

news from **FUEL CELLS 2000**

Fuel Cell Technology Update – March 1, 2007

To: Reporters, editors and investors following business, energy, automotive and technology news.
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TRANSPORTATION APPLICATIONS

Voller Fuel Cell APU Installed on Sailboat.

Voller Energy Group PLC has installed their 1kW fuel cell on a Beneteau Oceanis Clipper 411 sailing cruiser. The system can operate on Calor Gas, liquefied petroleum gas (LPG) or propane that is already on board for cooking. The fuel cell fits comfortably in an aft locker, normally used for a conventional generator and works by automatically monitoring battery voltage; when the battery voltage falls, it automatically switches itself on and recharges the batteries. Once the batteries are fully charged the fuel cell switches itself off to conserve fuel. Voller's generator also provides hot water as well as heating to the cabin.

<http://green.sailingnetworks.com/green/product/106>

Plug Power to Acquire Cellex.

Plug Power Inc. and Cellex Power Products Inc. have signed a definitive stock purchase agreement whereby Plug will acquire Cellex. Plug Power intends to continue Cellex Power's current operations near Vancouver, British Columbia.

<http://www.plugpower.com/news/press.cfm>

STATIONARY APPLICATIONS

CCEF Selects Seven Fuel Cell Projects Under Project 100.

Seven of the 11 renewable energy projects screened and selected by the Connecticut Clean Energy Fund (CCEF) to forward to the state's two electric distribution companies under Round 2 of Project 100 are fuel cell ones. These electric distribution companies will review CCEF's recommendations and perform additional analyses leading to their selection of projects to receive long-term power purchase agreements. This was the second round of projects selected through Project 100, an innovative program created by the Connecticut General Assembly to develop not less than 100 megawatts (MW) of renewable energy generation for the benefit of all Connecticut consumers.

<http://www.ctinnovations.com/news/291.php>

FuelCell Energy Sells Unit to Sewage Treatment Plant.

FuelCell Energy, Inc. has sold one of its DFC1500MA power plants to operate on anaerobic digester gas from a sewage treatment facility serving the southern California city of Riverside. The facility treats 30 million gallons of wastewater daily. The Direct FuelCell® (DFC®) plant was sold through FuelCell Energy's distributor, Alliance Power Inc.

<http://www.fce.com>

POSCO Purchases Multi-MW Power Plant.

FuelCell Energy's Korean alliance partner, POSCO Power, has purchased a multi-megawatt fuel cell power plant for installation at a site in South Korea. The two Direct FuelCell® (DFC®) units are slated for delivery to South Korea by the end of 2007, and are scheduled to be commissioned early in 2008. The 2.4 MW power plant will become the world's largest installation.

<http://www.fce.com>

Fujitsu Purchases UTC Unit for Silicon Valley Campus.

UTC Power will provide a PureCell™ Model 200 fuel cell to Fujitsu America, Inc. to power and heat a portion of its Silicon Valley Campus in California. UTC Power will service the unit for 15 years.

http://www.utcpower.com/fs/com/bin/fs_com_Page/0,5672,0205,00.html

UTC's Fleet Reaches 8 Million Hours.

UTC Power's stationary power fuel cell fleet has reached 8 million hours of field operation. The UTC Power PureCell™ Model 200 system installed at the Central Park police station in New York City achieved fleet-leader status, delivering more than 62,000 operating hours with its original fuel cell stack before a recent overhaul.

http://www.utcpower.com/fs/com/bin/fs_com_Page/0,5672,0209,00.html

Acumentrics Completes Phase I of DOE SECA Agreement.

Acumentrics Corporation has completed Phase I of its U.S. Department of Energy (DOE) Solid-State Energy Conversion Alliance (SECA) cooperative agreement, running its unit for over 2400 hours. Peak power reached over 6.2 kilowatts, 20% above the 5 kW design capacity of the unit. Efficiency reached 36%, availability clocked 97%, and the degradation rate was zero. In addition, the capital cost was below the \$800/kW target for SECA Phase I. Tests and results were audited by DOE and independent auditors.

<http://www.prweb.com/releases/2007/3/prweb514679.htm>

PORTABLE/BACKUP POWER

Protonex Awarded \$3.5 Million Army Contract.

Protonex Technology Corporation has been awarded a \$3.5 million contract with the US Army Research Office to develop a 250-watt portable fuel cell power source for military applications such as field battery charging and auxiliary power. The system will include a methanol reformer. This contract is the largest Protonex has received to date, and brings the total program value of the Company's secured government development or joint development contracts to more than \$11 million.

[http://www.protonex.com/02-28-07%20ARO%20\\$3.5M%20Award.pdf](http://www.protonex.com/02-28-07%20ARO%20$3.5M%20Award.pdf)

Intelligent Energy Unit Completes Two Year Run.

One of Intelligent Energy's fuel cell systems, sited within an Energy Store in the remote and rural South African township of Mkuze, has now completed a continuous run of two years in a real-life application and is continuing to provide off-grid power. Two 100W fuel cell systems, hybridized with batteries, were used in a UPS (uninterruptible power supply) configuration at the site.

http://www.intelligent-energy.com/index_article.asp?SecID=15&secondlevel=798&artid=3812

FUELS/REFORMERS/STORAGE

Canadian Hydrogen Highway Receives Funds.

Canadian Prime Minister Stephen Harper awarded almost \$200 million to British Columbia (BC) as part of a new Canada ecoTrust to support provincial projects that will result in real reductions in greenhouse gas emissions and air pollutants. Projects in BC include the development of a "hydrogen highway" - a network of hydrogen fueling stations for fuel cell buses and vehicles.

<http://www.fuelcellscanada.ca/cfm/index.cfm?lt=106&ld=32>

Nuvera Installs PowerTap System in Pennsylvania.

Nuvera Fuel Cells, Inc., in a joint operation with East Penn Manufacturing Company, Inc., has installed its first PowerTap™ hydrogen generation system at East Penn's Distribution Center in Topton, Pennsylvania. The hydrogen is powering a fleet of fuel cell-powered forklift trucks. PowerTap™, developed as part of the Nuvera Total Power Solution (TPS), is a complete hydrogen generation system consisting of two modules, PTG-50, a hydrogen generation unit, and PTH, a cascade storage system, compressor, and indoor dispenser.

http://www.nuvera.com/news/press_release.php?ID=28

IdaTech and Japanese Partners Join for Hydrogen Purification.

IdaTech has signed a multi-year contract with partners in Japan for the development of a large-scale hydrogen purification system. The project will be focused on purifying hydrogen from industrial processes based on IdaTech's patented HyPurium™ metal membrane.

<http://www.idatech.com/media/news.html?article=88>

Air Products and FuelCell Energy Building Advanced Hydrogen Station.

Air Products and FuelCell Energy, Inc. have begun construction on an advanced hydrogen energy demonstration station. The station, funded in part by the DOE, is to demonstrate a tri-generating green energy system capable of providing low-cost hydrogen, electric power and heat from one integrated unit. The system is designed to produce more than 250 kilowatts (kW) of green power and over 135 kilograms (about 300 pounds) of hydrogen per day. The DFC system could also be equipped to provide daily hydrogen fueling for approximately 35 fuel cell vehicles.

<http://www.airproducts.com/PressRoom/CompanyNews/Archived/2007/20Mar2007.htm>

MATERIALS/COMPONENTS

VIASPACE Shipping New Sensor.

VIASPACE Inc. has begun shipments of its new VIASENSOR HS-1000 Humidity Sensor, designed to provide real-time measurement of the humidity level in hydrogen fuel cells. The initial deliveries of the VIASENSOR HS-1000 are to Fuel Cell Technologies, Inc.

http://www.viaspace.com/press_content.asp?id=1117

University of Delaware Wins Two DOE Grants.

Professors at the University of Delaware are using a \$4.6 million research grant from the DOE to reduce the cost of fuel cells by using materials such as tungsten carbide modified with low concentrations of platinum instead of pure platinum. In another award, two different University of Delaware scientists are part of a team headed by Nuvera Fuel Cells Inc. and including WL Gore & Associates and SGL Carbon Inc. that has won a \$5 million DOE grant for research and development of fuel cells for transportation.

www.udel.edu/PR/UDaily/2007/mar/cells030607.html

<http://www.udel.edu/PR/UDaily/2007/mar/cells032707.html>

REPORTS/MARKET STUDIES

The Best Fuel Cell Directory in Town.

Fuel Cells 2000 has published the Ninth Edition of its Fuel Cell Directory, which features more than 1,000 listings of companies, government agencies, associations and non-profits involved in the fuel cell industry. Entries include addresses, phone numbers, company URLs, stock symbols, and contact names and emails, as well as a description of the company and its current research projects. Printed copies of the Directory cost \$125.00, while electronic versions (Access or Excel) cost \$500.00 for unlimited use.

<http://www.fuelcells.org/directoryorderform.pdf>

Solid Oxide Fuel Cells.

Research and Markets has release "Solid Oxide Fuel Cells (SOFCs) - Global Strategic Business Report".

http://www.researchandmarkets.com/product/58dd83/solid_oxide_fuel_cells_sofcs_global_strategic

REQUESTS FOR PROPOSALS

NSF SBIR/STTR.

The National Science Foundation has released its Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) solicitation. The solicitation includes topics such as Hydrogen Storage Materials, Robust and Efficient Fuel Cell and Battery Technologies, and High-Temperature Polymer Materials (including fuel cell separation membranes). Approximately \$12.5 million is available for 125 SBIR projects and \$3.75 million for 25 STTR projects.

<http://www.nsf.gov/pubs/2007/nsf07551/nsf07551.pdf>

MISCELLANEOUS

Protonex to Acquire Mesoscopic Devices.

Protonex Technology Corporation has entered into an agreement to acquire Mesoscopic Devices for \$12.4 million. Mesoscopic Devices, based in Broomfield, Colorado, is a provider of ten to 1,000-watt fuel cell power solutions and has developed power systems based on SOFC and direct methanol fuel cell technologies, including one of the first portable SOFCs operating on liquid fuels.

<http://www.protonex.com/03-26-07%20MD%20Acquisition%20Announcement%20US.pdf>

CONFERENCES

For a complete list of conferences, please go to <http://www.fuelcells.org/news/conf.html>

Hydrogen & Fuel Cells 2007.

Hydrogen & Fuel Cells 2007 "International Partnerships for Global Energy Solutions" will be held at the Vancouver Convention & Exhibition Centre in Vancouver, British Columbia, Canada on April 29 – May 2, 2007. Distinguished international speakers from Canada, US, Germany, Denmark, Japan and Korea will share their expertise and discuss the latest developments in global hydrogen and fuel cell research, business and government policy. Companies and organizations confirmed to participate include NASA, Linde, General Motors, Toyota, Ford, Ballard Power Systems, Hydrogenics, the California Fuel Cell Partnership, and more. Conference registrants will also have the opportunity to participate in industrial tours to leading R&D laboratories and commercial facilities, in addition to the National Research Council's new and advanced Institute for Fuel Cell Innovation. For more information, visit <http://www.hfc2007.com/>.

Battery/Fuel Cell Asia Markets.

The Battery/Fuel Cell Asia Markets Conference will be held May 29-30, 2007, at the Swissôtel Merchant Court in Singapore.

<http://www.cmtevents.com/main.aspx?EV=070525&FL=PU&ID=1102&>

Fuel Cell Early Markets 2007.

Fuel Cell Early Markets 2007: Policy, Finance, & Applications will be held June 11-12, 2007, at the Brussels Marriott Hotel in Brussels, Belgium. For more information, please contact Magda Dziembowski at mdziembowski@intertechusa.com or visit <http://www.intertechusa.com/fuelcells.html>.

SEC Expo.

The 10th Anniversary Renewable Energy and Energy Efficiency Expo will be held June 14, 2007, in the Cannon Caucus Room of the Cannon House Building in Washington DC.

Fuel Cell 2007.

Fuel Cell 2007 will be held June 14-15, 2007, at the Hyatt Regency Hotel in Rochester, NY. For details, please go to http://www.fuelcell-magazine.com/fc_2007conf_index.htm.

ASME.

The ASME 5th International Fuel Cell Science, Engineering & Technology Conference will be held June 18-20, 2007, at the New York Marriott at the Brooklyn Bridge in Brooklyn, NY. For more information, please go to <http://www.asmeconferences.org/FuelCell07>.

Grove Fuel Cell Symposium.

The Tenth Grove Fuel Cell Symposium will be held at the QEII Conference Center in London, England, September 25-27, 2007. For information, please go to <http://www.grovefuelcell.com/>.

Fuel cells generate electricity without combustion by harnessing the energy created when hydrogen and oxygen are chemically combined. Fuel Cells 2000 is an independent, nonprofit activity dedicated to the commercialization of fuel cell technologies.