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Cogent Energy Systems Selected for Competitive High Impact Research and Development Program

Cogent will collaborate with the National Renewable Energy Laboratory to demonstrate small-scale waste-to-energy solution in microgrids

MERRIFIELD, VIRGINIA, May 10, 2017 -- Cogent Energy Systems (www.cogentenergysystems.com) today announced that it is a winner in a competitive selection process to work collaboratively with researchers at the Energy Systems Integration Facility (ESIF) at the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) located in Golden, Colorado. This collaboration will enable Cogent to demonstrate the company's HelioStorm™ gasification system for small-scale waste to electricity production in ESIF's simulated microgrid environment. This is Cogent's second partnership with NREL following an earlier agreement for testing synthesis gas produced by the HelioStorm gasifier.

Cogent's small-scale waste-to-energy (WTE) technology was chosen from a large pool of applicants as part of NREL's search for high impact projects that address the challenges of grid modernization in the United States. Cogent's project will show how best to integrate WTE with multiple other technologies such as solar power, wind power and energy storage in a microgrid environment. An important goal for NREL is to find technologies that are scalable and can offer valuable lessons for national implementation. The flexibility and modular nature of Cogent's gasification technology allows it to meet this goal and makes it an ideal fit for small-scale waste-to-energy applications.

"Cogent's HelioStorm gasifier unlocks the door to 24/7 on-demand electricity in microgrids while helping solve waste disposal issues. We are looking forward to working with the staff at NREL to demonstrate the potential contribution and reliability of a small-scale waste-to-energy solution in microgrids," said Dr. Abraham E. Haspel, CEO of Cogent Energy Systems.

The project is slated to begin this summer and will see the installation of a HelioStorm-based WTE system at the ESIF in early 2018. Using Cogent's ultra-high temperature ionic gasification technology, the system will process waste materials into on-demand electric power. The HelioStorm WTE system performance will be validated using ESIF's simulated microgrid test environment.

Cogent's proprietary new ionic gasification process involves the direct-contact processing of 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 valuable end products including electricity, hydrogen, liquid fuels, or chemical precursors.

"WTE can be an important part of small-scale and microgrid energy systems," said Bryan Hannegan, Associate Laboratory Director for Energy Systems Integration at NREL. "This collaboration at the ESIF supports our mission to advance the critical science and technology needed to modernize our nation's electricity grid infrastructure for a more secure and resilient energy future."

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 1-4 tons per day of 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.

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