



**For Immediate Release**

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## **Defense Logistics Agency Chooses CTE Team for H<sub>2</sub> Utility Vehicle Analysis**

The Defense Logistics Agency (DLA), a logistics combat support agency whose primary role is to provide supplies and services to America's military forces worldwide, has selected a research team led by The Center for Transportation and the Environment (CTE) to identify and apply novel on board hydrogen storage materials, processes, and power system designs to extend the operating range of electric utility vehicles. The CTE Team, which includes Gas Technology Institute, University of Texas at Austin – Center for Electromechanics, and Hydrogenics Corporation, combined experience, expertise, facilities, and past-working relationships with an analytical approach well suited to accomplish the system design objectives of Phase I, described below. Phase II will be competitively evaluated and awarded pending the outcome of Phase I.

In Phase I, the Team will conduct an engineering design analysis to identify and compare potential hydrogen storage technologies, such as metal hydrides, adsorbents, chemical hydrides (non-reversible liquids, solids) and physical storage (high pressure, cryo-compressed systems) for use on an electric utility vehicle. The analysis will identify trade-offs in performance for each of the options, including weight, volume and onboard (or operating) energy, and will result in a detailed report comparing the vehicle operating with on board hydrogen storage / fuel cell versus current state-of-the-art batteries in terms of length of service per charge or tank of fuel (extended range), power available, and refueling or recharging times.

Based on the results of the comparative analysis, the Team will select a hydrogen storage option and develop a complete power system design package integrating the design into the proposed electric utility vehicle.

Finally, the Team will submit a Phase II proposal to manufacture the hydrogen storage/power system, integrate the system into one or more of the selected utility vehicles, and deliver and support a 12-month operational demonstration of the vehicle at Defense Distribution Depot Warner Robins Georgia (DDWG).

The Phase II demonstration data will be used by DLA to determine the effect of real world operational conditions on performance, durability, and sustainability of the system, document the technology potential for marketing in a 5-10 year time frame, and build a business case for potential future applications.

#### **ABOUT THE PARTICIPANTS**

**The Center for Transportation and the Environment (CTE)** will provide project management and administration, including all cost and technical reporting as defined during contract negotiations. CTE is a nonprofit, 501 (c)(3) organization that develops technologies and implements solutions to achieve energy and environmental sustainability. Since its founding in 1993, CTE has managed a portfolio of over \$110 million in federal, state, and local cost-shared research, development, and demonstration projects involving more than 450 organizations in the advanced transportation technology field. CTE is also nationally recognized for its expertise in the measurement and evaluation of transportation demand management (TDM) programs and manages the Southern Hydrogen & Fuel Cell Coalition in partnership with the Federal Transit Administration. CTE has facilitated and leveraged funding for its projects and initiatives from the *U.S. Departments of Defense, Energy, Interior, and Transportation*, as well as from the *U.S. Army* and *NASA*, among many others.

**University of Texas at Austin – Center for Electromechanics (UT-CEM)** UT-CEM is a research center world renowned for development and demonstration of advanced energy storage and power generation systems, and teams with companies to get the technology to market. Its \$16M annual budget addresses about 20 development programs and seven active technology transfer programs. UT-CEM will lead the vehicle architecture analysis, design, and integration tasks for the selected vehicle platform. UT-CEM previously developed a CNG hybrid transit bus using our innovative energy storage technology that demonstrated critical acceleration improvements and energy capture from braking. Also, UT-CEM's active suspension technology that greatly improved ride and handling was also demonstrated. Other highlights of the program included a high-efficiency 150 kW permanent magnet motor/generator and full space-vector controlled power electronics and 90 kW UQM brushless wheel motors and converters.

**Gas Technology Institute (GTI)** With more than \$60 million in annual revenues, Gas Technology Institute (GTI), headquartered in Des Plaines, Illinois, with offices in Sugar Land, Texas, Washington, D.C., and Birmingham, Alabama, is the nation's largest nonprofit energy research and development organization. GTI will lead the hydrogen storage technology selection along with its integration into the selected vehicle platform. GTI has thirty years of experience in developing fuel cell, hydrogen storage, and hydrogen infrastructure technologies. GTI developed the first broadly commercialized fuel cell system that was licensed to United Technologies for sale worldwide (the PC-25).

**Hydrogenics Corporation** is a leading global developer of clean energy solutions, advancing the Hydrogen Economy by commercializing hydrogen generation (electrolyzers) and fuel cell power generation products. The company has a portfolio of products and capabilities serving the hydrogen and energy markets of today and tomorrow. Hydrogenics' two core areas of business include hydrogen generation systems for a full range of on-site applications and fuel cell power products, with particular focus on fully integrated power modules and fuel cell hybrid power packs.

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