



Acumentrics Demonstrates Extended Operation of Fuel Cells on Synthetic JP-8 Diesel Fuel

WESTWOOD, Mass., May 7, 2007 - Acumentrics Corporation, a leading developer of solid-oxide fuel cells and uninterruptible power supplies for the distributed generation market, announced today that they have proven 1300 hours of fuel cell operation on synthetic JP-8 fuel. The synthetic JP-8 (“S-8”) Fischer-Tropsch fuel was provided by the Air Force Research Laboratory, and was produced as part of the DoD Assured Fuels Initiative.

According to the company, this accomplishment marks one of the first fuel cell successes with heavy hydrocarbons in an extended run. Because Acumentrics’ ceramic fuel cells operate at high temperature, they accept lighter hydrocarbons such as propane and natural gas directly, and disassociate the fuel inside the cell, via *in-situ reformation*. For fuel cells to be of most use to the military, they must operate on heavy fuels. The heavy hydrocarbons in diesel and JP-8 require catalytic reforming before they can enter a cell. For this test the company employed a separate reformer acquired from InnovaTek, Inc.



InnovaTek Fuel Reformer

The reformer system was first set up and tested independently. After initial qualification, the reformer’s output was sent to a fuel cell bundle. (A bundle is a modular component consisting of a group of tubular solid oxide fuel cells connected in parallel). Performance, flow, gas composition, and temperature effects were monitored. A number of thermal cycles were performed as well. The test logged over 1300hrs of fuel cell operation, with no discernable performance degradation in the solid oxide fuel cell (SOFC) or reformer. The testing is continuing with investigation of operation under off-normal conditions.

“These results clearly demonstrate our ability to operate on tactical fuels, which certainly adds to our value proposition and gives us a path to a product operating on diesel or kerosene for the commercial market,” said Gary Simon, President and CEO of Acumentrics. “Using synthetic JP-8 over significant time frames with multiple thermal cycles also demonstrates the robust nature of our technology.”

InnovaTek’s compact, microchannel reformer has the potential to integrate into mid-sized systems ranging from 500W to 5000W in output. Throughout the testing, the reformer product composition remained steady, demonstrating the reliability of microchannel design. Including the pre-test operation, the reformer ran for almost 1700 hours.

“This is the first long-term fuel cell test performed with our most innovative reformer package,” said Patricia Irving, CEO of InnovaTek. “We are pleased that this grueling trial has validated the low-cost microchannel technology.”

The US military has approximately 87,000 generator sets in all service branches. Power is used for communications, computers, battery charging, climate control, and other needs. In active deployments, low flash-point JP8 fuel is required for safety. Due to the cost and logistics of fuel consumption, the

military is pursuing various conservation improvements. Since fuel cells are twice as efficient as generator sets, they are an attractive option. Fuel cells are also silent, which is another tactical improvement.

Acumentrics is a manufacturer of 5kW solid oxide fuel cell systems, and is currently developing combined heat and power (CHP) units for the residential market. All of their fielded units currently run directly on propane or natural gas.

About Acumentrics

Acumentrics' unique, durable, fuel-flexible fuel cell technology is based on tubular ceramics. Over thirty of their fuel cell power generators, ranging from 1-10 kilowatts in size, have been shipped and operated in the field. The Company also sells rugged, uninterruptible power supplies (UPS) to the military and other mission-critical markets. Acumentrics' rugged UPS products work in extreme heat and cold, in wet and dry conditions, after severe shaking and shock, even in blowing dirt and sand. For more information see our redesigned website: www.acumentrics.com.

About InnovaTek

InnovaTek, Inc. creates technologies for environmental safety and sustainable power. InnovaTek is a leader in portable fuel processing technology and advanced catalysts for hydrogen production from petroleum and renewable fuels. InnovaTek's technologies provide solutions for systems integrators who deliver products that are cost-effective and environmentally-friendly. For more information, visit www.tekkie.com.

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