news from
FUEL CELLS 2000

Fuel Cells 2000's Fuel Cell Technology Update – August 2008

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TRANSPORTATION APPLICATIONS

China Going for Gold with Fuel Cell Cars.
20 hydrogen fuel cell cars manufactured by Shanghai Volkswagen Automotive Company will be providing transport for VIPs, officials and the media at the Beijing Olympic Games. 15 vehicles have already been delivered. The fuel cell engines for the vehicles were jointly designed and developed by Tongji University, Shanghai Automobile Industry Corporation and Shanghai Fuel Cell Vehicle Powertrain Co., Ltd.
http://www.fuelcelltoday.com/online/news/articles/2008-07/20-fuel-cell-vehicles-for-the-Be

USPS Receives Fuel Cell Vehicle, Plans for Alternative Fuel Fleet.
In Irvine, California, the U.S. Postal Service (USPS) received a Chevrolet Equinox Fuel Cell electric vehicle for testing in a mail-delivery environment as part of General Motors' Project Driveway program. The USPS also announced plans to explore alternative fuel vehicle options to replace the 195,000 neighborhood delivery vehicles of its fleet.
http://www.usps.com/communications/newsroom/2008/pr08_078a.htm

Tropical Delivers Two-seater Cars to CRES in Greece.
Tropical S.A. delivered the first two-seater hydrogen fuel cell cars in Greece to the Centre of Renewable Energy Sources (CRES) in Athens. The City Car uses an advanced and fully automated 1.8-kW fuel cell system that charges the 36V batteries with the aid of a charger.
http://www.tropical.gr/site-en/images/stories/PR/16%20-%20cres%20-%20h2%20car.pdf

Hydrogenics to Supply 20 Power Packs for DoD Forklifts.
Hydrogenics Corporation has been awarded a contract by Concurrent Technologies Corporation (CTC) to supply 20 Fuel Cell Power Packs for integration into Crown lift trucks to be deployed at the Defense Distribution Depots (DDWG) in Warner Robins, Georgia. CTC will replace lead acid batteries currently used in Crown Class 1 lift trucks with the Hydrogenics hydrogen powered Fuel Cell Power Packs.
http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=320140

Ballard Signs Two Year Service Agreement with Daimler.
Ballard Power Systems has signed a two-year service agreement with Daimler AG to continue providing a full service support package for fuel cell systems on six Mercedes-Benz Citaro buses. This is the third service contract awarded to Ballard for these buses, which are currently used in revenue producing service in the city of Hamburg, Germany.
http://phx.corporate-ir.net/preview/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1180185&highlight=

Adaptive Materials Provides SOFC System to Aerovironment UAV.

Adaptive Materials' solid oxide fuel cell (SOFC) systems recently powered AeroVironment's PUMA unmanned aerial vehicle (UAV) on a hand-launched test flight. In its first PUMA test flight, Adaptive Materials' fuel cell system provided enough power for a test flight lasting more than seven hours as well as two stationary surveillance camera systems.
http://www.adaptivematerials.com/news/news_detail.php?nid=45

Delphi and Peterbilt Successfully Demonstrate SOFC APU.
Delphi Corporation and Peterbilt Motors Company successfully demonstrated a Delphi solid oxide fuel cell (SOFC) auxiliary power unit (APU) powering a Peterbilt Model 386 truck's "hotel" loads. The Delphi SOFC provided power for the Model 386's electrical system and air conditioning and maintained the truck's batteries -- all while the Model 386's diesel engine was turned off.
http://delphi.com/news/pressReleases/pr_2008_07_22_001/

H2 Logic Receives Grant for Three Projects.
H2 Logic A/S and its partners have received a US$3.45 million (€2.2 million) funding grant from the Danish Energy Development & Demonstration Program (EUDP) that supports three hydrogen and fuel cell R/D/D projects with a total budget of more than US$11.9 million (€7.7 million). Two of the three projects will focus on development and demonstration of fuel cell hybrid systems and hydrogen refueling for materials handling vehicles. The last project, called "LINK2009", is part of the Hydrogen Link Denmark network and Scandinavian Hydrogen Highway Partnership and will develop 2nd generation fuel cell hybrid systems and hydrogen refueling stations for smaller road vehicles with a planned demonstration in late 2009.
http://www.h2logic.com/com/shownews.asp?lang=en&id=242

Trina Solar and LISA Airplanes to Collaborate on Hy-Bird.
Trina Solar Limited has entered into a cooperation agreement with LISA Airplanes for the building of the Hy-Bird, a solar and hydrogen powered airplane that is set to be the first to fly around the world using only renewable energies as fuel. Under this agreement, Trina Solar will supply LISA Airplanes with almost 300 photovoltaic cells for the assembly of this hybrid airplane. The solar PV cells on the wings and horizontal tail of the plane will supply sufficient energy to complete the fuel cell power for takeoff and for on-board power supply.
http://www.trinasolar.com/front/en/news.php?newid=73

Air Force Awards Fuel Cell Project Funding to Scheelite Technologies.
The Department of the Air Force has awarded a $711,000 contract to Scheelite Technologies for a project to develop an advanced direct methanol fuel cell (DMFC) power system for small unmanned aerial vehicle (UAV) applications.
https://www.fbo.gov/index?tab=core&s=opportunity&mode=form&id=c6a7b42337a66e9bd07ce0650475d6ad

Plug Power and Ballard Extend Supply Agreement.
Plug Power Inc. and Ballard Power Systems have extended their existing supply agreement through December 31, 2010. Under terms of the new agreement, Ballard will remain the exclusive supplier of fuel cell stacks for Plug Power's GenDrive™ product line of fuel cell power units. Ballard's Mark9 SSL™ fuel cell products supply power to GenDrive hydrogen fuel cell units, which replace lead-acid batteries in lift trucks used in large warehouse, distribution and manufacturing facilities.
http://phx.corporate-ir.net/preview/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1171428&highlight=

STATIONARY APPLICATIONS

UTC to Provide PureCell 400 to St. Helena Hospital.
UTC Power will supply St. Helena Hospital in California's Napa Valley with its new, next-generation fuel cell, the PureCell® Model 400 system, in the summer of 2009. St. Helena Hospital is a 181-bed full-service community hospital and the fuel cell will provide 400 kilowatts of power with the waste heat being used to supply hot water and space heating for three of the hospital's buildings. The hospital's fuel cell

was partially funded by a grant from the California Self Generation Incentive Program (SGIP).
http://www.utcpower.com/fs/com/bin/fs_com_Page/0,5672,0281,00.html

Plug Power Receives $500,000 Award from NYSERDA for Fuel Cell CHP System.
Plug Power Inc. has received a $500,000 contract from the New York State Energy Research and Development Authority (NYSERDA) to support commercialization of its residential micro-combined heat and power (CHP) fuel cell system. The micro-CHP fuel cell, part of Plug Power's GenSys® line of continuous power products, is designed to replace current technology used for heating in residential and small commercial applications.
http://www.plugpower.com/news/press.cfm

IdaTech Extends Ballard Supply Agreement.
IdaTech plc has signed a second three-year supply agreement with Ballard Power Systems Inc for the supply of fuel cell stacks, which will be used in the next generation of IdaTech's commercial critical backup power supply product, the ElectraGen™. While the contract will commence immediately, full integration of the Ballard fuel cell stacks into the ElectraGen™ product is contingent on final testing and validation of the stack performance. IdaTech intends to source the stack in two power outputs, 3 and 5kW.
http://www.idatech.com/press206542093.asp

PORTABLE/BACKUP POWER

SFR Installs IdaTech Fuel Cell in Corsica.
SFR, a leading French mobile phone service provider, has installed an IdaTech 48VDC ElectraGen™5 XTR fuel cell system using liquid methanol as an alternative backup power source at one of its remote base stations in Pigna Corbino, Corsica.

SFC Improves EFOY System.
SFC Smart Fuel Cell has developed enhanced, highly efficient EFOY® fuel cell systems with an energy density of 1,580 Wh electricity per kg of fuel. The improvements enable long-term operation of direct methanol fuel cell (DMFC) systems on undiluted (neat) methanol at ambient temperatures as high as 55° C/131 °F rather than pre-mix diluted fuel. Eliminating the need for pre-mixed fuel offers customers significant reductions in weight and cost as well as simplified logistics.
http://www.efoy.de/index.php?option=com_content&task=view&id=932&Itemid=177

MICRO FUEL CELLS

MTI Achieves Double the Operation of Typical Cell Phone.
MTI MicroFuel Cells Inc. has achieved 2,700 hours of continuous operation with a Mobion® laboratory cell - the building block of the Company´s Mobion® chip and systems. In comparison, a typical cell phone plan in the U.S., marketed to moderate to heavy users, includes 3,000 minutes per month which, over the life of a typical 2 year contract, translates to only 1,200 hours of use.
http://www.mtimicrofuelcells.com/news/article.asp?id=336

PolyFuel Develops Notebook Prototype.
PolyFuel, Inc has developed the first functional version of its prototype power supply for notebook-class computers that can provide continuous non-stop runtimes with the simple replacement small cartridges of methanol fuel. The consumer-friendly design has been fully integrated with a representative notebook – the Lenovo T40 ThinkPad®.
http://www.polyfuel.com/pressroom/press_pr_071608.html

Ultracell Receives Air Force Contract.
The Air Force Research Laboratory (AFRL) announced a $99,974 contract with UltraCell Corporation for a project to develop a 25-Watt reformed methanol micro fuel cell for the AFRL Power and Thermal Management Technology Development Program.

https://www.fbo.gov/?s=opportunity&mode=form&id=98e5fa603d63ec781451acf9f0fe8ee4&tab=core&_cview=1

FUELS/REFORMERS/STORAGE

Hydrogenics to Provide Electrolyzer and Fuel Cell for Research Center.
Hydrogenics Corporation has been selected to provide a hydrogen electrolyzer and fuel cell for the new Renewable Hydrogen Research and Demonstration Center at the Baglan Energy Park in Wales. Air Liquide Advanced Technologies will integrate the system.
http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=320985

CTC Receives $4.8 Million for Hydrogen Fueling Station Project.
The Department of the Navy has awarded a $4.83 million contract to Concurrent Technologies Corporation (CTC) for a project under the "Hydrogen-Fueled Material Handling Equipment and Hydrogen Vehicle Fueling Station Pilot Projects" solicitation.
https://www.fbo.gov/?s=opportunity&mode=form&id=9212325a8600a5fef141a29a81da1996&tab=core&_cview=1

2009 Hydrogen Student Design Contest.
The Hydrogen Education Foundation has selected the theme for the 2008-2009 Hydrogen Student Design Contest: *A Green Building with Hydrogen*! The contest focus is designing a green dormitory utilizing a hydrogen system for electricity supply. The design will be intended for the State University of New York - Farmingdale, but will be applicable for other locations.
http://www.hydrogencontest.org/

MATERIALS/COMPONENTS/TESTING

General Automotive and SenCer Enter Joint Venture.
General Automotive Company has entered into a joint venture with SenCer Inc. to develop, commercialize and market SenCer's groundbreaking UltraTemp™ ceramic composite materials for accelerating the development of fuel cell technologies. The goal of the joint venture will be to develop a series of prototypes that will significantly advance the process of commercializing and, ultimately, mass producing fuel cells.
http://ir.generalautomotive.com/releasedetail.cfm?ReleaseID=324181

REPORTS/MARKET STUDIES

USFCC Worldwide Industry Survey.
The US Fuel Cell Council (USFCC) released results of its 2007 Worldwide Fuel Cell Industry Survey, reporting growth in jobs, sales and R&D expenditures. Participating companies reported a 22% gain in fuel cell specific employment, to 8,647 employees. Reported global sales were up 10% to $387 million, with research spending up 4% to $829 million. All are 2006 figures compared to 2005. This is the fourth global survey, sponsored by USFCC, Fuel Cell Commercialization Conference of Japan, Fuel Cell Europe, and Hydrogen & Fuel Cells Canada.
http://www.usfcc.com/Final%20News%20release%20for%202007%20Industry%20Survey.pdf

New LBST Study.
Ludwig Bölkow Systemtechnik (LBST) has released a new study, *Hydrogen and Fuel Cells as Strong Partners of Renewable Energy Systems*.
http://www.lbst.de/publications/studies__e/2008/DWV_EHA_Study_EN_final_260508.pdf

NRC Study on Hydrogen.
A new National Resource Council report, *Transitions to Alternative Transportation Technologies: A Focus on Hydrogen*, finds that a transition to hydrogen vehicles could greatly reduce U.S. oil dependence and carbon dioxide emissions, but that significant investment is needed.
http://books.nap.edu/catalog.php?record_id=12222

Hydrogen and Fuel Cell Transit Bus Evaluations.
The National Renewable Energy Laboratory (NREL) has published a report "Hydrogen and Fuel Cell Transit Bus Evaluations: A Joint Evaluation Plan of the U.S. Department of Energy and the Federal Transit Administration." The report details demonstration sites, funding sources, and data collection activities for current and planned hydrogen fuel cell transit bus demonstration projects.
http://www.nrel.gov/hydrogen/pdfs/42781-1.pdf

REQUESTS FOR PROPOSALS

Ohio RFP.
Ohio's Third Frontier Fuel Cell Program is providing grants of up to $1 million that support the growth of Ohio's fuel cell industry through collaborations that involve Ohio higher education institutions, non-profit research organizations, and Ohio companies. Projects must focus on research and development that addresses technical and cost barriers to commercialization and adapting fuel cell components produced in Ohio for use in fuel cell systems.
http://www.ohiochannel.org/your_state/third_frontier_project/rfp.cfm?rfp_id=94459

NASA SBIR/STTR Solicitation.
The National Aeronautics and Space Administration (NASA) has released its 2008 Small Business Innovation Research (SBIR) and Technology Transfer (STTR) solicitations, which include fuel cell-related research topics such as Fuel Cells for Surface Systems and Technologies for Space Power and Propulsion. The solicitation will fund approximately 250 SBIR and 30 STTR Phase I project proposals. Phase I awards have a maximum contract value of $100,000. The deadline for proposals is September 4, 2008.
http://sbir.gsfc.nasa.gov/SBIR/sbirsttr2008/solicitation/index.html

DOE Announces $10 Billion in Loan Guarantees for Advanced Energy Projects.
DOE announced the availability of $10 billion for a Loan Guarantee Solicitation for Innovative Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Technologies. The program has Hydrogen and Fuel Cell Technologies category. Applications under this solicitation are due December 31, 2008.
http://www.lgprogram.energy.gov/RenSol7-11-08Amend1.pdf

NSWC Presolicitation.
The Naval Surface Warfare Center (NSWC), Carderock Division has issued a presolicitation notice for electrochemical laboratory support services to assist with research and development of PEM and SOFC technologies for a wide range of Navy applications. The solicitation is expected to be issued on or around August 8, 2008.
https://www.fbo.gov/index?s=opportunity&mode=form&id=34693bc9b2e0cef329f36e7746ae28e9&tab=core&_cview=0

MISCELLANEOUS

Freedom Prize Competition.
DOE and the Freedom Prize Foundation have announced the Freedom Prize competition to award $4 million for projects to reduce America's consumption of foreign oil. The primary categories for the award are industry, K-12 schools, the military, state and local governments, and communities. Individual prizes will range from $500,000 to $1 million. Details about how to apply for the Freedom Prize are expected to be released in Fall 2008, with applications due in January 2009.
http://www.freedomprize.org/news/doc/FreedomPrizeLaunch62608.pdf

NexTech Receives Project Funding.
NexTech Materials, Ltd. has received funding for three unrelated projects based on its advanced SOFC planar stack technology. The Department of Energy, through its SECA program, selected NexTech to develop its planar FlexCell™ SOFC technology for large scale stationary power systems. NexTech has

also been selected by the U.S. Navy for two development projects. One is to design a fuel cell system for underwater vehicle applications and the other is to develop stack technology for use in a land based APU. Funding from the Navy is through a two year Phase II SBIR contract with the Office of Naval Research (ONR), and through a one year contract award with Naval Sea Systems Command (NAVSEA). http://www.nextechmaterials.com/view_page.php?id=67

CONFERENCES

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

Hydrogen From Renewables.
The NHA Fall Forum: Hydrogen From Renewables will be held September 22-24, 2008, at the Sheraton Denver West Hotel in Golden, Colorado. For registration details, please go to http://www.hydrogenforums.org/index.asp.

Fuel Cell Seminar.
The 2008 Fuel Cell Seminar will be held October 27-30, 2008, at the Phoenix Convention Center in Phoenix, Arizona. For conference information, go to http://www.fuelcellseminar.com/.

Hydrogen Show 2008.
The Hydrogen Show 2008 is part of the Hi-Tech Expo (HTE) 2008 which takes places November 25-28, 2008, in Milano, Italy. For more information, visit http://www.hitechexpo.eu/it/index_idr.asp.

FC Expo 2009.
The 5th International Hydrogen & Fuel Cell Expo will take place February 25-27, 2009, at Tokyo Big Sight in Tokyo, Japan. For conference details, please visit http://www.fcexpo.jp/2009_eng/index.phtml.

HYPOTHESIS VIII.
HYPOTHESIS VIII (HYdrogen POwer THeoretical and Engineering Solutions) will be held April 1-3, 2009, in Lisboa (Lisbon), Portugal. For more details, visit http://www.hypothesis.ws/.

Hannover Messe 2009.
The 15th Group Exhibit Hydrogen + Fuel Cells, Hannover Messe 2009 will be held April 20-24, 2009, in Hannover, Germany. For information, go to http://www.fair-pr.com/.

EVS-24.
EVS-24, The International Battery, Hybrid and Fuel Cell Electric Vehicle Symposium, will take place May 13-16, 2009, in Stavanger, Norway. For details, go to http://www.evs24.org/symposium.html.

HFC2009.
Hydrogen + Fuel Cells 2009: International Conference & Trade Show (HFC2009), "*Partnerships for Global Energy Solutions"* will be held May 31-June 3, 2009, at the International Conference and Exhibition Center in Vancouver, British Columbia, Canada. For registration details, please visit http://www.hfc2009.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.