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Near-Zero Emission Natural Gas Truck Technology Proven Ready for the Rigors of Port Drayage Operations

LOS ANGELES - The California Natural Gas Vehicle Partnership is pleased to recognize the actions of North America's largest shipping ports—Los Angeles and Long Beach—to officially upgrade today's commercially available, near-zero-emission (NZE) heavy-duty natural gas trucks to the highest Technology Readiness Level—TRL 9— in their *Feasibility Assessment for Drayage Trucks*.

The feasibility assessment was first published by the Ports in March 2019 as a means to evaluate the feasibility of various zero-emission (ZE) and NZE drayage truck fuel-technology platforms based on four key parameters: commercial availability, operational feasibility, infrastructure availability, and economic workability. NZE natural gas trucks are the first technology in the Ports' assessment to achieve the TRL 9 rating. The assessment plays an integral role in the forward strategy of the Port's groundbreaking Clean Truck Program.

The upgraded rating was achieved following the successful demonstration of 20 natural gas trucks (powered by the Cummins ISX12N NZE engine) in daily drayage operations with Total Transportation Services (TTSI), NFI, CR&R, Pacific 9 Transportation, 4Gen, Green Fleet Systems, and Orange Avenue Express. The demonstration trucks—designed for the 80,000 lbs gross combined weight rating typical in drayage—accumulated 567,603 miles running between the Ports and distribution centers throughout Southern California. Since completing the demonstration, the demonstration trucks have surpassed 1 million miles of operation.

"In our experience, NZE natural gas trucks are the closest direct replacement for diesel trucks in terms of their power and speed, the 600-mile range they provide between refueling, the ability to fast-fuel in about 10 or 15 minutes, and most importantly, their ability to compete on a cost-per-mile basis," said Vic LaRosa, CEO and President of TTSI. "Our fleet has been operating NZE natural gas trucks reliably and cost-effectively for several years and plans to continue our investment based on the proven results and ROI we've achieved."

The demonstration, led by Clean Energy and Cummins Westport, was conducted under a grant (GFO-16-604) provided by the California Energy Commission (CEC) and the South Coast Air Quality Management District (South Coast AQMD).

"Cummins Westport is excited for the Ports of Los Angeles and Long Beach to officially recognize the commercial readiness of NZE natural gas trucks," said Gord Exel, President of Cummins Westport. "We have thousands of NZE natural gas engines now operating throughout the country in Class 8 trucking operations, and more than 100 operating in the Southern California Ports; there is no question that our ISX12N engines will continue to provide the power and performance needed to reliably haul freight every day."

The Ports of Los Angeles and Long Beach, which handle nearly 40 percent of the nation's total containerized import traffic and 25 percent of its total exports, have made Southern California a major global goods movement hub with an expansive network of warehouse distribution centers. The heavy-duty diesel trucks that support the industry are the backbone of California's thriving goods movement economy but are also one of the largest sources of emissions in Southern California. Heavy-duty diesel trucks cause smog and unhealthy air for 90 percent of Californians—about 35 million people. These impacts are particularly pronounced for residents living near major transportation corridors and in communities disproportionately impacted by truck traffic.

"Reducing diesel truck emissions from the 17,000 drayage trucks operating in our region each day will significantly reduce air pollution from the Ports," said Wayne Nastri, Executive Officer at South Coast AQMD. "With a continued need for goods movement, it is critical to deploy more cost-effective, commercially ready near- or zero-emission solutions that can help us reach our clean air goals."

"Air pollution from diesel trucks harms people every day in Southern California, so it is imperative that we see more aggressive efforts to meet the Ports' stated goal of transitioning the current diesel-fueled drayage truck fleet – the largest fleet of trucks in Southern California – to near-zero emission technology as soon as possible," added Marc Carrel, President and CEO of BREATHE California of Los Angeles County.

The NZE ISX12N natural gas engine is produced in the Cummins engine plant in Jamestown, NY. "With our production capacity and partnership with Freightliner, Kenworth, Mack, Peterbilt and Volvo to sell this proven commercial product, there is effectively no limit on how many NZE trucks can be produced and delivered to meet the clean air needs of the Southern California ports," Exel added. "As soon as the orders for these trucks are placed, we will build the engines and the trucks will be delivered shortly thereafter."

Southern California fleets benefit from the existing and extensive public access natural gas refueling network, including multiple high-volume truck capable stations in the San Pedro Bay Ports, Southeast Los Angeles, and Inland Empire region. This fueling infrastructure is poised for the addition of several thousand trucks and the private sector is ready to invest in the development of additional infrastructure as demand grows.

"During these challenging economic times, this presents a unique opportunity for the deployment of private capital to facilitate our collective clean air efforts," noted Andrew Littlefair, President and CEO of Clean Energy. "There is no need for public taxpayer or ratepayer incentives to build out this low carbon infrastructure; we have the private sector capital ready to go and we look forward to the Ports leading on this innovative public-private partnership opportunity."

When NZE natural gas trucks are fueled with renewable natural gas (RNG), significant reductions of greenhouse gas (GHG) emissions can also be achieved. In California, more than 75 percent of the natural gas vehicle fuel being used in California today is renewable, according to the California Air Resources Board (ARB) Low Carbon Fuel Standard (LCFS) program data (Q1-Q3 2019).

"With a substantial expansion of in-state renewable natural gas projects now underway—with many of these projects having very low to negative carbon intensity (CI) values —the GHG emission reduction



benefits of the expanded use of heavy-duty natural gas trucks in the state will only continue to increase," added Todd Campbell, Vice President of Public Policy for Clean Energy and the Chair of the California Natural Gas Vehicle Partnership (CNGVP). "There's a real win-win opportunity here and the CNGVP members look forward to helping California to meet its environmental and economic goals in the immediate term."

To learn more about the "Feasibility Assessment for Drayage Trucks," visit https://cleanairactionplan.org/documents/final-drayage-truck-feasibility-assessment.pdf

To learn more about how NZE natural gas trucks fueled by renewable natural gas offer one of the best options to help California achieve clean air and climate change mitigation as quickly, effectively, and efficiently as possible, visit <u>www.cngvp.org</u>.

About CNGVP

The California Natural Gas Vehicle Partnership (CNGVP) is an alliance of air quality, transportation and energy agencies, vehicle and engine manufacturers, fuel providers, transit and refuse hauler associations, and other stakeholders interested in increasing and strengthening the deployment of near-zero emission (NZE) natural gas vehicles throughout California. <u>www.cngvp.org</u>

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