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US Navy Awards Creare LLC SBIR Phase II Option for Waste-to-Energy Project Based on Cogent Energy Systems' HelioStorm Gasifier

MERRIFIELD, VIRGINIA, October 9, 2018 -- Cogent Energy Systems (www.cogentenergysystems.com) today announced that its engineering partner, Creare LLC of Hanover NH, was awarded the Option Phase for its Small Business Innovation Research (SBIR) Phase II grant from the US Navy. The new grant extends funding for Creare to continue fabricating a complete waste-to-electricity system using Cogent Energy Systems' HelioStorm Gasifier as the core waste processing technology.

Currently, the team is conducting shake-down tests of Cogent's HelioStorm Gasifier unit. Creare will use the additional funds to build, integrate and test the full end-to-end system. When complete, the integrated 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 a commercial electric generator 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.

"The extension of the Navy's support is another indication of the value and importance of small-scale waste-to-energy in general, and our HelioStorm technology in particular," said Dr. Abraham E. Haspel, CEO of Cogent Energy Systems. "We appreciate the vote of confidence, and look forward to continuing to work with our engineering partner, Creare, to deliver this full commercial scale system to the Navy."

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 resulted in extremely clean syngas capable of powering existing military generators, without creation of hazardous by-products.

Ionic Gasification is Cogent's proprietary process that involves the direct-contact processing of biomass and other 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.

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 aerospace/defense, energy, process, manufacturing, and medical 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.