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Cogent Energy Systems' HelioStorm Gasifier To Form Core of New Waste-to-Energy System Selected for US Navy SBIR Phase II Grant

MERRIFIELD, VIRGINIA, July 10, 2017 -- Cogent Energy Systems (www.cogentenergysystems.com) today announced that its engineering partner, Creare LLC of Hanover NH, was selected for a Small Business Innovation Research (SBIR) Phase II grant from the US Navy to fabricate a complete waste-to-electricity system using Cogent Energy Systems' HelioStorm Gasifier as the core waste processing technology. The system will be capable of cleanly converting up to 3.5 tons per day of mixed waste into energy-rich synthesis gas. This syngas will then be directly combusted in standard military generators to produce almost 800 kWh of net electricity per ton of waste processed. This electricity will be available on-site for general use at a base or naval operation.

"This SBIR award is an important step in the commercialization of our HelioStorm technology," said Dr. Abraham E. Haspel, CEO of Cogent Energy Systems. "We look forward to working with our engineering partner, Creare, to build this full commercial scale system that is expected to exceed US Navy specifications."

Cogent's ultra-high temperature ionic gasification technology has been proven to handle a wide variety of feedstocks with moisture content up to 50%, including municipal solid waste, biomass and bio-oil. Tests conducted on municipal solid waste during Phase I of the SBIR grant resulted in extremely clean syngas capable of powering existing military generators, without creation of hazardous by-products.

Ionic Gasification is Cogent's proprietary new process that involves the direct-contact processing of biomass and/or solid waste in an active plasma field at temperatures of 3,000 to 10,000 degrees Celsius, resulting in an extremely clean, high energy syngas that can be used to make many profitable products such as electricity, hydrogen, liquid fuels, and chemical precursors.

"Our engineering team is excited to continue our work on this Navy project" said Dr. Jay Rozzi, a Principal Engineer at Creare. "The work we will undertake will accelerate the commercial application of waste-to-energy opportunities at small scale in markets that are not currently accessible." These opportunities include distributed energy applications in remote communities, military applications, and industrial parks, among many others.

Work on Phase II will begin this month with fabrication, and characterization of the system's performance is scheduled for 2018.

About Cogent Energy Systems

Cogent Energy Systems, Inc. was incorporated in 2012 to develop and commercialize next-generation gasification technology, based in part on intellectual property licensed from Idaho National Laboratory.

Cogent's HelioStorm Gasifier is specifically designed to meet the growing demand for small scale waste processing. Each gasifier can convert a wide range of feedstocks. Cogent's innovative Ionic Gasification technology allows the HelioStorm to complete the entire waste conversion and syngas conditioning process in a single processing vessel, bypassing the need for separate conversion and conditioning systems.

About Creare LLC

Creare LLC is an engineering research and development firm located in Hanover, New Hampshire. Founded in 1961, Creare provides industrial and government clients in the medical, aerospace/defense, energy, process, and manufacturing industries with services ranging from applied research to prototype design, fabrication and testing. Core areas of expertise include thermodynamic systems, fluid mechanics, heat and mass transfer, cryogenics, electronics and software development, advanced manufacturing, sensors and control systems.

Customers value Creare's ability to solve their toughest engineering challenges to help them innovate new products, gain competitive advantage, and shorten time-to-market.