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"Keep the Environment & your Wallet GREEN with ReV-Systems.com"

WHITE PAPER - Diesel Emission Reduction and Increased Fuel Economy System for the Commercial Over-the-Road Trucks / Railway & Marine Vessel Industries.

The Challenge - America thrives and survives on the back of commercial over-the-road trucks, railway and sea transportation. It is how raw or finished goods in one form or another are delivered to consumers, whether its food, electronics, clothing, fuel, building supplies etc. All of these vehicles run on DIESEL fuel.

America is in a CATCH-22/dilemma because of this! The industry that supplies America is polluting the air causing major health problems in America today, and as Environmental Protection Agency (EPA) mandates this industry use clean air technology (which reduces vehicle fuel economy and performance), consumer costs increase, as OPEC (foreign countries) raise diesel fuel prices, consumer costs once again increase - while also sending even more money overseas! How can America face this challenge to solve this dilemma?

The Solution - ReV-Systems.com a New York State Corporation headed by President – Tom Dolan with Frank Siebert Vice President of Diesel Technology located in Plainview, New York has the solution. We believe our current & future diesel commercial vehicles should produce considerably less pollution, save more fuel and have even more power. Most diesel vehicles in the United States are inefficient, however they all can be successfully and economically retrofitted to substantially reduce emissions, produce substantial mileage gains and increased horsepower with an environmentally friendly, economical and commercially available add-on that ReV-Systems.com can provide called the "Trucker Cell"! This can all be accomplished by utilizing a patent pending technology that was designed by world leader/manufacturer, The Cell, Inc. in Sanford, Florida of HHO gas technology based systems. The "Trucker Cell" just received European Union CE certification in September 15, 2009. Of the 243,677 registered tractor trucks alone in the northeast states, sales to even a quarter of one percent of that market at \$10,235,000. - would represent a decent success! ReV-Systems.com is the National distributor.



Emitting cleaner emissions to help lower health risks while meeting or exceeding EPA standards can be achieved while also gaining an added value of fuel economy increases and increased engine performance will actually conserve your bottom line. The short term savings will pay for the system and long term will improve your costs and have a financial edge over your competition.

How It Works - The technology that the Trucker Cell is based upon is called - Hydrogen Combustion Catalyst (HCC). The principle of operation of the HHO gas fuel mixture has been studied for many years by National Aeronautics & Space Administration (NASA). The following is a brief description of how the system works:

The Trucker Cell system uses a process called electrolysis to break down water, on-demand, to produce orthohydrogen / parahydrogen / oxygen gas blend (HHO gas). This HHO gas is then introduced with the air-fuel mixture into the combustion chamber of the diesel engine where it acts as a catalyst to burn long fuel molecule chains with a much higher flame speed which results in enhanced combustion process in the engine resulting in lower emissions, lower losses to the cooling system and exhaust gas which increases horsepower and improve fuel economy.

The Benefits - Independent Laboratory Tests have demonstrated reduction of harmful emissions of between 50 – 90%, improved fuel economy from 20 - 60%, and 5 to 15% increase in horsepower. The improved fuel economy takes into account the electrical power required by the Cell® to produce the HHO gas it takes only 1.8 horse-power to create the full 80 Amps needed to run a two cell system (a "Trucker Cell") to its maximum capacity in a diesel 15 liter truck. It should be noted that the current results have shown only 45 amps is needed for optimum results.

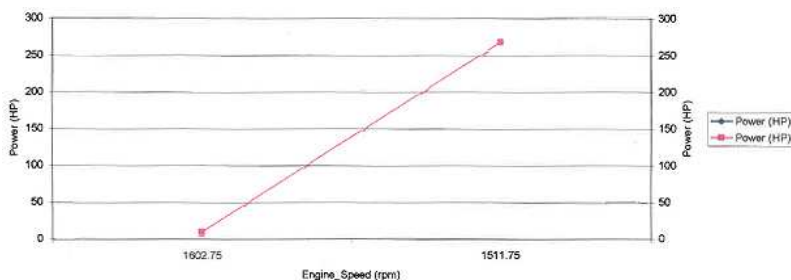
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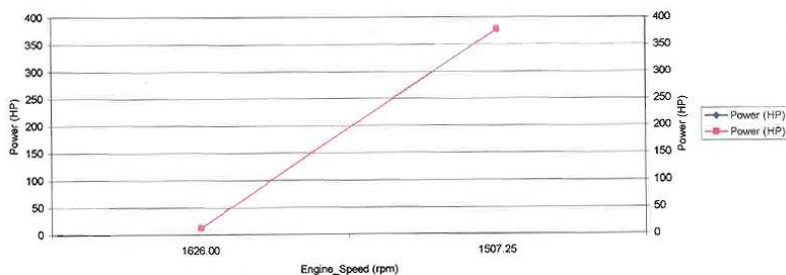
Increased performance of the engine will result in lower fuel consumption resulting in reduced operating costs, increased range, and reduced stress on the engine during operation will have even another benefit of longer durations between oil service cycles. Return On Investment (ROI) depending on mileage driven per year would normally be between nine to eighteen months.

The following test data has been compiled from a Dynamometer test performed at MACALLISTER POWER SYSTEMS 7575 E. 30th Street, Indianapolis, IN 46219 on April 22, 2009 on a 2008 Peterbilt model 389 Tractor six cylinder ISX 565 Cummins diesel engine.

The graph to the right reflects the engine operating normally with the Cell off.



The graph to the right reflects the same engine with the Cell switched on at its optimum output at amps.



The chart below shows the resultant data from the graphs and the reduction of emissions.

The Cell On/Off Comparison Chart				Emission Reduction Chart					
System	RPM	HP	Gal./hr	CO2	CO	HC	O2	Nox	NOxCor
OFF	1511	267	10.91	1.439	0.005	13.273	17.87	236.661	217.295
ON	1507	378	6.48	1.280	0.005	5.704	18.11	116.067	106.522
<i>Percentage Change</i>				-11.05%	0%	-57.02%	+1.32	-50.95%	-50.98%

The benefits that ReV-Systems.com reasonably anticipates, including estimated return on investment (ROI), will be reduced harmful emissions to below EPA’s Tier 4 Standards (as shown above), increased fuel economy savings in the range of 20 % to 60 %, increased engine performance in horsepower in the range of 5% to 15%, where comparable results should be found in the maritime and rail diesel propulsion. ROI will generally be in the neighborhood of nine to eighteen months

*(This data is derived from the Environmental Protection Agency (EPA)'s ratings estimates on carbon dioxide reduction).

Competitive technologies - Competitive technologies to the HCC systems today are the Selective Catalyst Reduction (SCR) and the Advanced Engine Gas Recirculation (EGR). The following two definitions briefly describe the technology and the chart will highlight strengths and weakness of each system. The competitive edge ReV-Systems.com has with the “Trucker Cell” is its ability greatly increases the fuel economy of any diesel engine, thus greatly decreasing fuel cost of those engines.

SCR - This system utilizes a urea solution known as diesel exhaust fluid (DEF) to neutralize nitrogen oxides Nox in the exhaust stream.

EGR - This system utilizes high-pressure common-rail fuel injection and electronically controlled air and fuel management to limit Nox.

The chart below compares Pro's and Con's of each Emission reducing technology.

	PRO's	CON's
SCR	Better Engine Combustion Greater Fuel Efficiency Converts Nox to harmless nitrogen and water	Buying DEF (Urea) - extra cost Immersion heater Required (Urea freezes at 12°F) Will add 250 - 600 pounds of extra equipment weight Engines de-rate if Urea runs dry
EGR	No additional fluid or components No additional burden on driver No impact on service intervals	Requires greater cooling capacity Decreases power density & fuel efficiency Requires diesel particulate filter due to increased PM levels Vehicle out of service several times a year for maintenance
HCC	Improves Engine Combustion Reduces Overall emissions by approximately 80% Improves power Greater Fuel Efficiency No additional burden on driver No impact on service intervals Freezing point of system is -54°F Self heated (for below -54°F)	Adds 104 pounds equipment weight Need to add distilled water at around every 3000 miles

Success Stories - ReV-Systems recently installed the "Trucker Cell" system on a heavy hauler of crushed concrete and organics materials company on Long Island, NY, Peterbilt tractor truck with a Caterpillar C15 - 475 diesel powered engine. Initial results show that the emissions were reduced in the range of 65 to 80 % range and fuel economy for this truck has gone from 3.8 MPG to 4.7 MPG (a 25.5% increase). The company's owner was quite impressed with the possibility of reducing his annual fleet of 25 trucks fuel bill of over one million dollars by 25%.

The second company's fleet of 350 International tractor trucks powered by a Caterpillar C-13 diesel engine hauling food products to supermarkets throughout to northeast was also showed excellent results. The fleet manager's meticulous record keeping on fuel economy revealed an increase from 5.1 mpg to impressive 9.3 mpg (a 65% increase) and a similar emission reduction as the above results.



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