of-state vehicles that visit California each year to modernize and retrofit their fleets to cut PM and NOx emissions (*CalNGV News*, 11.3.08).

The regulation, approved Dec. 12, calls for fleets to upgrade vehicles to

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fuel (ultralow-sulphur diesel). The most likely pathway for the South Coast region is gas liquefied at the Clean Energy plant in Boron and trucked on-site.

Get the report at www.westport.com/pdf/GHG_and_Criteria_Pollutant_Emissions_Estimator.pdf.

NaturalDrive Offers CNG Impala NaturalDrive Partners has obtained EPA certification for its dedicated CNG retrofit of the 2008 Chevrolet Impala, and met with CARB Dec. 11 to lay out a plan to obtain CARB certification.

"It went really well," says John Mitton, co-founder of the Phoenix-based company. "We know exactly what we need to do; we just need to line up the funding with sponsors and partners."

The CARB SULEV certification would be for the 2009 model year, possibly in the early third quarter, Mitton says. Main markets for the six-cylinder vehicle, which has a range of up to 375 miles, are taxis, law enforcement, and other municipal and government fleets.

"In California there are quite a few fleets anxious to get this done," he says. "I think there's also a broad consumer opportunity in California, given the infrastructure there."

Mitton has an order for 10 vehicles from Oklahoma State University, and a number of fleet orders pending in other states. The 2008 model is available in Utah, Arizona, Alabama, Colorado, and Indiana.

Get more information at www.naturaldrive.com.

Port Operators Get 232 New LNG Trucks California Cartage took delivery Dec. 8 of 132 LNG trucks from Daimler Trucks North America for operation at the ports of Long Beach and Los Angeles; 100 more are slated to go to other motor carriers and owner-operators under the ports' clean truck programs.

Nearly $12 million in grants from

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meet best available control technology (BACT) performance standards. The BACT standard for PM is an engine equipped with the highest-level verified diesel-emission control strategy (DECS) or an engine with an OEM-installed particulate filter. The BACT standard for NOx is a new engine manufactured in 2010 or later, or a 2010-equivalent engine.

Starting Jan. 1, 2011, fleets will have to install DECS for certain engine model years. Between January 1, 2013, and the end of 2022, fleets will have to reduce both PM and NOx emissions by accelerating engine or vehicle replacement. Small fleets (three or fewer vehicles) have an extended compliance schedule.

Three Compliance Paths Fleets can comply in one of three ways: retrofitting and replacing vehicles according to a schedule based on each engine model year; installing a minimum number of DECS and replacing a minimum number of engines each year; or achieving a fleet average for NOx and PM, with targets declining over time. Fleets can choose a different option for each pollutant.

With the fleet average option, fleets will receive credit for using alternative fuel or heavy-duty pilot-ignition engines. In calculating the NOx and PM target rates, CARB will assign these engines a PM emission factor of zero and a NOx emission factor based on the engine certification year. Fleets can also get credit for hybrid vehicles if their fuel economy is at least 20 percent better than an equivalent conventional vehicle.

"There are going to be lots of retrofits, but also quite a few replacements," says Coalition consultant Pete Price. "There is no requirement that a certain number of replacements be alternative fuel vehicles, but this certainly creates an opportunity for us to make our case for cost-effectiveness as well as environmental superiority."

Public Health Wins Out Before voting on the rule, CARB heard plenty of public comments from trucking industry representatives predicting dire economic consequences and public health and environmental groups calling the regulation a necessity.

Heavy-duty big rigs are the state's largest remaining source of unregulated diesel emissions, responsible for 32 percent of smog-forming emissions and nearly 40 percent of cancer-causing emissions from diesel mobile sources, according to CARB. And results of a nationwide, long-term study announced just before the meeting provide new evidence that trucking industry workers who have regular exposure to diesel and other types of vehicle exhaust suffer the most, the agency pointed out.

The research, "Lung Cancer and Vehicle Exhaust in Trucking Industry Workers" by Eric Garshick and colleagues, was published in *Environmental Health Perspectives*. The researchers found that trucking workers with an estimated 20 years on the job had an increased risk of lung cancer; long-haul workers, dockworkers, pickup and delivery drivers, and people who worked as both dockworkers and pickup and delivery drivers had an increased risk compared with workers in other job categories, such as clerks and mechanics.

"We've known for more than a decade that exhaust from diesel trucks is dangerous," said CARB Chair Mary Nichols in announcing the findings. "The more we study these emissions the more dangerous it appears."

Funding Encourages Early Compliance CARB noted that the state is offering more than $1 billion in funding opportunities to help truck owners upgrade their vehicles, including Carl Moyer grants, Proposition 1B funds, and the AB 118 low-cost truck loan program for early compliance.

Price points out that CARB clearly is encouraging truckers to comply before the rule goes into effect, since "you can't get state money if all you're doing is complying with a rule. It appears that CARB is putting a tough rule in place with enough lead time so that vehicles owners will conclude, 'I'd better act early.' Again, that's an opportunity for us."

Regulation documents are available at www.arb.ca.gov/regact/2008/truckbus08/truckbus08.htm.

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the South Coast AQMD, drawing on a U.S. EPA grant and state Proposition 1B funding, supported the Cal Cartage purchase. The vehicles are Sterling Set-Back 113 trucks powered by the 8.9-liter Cummins Westport ISL G engine, which meets 2010 EPA standards. It's the largest single U.S. delivery of LNG trucks ever, according to Daimler's announcement.

Long Beach Yellow Cab to Procure 100 CNG Taxis Administrative Services CO-OP (ASC), the largest taxicab cooperative in the western United States, has begun procuring CNG-powered taxis for deployment by ASC member Long Beach Yellow Cab. The company will receive 100 CNG cabs over the next four years. Clean Energy's public-access stations provide fuel for all of ASC's CNG fleets, including four others in the Los Angeles area.

Funding for the new cabs was provided by a grant from the Mobile Source Air Pollution Reduction Review Committee and the South Coast AQMD.

Toyota CNG Hybrid: Sign of Things to Come? Toyota has not said when (or if) it plans to sell its CNG Camry Hybrid concept car, which debuted at the Los Angeles Auto Show in late November, but Chris Hostetter, Toyota group vice president of Advanced Product Strategy, had this to say: "Toyota believes CNG has huge potential, both in the U.S. and globally."

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