

**Comments of Joseph T. Dalum  
Executive Vice President, DUECO, Inc.  
And  
President of Odyne**

**April 21, 2009**

**In support of the proposed Air Resources Board  
Hybrid Truck and Bus Voucher Incentive Project (HVIP)**

**AB 118 Air Quality Improvement Program Funding Plan  
For Fiscal Year 2009 – 2010  
(FY 2009-10 Funding Plan)**

Clerk of the Board,  
California Air Resources Board,  
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Sacramento, CA 95814  
<http://www.arb.ca.gov/lispub/comm/bclist.php>  
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DUECO, Inc. appreciates the opportunity to share its views on the California Air Resources Board's AB 118 Air Quality Improvement Program Funding Plan for fiscal year 2009 – 2010 (FY 2009-10 Funding Plan), and in particular, on the proposed Hybrid Truck and Bus Voucher Incentive Project.

DUECO commends the ARB staff for developing a sound, comprehensive Air Quality Improvement Program Funding Plan. As a final stage manufacturer of plug-in hybrid electric heavy-duty trucks, DUECO is keenly aware of the need for incentives to help accelerate customer use of plug-in hybrid electric trucks, and to generate momentum for the rapid development of a mass market for these advanced technology vehicles. DUECO supports the Hybrid Truck and Bus Voucher Incentive Project (HVIP) that the Air Resources Board is proposing for FY 2009 – 2010, at a funding level of \$25 million.

We concur with the ARB staff that the voucher program being proposed can offer effective incentives to private *and* public fleets (who are not able to take advantage of tax credits that may be available to the private sector), since the ARB's proposed HVIP aims to provide funds to reduce the cost of a hybrid medium or heavy-duty vehicle in an amount equal to about half the incremental cost of the hybrid system. Additionally, DUECO commends the ARB for proposing that recipients of its voucher program also be eligible for federal tax credits and other local sources of funding support.

DUECO, Inc. also supports the ARB staff's proposal to enable plug-in hybrid electric heavy-duty vehicles to be eligible for the program during FY 2009-2010, if the vehicles meet certain strict criteria (without requiring that the vehicles be ARB-certified during this initial period). This is particularly beneficial since (i) plug-in hybrid electric technology for the heavy-duty sector is relatively new and undergoing continual development and refinement, and (ii) ARB's current certification protocols did not anticipate emissions reductions offered by the typical duty cycle of plug-in hybrid electric trucks such as the ones that DUECO makes. DUECO's vehicles are typically in use at work sites, operating aerial lifts or other hydraulic functions for several hours, or idling for long periods of time to power the climate control system. In a comparable, conventional truck, the diesel engine powers the aerial lift and auxiliary functions during idle, while in DUECO's plug-in hybrid electric trucks, the battery system provides power for these operations. The emissions benefits afforded by using battery power during idling and work site operation of aerial lifts, cranes, digger derricks, etc., are not reflected fully in the current ARB certification procedures for heavy-duty hybrid trucks. Additional fuel savings and reduced maintenance costs are achieved with propulsion assist and regenerative braking. DUECO continues to offer to work with the ARB to refine its emissions certification procedures in the future.

Programs such as the ARB's HVIP will help foster the rapid introduction of PHEVs in the medium and heavy-duty truck sector. Medium and heavy-duty trucks equipped with the plug-in hybrid technology developed by DUECO and

Odyne will enable California to more effectively achieve its 2020 and 2050 goals in three principal ways: (i) improved fuel economy, reducing the amount of diesel fuel consumed by the medium and heavy-duty truck sector, (ii) reduced greenhouse gas emissions and lower emissions of criteria pollutants, since an electric battery system will provide the power for truck mounted equipment and climate control systems used during work at a job site (vs. having a diesel engine on while working at a job site), and (iii) reduced noise in communities and improved work-site productivity and safety. A DUECO / Odyne heavy-duty plug-in hybrid electric truck could provide 40% to 65% reduction in diesel fuel use (depending on the number of hours spent each day operating truck mounted equipment at the job site, daily miles driven to and from the job site, and idle time at the job site). Annual savings of 1,400 – 2,000 gallons of diesel fuel per truck can be achieved, assuming 250 work days per year. This would translate into over 15 – 22 tons of CO<sub>2</sub> greenhouse gas reduction each year, per truck. DUECO commends the ARB for its development of the Hybrid Truck and Bus Voucher Incentive Project, and we look forward to working with California customers to take advantage of this opportunity.

Headquartered in Waukesha, Wisconsin, DUECO is one of the largest final stage manufacturers of utility trucks in the country. DUECO employs over 300 people, and has sold thousands of medium and heavy-duty trucks over the past 10 years. DUECO is a privately owned business operating for over 50 years, with a 100,000 sq. foot manufacturing facility in Waukesha, Wisconsin, and additional facilities in South Dakota, Minnesota, Indiana, Ohio and Pennsylvania.

We are a final stage manufacturer of trucks with aerial devices, digger derricks, cranes and other equipment that are sold to electric and gas utilities for the maintenance of their transmission and distribution power lines and underground gas delivery infrastructure, in a 15 state region. In addition to serving the electric utility sector, DUECO provides equipment and services for the telecommunications, contractor, electrical cooperative, municipality, gas utility and tree care markets. In California and other markets outside our 15 state region, DUECO partners with other companies, such as Terex Utilities, to provide local sales and service support. Our trucks are also used by companies throughout the country through our rental and leasing company, Utility Equipment Leasing Corporation (UEL). UEL has been in business for over 40 years, and has direct facilities in California (both in Sacramento and Ontario), as well as Florida and Texas.

Odyne, an affiliate of both DUECO and UEL, is an advanced technology company that develops and manufactures propulsion systems for advanced Plug-in Hybrid Electric Vehicles (PHEVs) for medium and heavy-duty trucks. Odyne integrates the electric power conversion, controls, and energy storage systems with a range of off-the-shelf components, including electric motors, drives, and storage batteries. Our plug-in hybrid electric vehicle system allows vehicles to operate with lower emissions, greater fuel economy, and lower costs.

In 2006, DUECO began to assess alternative hybrid vehicle technologies. Those activities led to a collaborative effort between DUECO and Odyne Corporation. Our efforts resulted in the introduction of the utility industry's first commercial plug-in hybrid heavy-duty truck in the Fall of 2007. Since 2007, DUECO has produced 17 plug-in hybrid medium and heavy-duty trucks for use by several utilities around the country, including two trucks to Pacific Gas & Electric Company (PG&E) in California, as well as Arizona Public Service (APS), Progress Energy, Florida Power and Light (FP&L), We Energies, Dayton Power & Light (DPL), Xcel Energy and others.

In January, 2009, DUECO announced the acquisition of most of the assets of Odyne Corporation by an affiliate. Manufacturing and development of plug-in hybrid drive systems has transitioned to the affiliate, further strengthening our commitment to the plug-in hybrid electric medium and heavy-duty truck market.

Plug-in hybrid technology for medium and heavy-duty trucks is in the early stages of testing and deployment. Low production volume and high cost threaten to delay wide-scale adoption. In order to rapidly accelerate the use of plug-in hybrid electric trucks over the next few years, a large increase in resources directed toward customer incentives, research, development, engineering and production will be required. With the aid of government funding and support, DUECO could produce and sell a substantial volume of plug-in hybrid electric medium and heavy-duty trucks over the next few years. Production could be further expanded to thousands of units through strategic partnerships with other final stage manufacturers and with chassis manufacturers.

We look forward to working with the California Air Resources Board to help achieve the goals of reduced emissions, improved fuel economy, lower costs and mass production in the plug-in hybrid electric medium and heavy-duty truck sector.