



## NEWS RELEASE

### Contact:

Lou Conti  
President & CEO  
Fierce Fuel Systems  
(248) 701-1261  
[lconti@fiercefuelsystems.com](mailto:lconti@fiercefuelsystems.com)  
fiercefuelsystems.com

### FOR IMMEDIATE RELEASE

## Fierce Fuel Systems to Soft Launch the First-Ever Onboard Diesel Water Emulsion System

*Fierce Fuel Systems announces the limited release of the X<sub>2</sub>O™ fuel optimizer to U.S. heavy truck owners. The X<sub>2</sub>O creates on-demand emulsified fuels that reduce diesel fuel consumption up to 20%.*

**Auburn Hills, MI – February 15, 2015** – To remain competitive and advance toward stringent U.S. emissions mandates, [Fierce Fuel Systems](#) has a solution to keep older fleets on the road longer—emulsified fuels. Emulsified fuels reduce fuel consumption in an amount relative to the amount of water added. The company is offering a limited release of the X<sub>2</sub>O to unit injection system truck owners. Fierce Fuel Systems will be exhibiting at Technology and Maintenance Council's Annual Meeting & Transportation Technology Exhibition in Nashville, TN Feb. 16-18 and the Mid-America Truck Show in Louisville, KY Mar. 26-28.

“Since fuel costs represent approximately 40 percent of fleets’ budgets, 20 percent savings can potentially double owner’s profit margins. Our mission is to help legacy truck owners increase profitability, reduce emissions and extend truck life by optimizing diesel fuel,” says Fierce Fuel Systems’ CEO, Lou Conti.

### Diesel Water Emulsion is an Approved Alternative Fuel

DWE is an approved alternative fuel by the U.S. Environmental Protection Agency and California Air Resources Board. Emulsified fuels have been used since the 1930s for shipping dockyard loaders, ships, diesel-powered generators, city busses, mining, and other 24/7 operations. Prior to FFS, there has never been a technology that performs the micro-emulsification process directly onboard.

### The X<sub>2</sub>O Resolves Historic DWE Challenges

-More-

The major historic drawback with emulsified fuels has been that they were only offered in large premixed tanks. This process causes fuel-water separation unless large amounts of emulsifier chemicals are used and engines run constantly to avoid cold-start and corrosion problems. Additional obstacles with historic emulsified fuels include infrastructure accessibility and free water over time.

The X<sub>2</sub>O technology overcomes these drawbacks as it homogenizes and refines diesel and bio-blend fuels on an as-needed basis, which protects fuel integrity. Start-ups and shutdowns are completed on 100% diesel fuel, which safeguards free water from entering the fuel injection system components. The system overcomes terminal-based limitations by using diesel infrastructure, micro amounts of emulsifier additive, potable water, and the truck's air and 12VDC power.

### **Savings, Performance, and Emissions**

Modern trucks are costly and often troubled with fuel injection problems due to inconsistent fuel quality and fuel injection manufacturing standards. Older trucks are largely exempt from these challenges. Emulsified fuels are known to help keep the engine clean, reduce emissions, and decrease fuel consumption. Independent tests on the X<sub>2</sub>O confirm 17.3% fuel savings, and real-world tests show over 20% savings, regardless of fuel prices or driver habits. Particulate matter can be reduced up to 80% and nitrogen oxides up to 55%.

### **How the X<sub>2</sub>O Works**

Diesel, water, and an emulsifier additive are mixed together to create micro water bubbles encapsulated in diesel fuel. These droplets are small enough to pass through the fuel pump and injector nozzle spray holes. When the emulsified fuel droplets are injected into the combustion chamber, the water super heats, expands, and creates a micro explosion, which disperses the fuel into a fine mist. The fuel is atomized beyond the unit injector's capability, increasing the surface area between fuel and air by four times and diesel droplet density by 64 times. This secondary atomization process creates low temperature combustion and enables the fuel to burn more efficiently than regular diesel.

### **Three Driving Modes**

The X<sub>2</sub>O delivers three driving modes. The DWE Mode provides up to 20% savings in fuel consumption by mixing 20% water with 80% diesel. The X<sub>1</sub> Mode ultra refines diesel and bio-blend fuels for improved OTR performance and reduced operating costs.

-More-

The Bypass Mode operates on 100% diesel fuel. It is used for start up and shut downs as well as a default should any problems be detected.

### **Availability and Installation**

With 500,000 miles logged in testing, Fierce Fuel Systems is now accepting a limited number of beta test orders for the X<sub>2</sub>O™ fuel optimizer. After installation of the X<sub>2</sub>O, emulsified fuels can be generated wherever diesel fuel and potable water are available. Fleets can submit their truck style and mounting configurations to [www.fiercefuelsystems.com](http://www.fiercefuelsystems.com). The X<sub>2</sub>O is a turnkey system that requires no engine or electronic control module retrofits. It leaves the OEM systems intact and easily connects to fuel and air lines and 12VDC. The system can be transferred to another vehicle for ongoing payback. Self-installation can be done in four hours with basic skills, or fleets can take advantage of free on-site installation at the company's tech center in Auburn Hills, Michigan.

### **Live Demos**

Fierce Fuel Systems will present live demos of the X<sub>2</sub>O at the [Technology and Maintenance Council's Annual Meeting & Transportation Technology Exhibition](#) in Nashville, TN Feb. 16-18 and at the [Mid-America Truck Show](#) in Louisville, KY Mar. 26-28. These events will serve as a national soft launch for the company with the official launch scheduled for early 2016. For fleets, industry, and press who would like private one-on-ones with Fierce Fuel Systems' technology experts, contact Lou Conti at (248) 701-1261 or [lconti@fiercefuelsystems.com](mailto:lconti@fiercefuelsystems.com).

### **About Fierce Fuel Systems**

Fierce Fuel Systems, a division of Caisson Technology Group LLC, provides science-backed, engineering-driven solutions focused on providing improved performance and savings, while reducing emissions for diesel-powered equipment. The company focus is to deliver technologically advanced diesel fuel processing systems and proven alternative fuel solutions to the transportation and stationary power generation industries. Fierce Fuel Systems' tech center is located in Auburn Hills, MI. For more information, visit [www.fiercefuelsystems.com](http://www.fiercefuelsystems.com).

###