
For an early Christmas present, we’ve introduced a new category for the Fuel Cell Technology Update – Military Applications – which will include all military-related fuel cell news covering all the applications.

**US Pavilion at FC Expo!**

The 7th International Hydrogen and Fuel Cell Expo is taking place March 2-4, 2011, in Tokyo, Japan. If you represent a US company and are interested in participating in a US Pavilion, email me at jennifer@fuelcells.org to learn more about a special deal I am working on.

I have been going for the past five years and each year it gets bigger and bigger (estimated 20,000 attendees per day) with hundreds of exhibitors, plus four concurrent shows this year - PV, Battery, Eco-house/Eco-building, and Smart Grid – that attendees (and exhibitors) can check out as well. The US Pavilion within the FC Expo is a great opportunity to showcase US companies and products (and let other countries know we have an industry), especially if you are interested in finding Asian distributors, partners, suppliers or customers for your products. There are suppliers, manufacturers, and end users from Japan, China and Korea as well as the rest of the world both exhibiting and attending. http://www.fcexpo.jp/en/

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**TRANSPORTATION APPLICATIONS**

**DOE to Receive 20 Mercedes F-CELLs.**

Mercedes-Benz fuel cell vehicles will supply 20 of its B-class Mercedes-Benz F-CELL fuel cell vehicles to the U.S. Department of Energy’s (DOE) Technology Validation project in the Fuel Cell Technologies Program. Mercedes intends to deploy 70 F-CELLs in California by 2012. The vehicles have a 270-mile driving range and will cost $849 per month for a 36-month lease that includes both insurance on the car and the cost of fuel. http://www.daimler.com/dccom/0-5-633234-1-1348590-1-0-0-0-0-0-9293-7145-0-0-0-0-0-0.html

**Delphi Demonstrates SOFC APU.**

Delphi Automotive demonstrated its solid oxide fuel cell (SOFC) auxiliary power unit (APU) to the public for the first time during the recent Hybrid Truck Users Forum (HTUF) in Dearborn, Michigan. Delphi's SOFC auxiliary power unit operates independently from a heavy duty commercial truck’s main internal combustion engine and utilizes diesel fuel from the truck's main tank to power equipment in the truck’s cab, including air conditioning, television, refrigerator and microwave. http://delphi.com/news/pressReleases/pr_2010_11_11_001/

**Plug Power Selects Somerset as Lease Provider.**

Plug Power Inc. has developed a strategic arrangement with Somerset Capital Group, Ltd. in which Somerset will act as Plug Power's global customer lease provider for its GenDrive™ fuel cell solutions. Plug Power and Somerset previously worked together to place hydrogen fuel cell-powered forklifts into service at a BMW facility. http://www.plugpower.com/newsroom/pressreleases.aspx?action=details&newsid=372

**STATIONARY APPLICATIONS**

**FuelCell Energy Sells Multiple Fuel Cells for California Facilities.**
FuelCell Energy, Inc. has sold three fuel cell power plants totaling 4.5 megawatts (MW), including a 2.8 MW DFC3000, a 1.4 MW DFC1500 and a 300 kilowatt (kW) DFC300, to BioFuels Fuel Cells, LLC. The fuel cells will be installed at three different locations in the San Diego, California area – the University of California at San Diego, the South Bay Water Reclamation Plant, and the Point Loma Wastewater Treatment Plant. The units will utilize purified biogas from the Point Loma wastewater treatment plant as the primary fuel source. The City of San Diego estimates the project will generate $2.6 million of revenue over 10 years from payments made by BioFuels Energy for the biogas. In addition, the City expects to save $780,000 in electricity costs to power the South Bay Water Reclamation Plant under a ten year power purchase agreement with BioFuels Energy.

FuelCell Energy also sold a 2.8 MW DFC3000 power plant to be installed at a wastewater treatment plant operated by Inland Empire Utilities Agency (IEUA), a municipal water district based in Chino, California. Renewable biogas created by the wastewater treatment process will be the primary fuel source for the unit. A 1.4 MW DFC1500 power plant will be installed at the San Jose/Santa Clara Water Pollution Control Plant in San Jose, California, as well. Both units were purchased under a 20-year power purchase agreement and are expected to be operational in early 2012.

FuelCell Energy, Inc.’s 2.8 MW DFC3000 natural gas-fueled fuel cell power plant has been certified under the California Air Resources Board’s (CARB) distributed generation emission standards that were established in 2007. Due to this certification, the local Air Quality Management District can choose to exempt clients from local clean air permitting. Additionally, the DFC3000 received certification that the power plant meets national product safety standards. This ANSI/CSA America FC1-2004 certification assures local authorities and insurers that the power plant meets all design, construction, quality, safety and operational requirements and confirms that the power plant can be safely connected to the existing power infrastructure.

FuelCell Energy to Develop Small Scale Power Plant with POSCO.
FuelCell Energy, Inc. will jointly develop a small-scale Direct FuelCell® (DFC®) power plant with its South Korean partner, POSCO Power. POSCO Power will fund the $5.8 million program in stages as performance milestones are reached, with an initial funding of $2.9 million for design and development of a smaller scale fuel cell stack.

Connecticut Stop & Shop Operating UTC Power Fuel Cell.
A UTC Power PureCell® Model 400 fuel cell is now installed and operating at a Stop & Shop store in Torrington, Connecticut. The fuel cell was supported with a grant of $882,000 from the Connecticut Clean Energy Fund’s (CCEF) On-Site Renewable Distributed Generation Program, which defrayed approximately 38 percent of the total project cost. The Stop & Shop Supermarket Company will generate approximately 94 percent of the newly-constructed store’s total annual electric energy requirements and 70 percent of the facility’s space heating requirements as well as chill 30 tons of water for refrigeration annually with the fuel cell.

Diversey to Install UTC Power Unit at Wisconsin Headquarters.
Diversey, Inc. will install a UTC Power PureCell® Model 400 fuel cell at its main headquarters building in Sturtevant, Wisconsin to improve the sustainability profile of its global headquarters campus under LEED® (Leadership in Energy and Environmental Design) standards. Diversey is the first company in Wisconsin and the first company in the Upper Midwest to generate its own power onsite with a fuel cell.
Intelligent Energy Receives Additional Investment.
A joint venture between Intelligent Energy and Scottish and Southern Energy (SSE), IECHP (UK and Eire) Ltd., has met all its milestones, triggering a further £3.7 million (US$5.7 million) investment from Intelligent Energy Holdings (IEH), SSE and Scottish Enterprise (SE). IECHP (UK and Eire) Ltd. is developing fuel cell combined heat and power (CHP) systems for the residential, commercial and light industrial markets in the UK and Ireland.

PORTABLE/BACKUP POWER

Time Warner Installs 300-kW System.
EnerSys® has installed a 300-kW Extended Run Time Solution™ hydrogen fuel cell system at a Time Warner Cable facility in Southern California. The fuel cell system uses Alstergen Systems' proprietary Freedom Power® hydrogen proton exchange membrane (PEM) fuel-cell technology, to provide backup power in the event of a commercial grid outage, and ensure Time Warner Cable customers continued digital telephone, internet and video services without interruption.
http://phx.corporate-ir.net/phoenix.zhtml?c=180086&p=irol-newsArticle&ID=1500021&highlight=

MICRO FUEL CELLS

Intel Takes Equity Stake in Lilliputian, Signs Supply Agreement.
Intel Capital, Intel Corporation’s global investment arm, has taken an equity stake in Lilliputian Systems. Lilliputian Systems, Inc. also signed a Wafer Manufacturing Supply Agreement with Intel to manufacture and supply production wafers, which are critical in the production of all of Lilliputian Systems’ product lines.

MILITARY APPLICATIONS

DLA receives Two Hydrogen-Powered Vehicles.
The Center for Electromechanics (CEM) at The University of Texas at Austin, in partnership with the Center for Transportation and the Environment (CTE), the Gas Technology Institute, Hydrogenics Corp. and Columbia ParCar, has completed and delivered two hydrogen fuel cell-powered utility vehicles to the Department of Defense’s Defense Logistics Agency (DLA) for a 12-month operational demonstration at Defense Distribution Depot Warner Robins, Georgia. The vehicles feature an 8.5-kW fuel cell hybrid configuration and on-board hydrogen storage that extends the operating range of electric utility vehicles. Initial testing has demonstrated a range of more than 300 miles.

FuelCell Energy Enters Contract with DoD.
FuelCell Energy, Inc. announced a contract with the U.S. Department of Defense (DoD) administered by the U.S. Army Corps of Engineers’ Engineer Research and Development Center, Construction Engineering Research Laboratory (ERDC-CERL), to relocate, install and service a DFC300 fuel cell power plant at U.S. Army Camp Parks Reserve Forces Training Area located in Dublin, California. The fuel cell power plant will provide power to an electrical sub-station on the Base, replacing electricity currently supplied by the commercial electric grid. Site preparation will begin in late 2010 and the power plant is expected to be operational by the summer of 2011.

Adaptive Materials Awarded $1 Million from U.S. Army.
Adaptive Materials was awarded $1 million to conduct a manufacturing research project for the U.S. Army to determine the cost-effectiveness of manufacturing fuel cell components for use in the Army’s Man Transportable Robotic System (MTRS). The MTRS program fields the iRobot Packbot and the Foster-Miller Talon to support the warfighter in performing reconnaissance and surveillance missions. Funding was awarded through the Industrial Base Innovation Fund, a DLA program that supports manufacturing
technology for military applications. Adaptive Materials was one of 21 companies selected for funding through the IBIF program.

UltraCell Participates in Army Tests.
UltraCell Corporation provided fuel cell systems for Portable Power Excursion (PPE) tests at Fort Riley, Kansas, as part of the U.S. Army’s Nett Warrior exercise Limited User Test (LUT). UltraCell sent several XX25 3-Up, XX55 3-Up and XX55 fuel cell systems to the tests, demonstrating the systems’ capabilities as an integrated soldier portable power generator and battery charger.
http://ultracellpower.com/assets/PressReleases2010/UltraCell_LUT_exercise_11.10.10_FINAL.pdf

FUELS/REFORMERS/STORAGE

WVU Receives NAFTC Grant for Hydrogen Fueling Station.
West Virginia University has received a $1.15 million grant from the National Alternative Fuels Training Consortium to develop the state’s second hydrogen production-fueling station. The station will be the northern terminus of a “hydrogen highway” between Yeager Airport in Charleston and Morgantown and will demonstrate the efficiency of generating hydrogen fuel from coal-powered electricity.

Horizon Develops New Hydrogen Generator.
Horizon Fuel Cell Technologies Pte Ltd. has developed a new proprietary hydrogen fuel generator technology targeting portable, military and aerospace markets. Following three years of research on hydrogen fuel generator systems, Horizon’s scientific team came up with a cartridge which produces hydrogen when required, using a solid chemical system. The fuel cartridge does not require external hydration, operates at -10°C to 50°C, offers unlimited shelf-life before and after activation, and can be designed for both low cost and high performance market requirements.
http://www.horizonfuelcell.com/

More Companies Join ITM’s HOST Trials.
The Tarmac Group, Commercial Group, May Gurney Integrated Services plc, Enterprise plc, and VolkerHighways have all signed agreements to participate in the Hydrogen On Site Trials (HOST) of ITM Power’s transportable high pressure refueling unit (HFuel).
http://www.itm-power.com/news/43/May+Gurney+Joins+HOST.html

MATERIALS/COMPONENTS/TESTING

ITM Power Receives Carbon Trust Grant for Membrane Materials.
ITM Power has received Carbon Trust grant funding of £108,000 (US$167,000) towards the development of the Company’s materials for application in automotive fuel cells.

IRD Enters Partnership with SFC Energy.
IRD Fuel Cell has announced a partnership agreement with SFC Energy to supply flow plates for use in SFC Energy’s direct methanol fuel cells. It is the highest volume manufacturing agreement between the two fuel cell companies to date.
http://www.ird.dk/

REPORTS/MARKET STUDIES

McKinsey & Company Study Concludes FCEVs are Essential.
A comprehensive new study from the respected international consulting firm McKinsey & Company entitled "A Portfolio of Power-trains: A Fact Based Analysis" concludes fuel cell electric vehicles (FCEVs) are ready for commercial scale-up, and essential to meeting our energy security and environmental needs. The report was sponsored by a 31-member public-private coalition and states that significant penetration of both fuel cell and battery electric vehicles (BEVs) will be needed to build a sustainable transportation system by 2050 -- and that FCEVs and BEVs could be cost-competitive with internal combustion engines (ICEs) as early as 2020.

http://www.now-gmbh.de/presse/studie-entkarbonisierung-individualverkehrs.html

**Fuel Cell Vehicle and Hydrogen Infrastructure.**

AutomotiveWorld.com has published "The fuel cell vehicle and hydrogen infrastructure report" that provides detailed analysis of the various types of fuel cell vehicles currently in use and under development. It also examines the market, legislative and technological influences that look set to drive change in this area over the next five to ten years and beyond. Particular emphasis is given to developments in establishing a hydrogen refueling infrastructure.


**REQUESTS FOR PROPOSALS**

Check out the Fuel Cell RFPs blog for more opportunities.

**DOE RFI.**
The U.S. Department of Energy (DOE) is seeking feedback from relevant industry stakeholders on the deployment of hydrogen and fuel cell technologies in three topic areas: “turnkey” approaches for distributed generation fuel cells in federal facilities, “turnkey” approaches for hydrogen energy storage to support renewable power generation, and the feasibility of commercial deployment of fuel cell-powered ground support equipment for commercial and government-operated airports. The purpose of this RFI is to obtain information relevant to the core requirements and relevant costs for each of the three areas of interest. This will include information pertaining to capabilities in turnkey project implementation, management, cost reduction, and readiness level of applicable hydrogen and fuel cell technologies as identified in the areas of interest. Go to https://www.fedconnect.net/FedConnect/PublicPages/PublicSearch/Public_Opportunities.aspx and search for Reference Number DE-FOA-0000429.

**DOD SBIR Program 2011.1 Solicitation Includes Fuel Cell Topics.**

http://www.dodsbir.net/solicitation/sbir111/default.htm

**CCEF Launches Revised On-Site Renewable Distributed Generation Program.**
The Connecticut Clean Energy Fund (CCEF) has launched a revised On-Site Renewable Distributed Generation Program (OSDG Program) and issued the program’s first request for proposals (RFP). The OSDG Program offers financial support, in the form of grants, to buy down the cost of installing new energy generating equipment at commercial, industrial and institutional (CI & I) facilities in Connecticut. Eligible technologies include: solar photovoltaic (PV), wind, fuel cell, landfill gas, waste heat recovery - power generation, low-emission advanced biomass conversion and certain hydropower technologies. The total funding allocated for projects under the OSDG Program through June 30, 2012, is $12.86 million. Eligible applicants may apply for funding under the “Best of Class” category or the “Public Buildings” category (for installations at buildings owned by municipalities, state agencies or federal agencies). CCEF has made nearly half of the program funding allocation, or $5.78 million, available under the current RFP ($4.43 million for “Best of Class” projects and $1.35 million for “Public Buildings” projects).

MISCELLANEOUS

UPS Systems Launches REMO Live, Now Offers EFOY Pro 2200 XT.
UPS Systems has launched REMO Live, remote monitoring equipment that provides protection for a range of systems, including generators, UPS equipment and fuel cells. UPS Systems has also added SFC Energy’s latest direct methanol fuel cell to its product portfolio: the EFOY Pro 2200 XT.
http://www.upssystems.co.uk/index.php

CONFERENCES

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


The Fuel Cell and Hydrogen Energy 2011 Conference and Expo (formerly the NHA Hydrogen Conference) will be held February 13-16, 2011, at the Gaylord National Hotel and Conference Center in the greater Washington, DC area. For conference details, please visit http://www.hydrogenconference.org/index2.asp.

FC Expo.
The 7th International Hydrogen and Fuel Cell Expo (FC Expo) will be held March 2-4, 2011, at Tokyo Big Sight in Tokyo, Japan. For more information, please go to http://www.fcexpo.jp/en/. If you represent a US company and are interested in joining a US Pavilion with other companies, please contact Jennifer Gangi at jennifer@fuelcells.org.

HANNOVER MESSE.
The 17th Group Exhibit Hydrogen + Fuel Cells at HANNOVER MESSE 2011 will take place April 4-8, 2011, in Hannover, Germany. For details, please visit http://www.h2fc-fair.com/.

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