

Cummins and Peterbilt to Team Up on SuperTruck II

Innovative Research Team will Develop Cost-Effective Truck and Powertrain Technologies that Significantly Increase Fuel-Efficiency

COLUMBUS, Ind.--(BUSINESS WIRE)-- Cummins Inc. (NYSE: CMI) announced today that it will partner with Peterbilt Motors Company, a division of PACCAR (Nasdaq: PCAR) to develop and demonstrate technologies under the U.S. Department of Energy (DOE) SuperTruck II program.

"Cummins and the entire team is focused on developing technologies that can transform the industry and help our customers be more successful while continuing to be great stewards of the environment. Combining some of the best technical minds available for this project, I am confident that we can reach our goals and deliver results that are a win for our customers, a win for our organizations and a win for the environment," said Wayne Eckerle, Cummins Vice President of Research and Technology.

"Peterbilt is committed to continue pushing the industry's technologies to best serve our customers and the environment," said Darrin Siver, Peterbilt General Manager and PACCAR Vice President. "The success of the original SuperTruck program will be the groundwork for SuperTruck II. Our engineers are focused on improving engine efficiency, aerodynamics and other systems technologies to meet Greenhouse Gas (GHG) requirements for model years 2021, 2024 and 2027."

Subject to appropriations, the DOE will fund four projects to develop and demonstrate costeffective technologies that more than double the freight efficiency of Class 8 trucks, commonly known as 18-wheelers, over the 2009 baseline. The goal of the program is to accelerate the pace of reductions in petroleum consumption and greenhouse gas (GHG) emissions of the nation's freight transportation system.

For SuperTruck II, the Cummins—Peterbilt team will focus on breakthrough advances in Class 8 vehicle freight efficiency technologies that are cost-effective enough to be used in everyday real-world applications. Building on the solid foundation of SuperTruck I, Cummins will develop and demonstrate 55 percent or greater engine Brake Thermal Efficiency (BTE) at a 65 mile per hour cruise condition and the full team will demonstrate a greater than 100 percent improvement in vehicle Freight-Ton Economy (FTE) over the 2009 baseline vehicle.

BTE quantifies the fraction of the fuel's chemical energy that is converted into useful work by the engine system. FTE quantifies the mass and distance of freight transported per unit of fuel consumed.

"These investments will accelerate the development of innovative vehicle technologies that will save businesses and consumers money at the pump, cut carbon emissions, and strengthen our economy," said Acting Assistant Secretary David Friedman. "SuperTruck II builds on the successful SuperTruck I program, which has already led to more than twenty fuel saving technologies that have reached the commercial market."

Cummins and Peterbilt teamed together for SuperTruck I, first demonstrating more than 50 percent BTE and analytically defining technologies needed to achieve 55 percent BTE. Their demonstration tractor-trailer averaged a 76 percent increase in drive cycle FTE and a 43 percent reduction in GHG emissions versus a 2009 baseline truck -- all significant improvements. As evidence of the favorable market impact that DOE partnered research and development continues to have, many of the engine and drivetrain efficiency improvements and vehicle power demand reductions pioneered in SuperTruck I are headed for production with the latest model year 2017 product offerings by Cummins, Peterbilt and its key product delivery partners.

The full team of project partners, each playing a vital role, includes Peterbilt, Eaton and Bridgestone. Other key suppliers, labs and universities making critical contributions toward the project goals include Great Dane, Exa Corporation, Meritor, Oak Ridge National Laboratory, National Renewable Energy Laboratory and Purdue University. The team's customer council, led by Walmart Transportation, LLC, will provide important information on routes, technology needs, and critical market input, aimed at fostering more rapid market adoption of SuperTruck technologies.

About Cummins

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service diesel and natural gas engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. Headquartered in Columbus, Indiana, (USA) Cummins currently employs approximately 55,000 people worldwide and serves customers in approximately 190 countries and territories through a network of approximately 600 company-owned and independent distributor locations and approximately 7,200 dealer locations. Cummins earned \$1.4 billion on sales of \$19.1 billion in 2015. Press releases can be found on the Web at www.cummins.com. Follow Cummins on Twitter at <a href="https://www.twitter.com/cummins.com/cummi

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