news from
FUEL CELLS 2000

Fuel Cell Technology Update – October 1, 2003

To: Reporters, editors and investors following business, energy, automotive and technology news. Let us know if you would prefer to receive the full updates via email, or if you wish to be removed from our list. *For more information on stories, call (202) 785-4222.*

TRANSPORTATION APPLICATIONS

Mitsubishi Motors Develops Fuel Cell Vehicle.
Mitsubishi Motor Corporation introduced its first fuel cell vehicle, a Grandis minivan, powered by a Ballard fuel cell engine. Mitsubishi is joining other automakers participating in the Japan Hydrogen & Fuel Cell Demonstration Project, funded by the Japanese Ministry of Economy, Trade and Industry.
http://www.ballard.com/pdfs/17%20Mitsubishi_Grandis.PDF

Honda to Supply FCXs t o San Francisco.
Honda will supply two FCX hydrogen-powered fuel cell vehicles to the city of San Francisco, California. The city plans to add the FCXs to its fleet of more than 700 alternative fuel and advanced technology vehicles. Honda has already signed a contract with the city of Los Angeles to lease five FCXs.
http://www.japantoday.com/e/?content=news&cat=4&id=273833

Toyota to Increase California FCHVs.
Toyota plans to lease two additional hydrogen-powered Fuel Cell Hybrid Vehicles (FCHVs) to the University of California-Irvine's (UC-Irvine) National Fuel Cell Research Center and UC-Davis' Institute of Transportation Studies.

STATIONARY POWER

L.A. Adds Fuel Cell to Power Grid.
The City of Los Angeles added a FuelCell Energy 250-kilowatt Direct FuelCell® power plant its power grid that will operate with biogas fuel generated by the Terminal Island Treatment Plant in San Pedro. The fuel cell will produce enough power to serve about 250 households and uses up to 50 percent less fuel per kilowatt-hour than the average conventional power plant.
http://biz.yahoo.com/bw/030919/195082_1.html

Caterpillar and FuelCell Energy Sell Fuel Cell to California.
Caterpillar Inc. and FuelCell Energy have announced their first joint sale of an ultra-low emissions fuel cell power generation plant in the state of California. The 250-kilowatt

Direct FuelCell® power plant will be used by the Los Angeles County Sanitation Districts at its Palmdale Water Reclamation Plant in northwest Los Angeles County.
http://biz.yahoo.com/prnews/030923/cgtu072a_1.html

Delphi SECA Solid Oxide Fuel Cell Successfully Powered By Gasified Coal.
Delphi Corporation's Solid State Energy Conversion Alliance (SECA) Generation-2 solid oxide fuel cell (SOFC) has successfully used coal-derived fuel gas for power. The feasibility study took place in June 2003 at the Power Systems Development Facility (PSDF) coal-gasification plant in Wilsonville, Alabama. This effort tested whether gas produced from coal can be effectively used in a fuel cell to generate electricity.
http://www.delphi.com/media/news/pressReleases/pr24675-09042003

Plug Power Receives ATP Funding.
Plug Power Inc. has been awarded US$3.9 million from the National Institute of Standards and Technology's (NIST) Advanced Technology Program (ATP) for research and development of stationary fuel cells. Plug Power expects to receive approximately $1.8 million in net funding per year from NIST during the two year, cost-share program.
http://www.plugpower.com/is/

Acumentrics and Sumitomo Form Acumentrics Japan Co.
Acumentrics Corporation and Sumitomo Corporation have formed Acumentrics Japan Co. and will initially concentrate on modifying Acumentrics' prototype natural gas powered, rapid-start tubular solid oxide fuel cell "T-SOFC" systems for the Japanese market, specifically targeting 2- 10 kilowatt residential and small commercial applications.
http://www.acumentrics.com/Sept2-03Sumitom.htm

PORTABLE/BACKUP POWER

Voller Energy Taking Orders for Portable Fuel Cell.
Voller Energy introduced the worlds first hand-portable fuel cell system, the Portapack VE100, a 100 watt combined gen-set and battery charger. The unit is the size of a small attaché case and features a selectable 60Hz 110V or 50Hz 230V AC mains supply and a 12V DC battery charging supply. The Portapack VE100 is capable of providing electricity in remote off-grid locations to power lighting, recharge batteries, power personal communications and photographic equipment.
http://www.voller-energy.com/ve/press.htm#

Palcan Develops 2kW Fuel Cell System For Telecommunications and UPS Markets.
Palcan Fuel Cells Ltd. has successfully completed its joint development project with Goodings Environmental Inc. and Fuel Cells Canada to develop a regenerative system that could provide back-up, "off-grid" power for the telecommunications, uninterruptible power supply (UPS) and critical applications markets.
http://www.palcan.com

Heliocentris Introduces New Educational Fuel Cell Kit.
Heliocentris has delivered the first units of the new product line hy-Expert™ Instructor, a complete 40-watt fuel cell power supply for teaching the principles of fuel cells, for post-secondary and vocational education. The hy-Expert™ Instructor is a self-contained fuel-cell power supply, delivering regulated DC power to demonstration electrical loads. The power supply includes a PEM fuel cell, hardware control, power electronics and all necessary safety features. Hydrogen storage and a hydrogen generator are also available.
http://www.heliocentris.com/products/start.html

Avista Fuel Cell Receives Product Certifications.
Avista Labs has received approvals from Compliance Engineering (CE) and Canadian Standards Association (CSA) for its 1 kilowatt Independence 1000™ fuel cell product. The Independence 1000™ is designed for industrial back-up power applications, up to 6kW.
http://www.avistalabs.com/news_over.asp#1

NEC Improves on Recent Prototype.
NEC has reduced the volume of the prototype fuel cell for notebooks it unveiled two months ago. The latest prototype achieves an output density of 50 milliwatts per square centimeter, up 20 percent from the prototype that NEC showed in June. Running from a full tank of 120 cubic inches of fuel (methanol, at a concentration of 10 percent), the cell can provide enough power to run a notebook computer for around 5 hours.
http://story.news.yahoo.com/news?tmpl=story&u=/pcworld/20030917/tc_pcworld/112533

FUELS/REFORMERS/STORAGE

Sweden Opens First Hydrogen Fueling Station.
Sydkraft officially unveiled Sweden's first hydrogen fueling station in Malmo, Sweden. The Hydrogen Energy Station (HES), was supplied by Stuart Energy Systems Corporation and provides both pure hydrogen and a blend of hydrogen and natural gas fuel.
http://www.stuartenergy.com/media_center/press_releases/press_sep11.html

Stuart Energy Unveils Personal Energy Station, Enters Strategic Alliance With Dynetek.
Stuart Energy Systems Corporation has unveiled its alpha prototype Personal Energy Station (PES) featuring a complete zero-emission energy cycle to provide hydrogen fuel for vehicles as well as back-up or supplementary power using renewable or grid electricity. Stuart Energy also entered into a strategic alliance agreement with Dynetek Industries Ltd., where Dynetek will supply stationary hydrogen storage systems for Stuart Energy's Hydrogen Energy Station (HES) product line.
http://www.stuartenergy.com/media_center/press_releases/press_sep16.html
http://www.stuartenergy.com/media_center/press_releases/press_sep15.html

Proton Energy Delivers Hydrogen Generator Down Under.
Proton Energy Systems delivered its HOGEN® on-site hydrogen generator to the Australian Bureau of Meteorology¹s new office on Norfolk Island. The Australian Bureau is the fourth weather data gathering organization worldwide to adopt HOGEN® systems to fill balloons for weather data collection and the 24th HOGEN® generator supplied for a meteorological setting within the past three years.
http://www.protonenergy.com

Dynetek to Deliver Hydrogen Fuel Storage Systems to DaimlerChrysler.
Dynetek Industries Ltd. will deliver 60 on-board hydrogen fuel storage systems for DaimlerChrysler's Mercedes-Benz A-Class fuel cell vehicles. Dynetek is providing the fuel storage solution using its certified 350 bar (5000 psi) hydrogen fuel storage system.
http://www.dynetek.com/pdf/DCCars.pdf

Quantum to Provide Refueling System to European Automaker.
Quantum Fuel Systems Technologies Worldwide, Inc. has received an order from a major European-based automaker for a transportable 10,000-psi (70 MPa) hydrogen refueling system. This system will be used to refuel fuel cell vehicles operating with Quantum's 10,000-psi hydrogen fuel systems.
http://www.qtww.com/press_releases/pr_sep_23_2003.shtml

Engelhard Introduces Desulfurization Methods.
Engelhard Corporation has introduced three different approaches to removing sulfur from both natural and liquid petroleum gas used in fuel cell applications. Sulfur compounds poison fuel cells, lowering their useful life, so desulfurization of fuels is key to making fuel cells commercially viable.
http://biz.yahoo.com/bw/030918/185016_1.html

ECD Receives Funding from SCAQMD.
Energy Conversion Devices, Inc. has received US$200,280 in funding from California's South Coast Air Quality Management District (SCAQMD) for the demonstration of a fuel system that allows for portable, low-pressure, solid hydrogen refueling and also a hydrogen internal combustion engine (ICE) vehicle.

FUEL CELL COMPONENTS

Palcan Fuel Cells Receives Funding for MEA Process.
Palcan Fuel Cells Ltd. was awarded CAN$175,000 (US$130,000) in funding by Natural Resources Canada to support the second phase of its membrane electrode assembly (MEA) automation process.
http://biz.yahoo.com/bw/030924/245684_1.html

Morgan Fuel Cell Introduces Biomimetic Bipolar Plates.
Morgan Fuel Cells' new biomimetic technology breakthrough promises to boost power and cut manufacturing costs of fuel cells. The patented biomimetic bipolar plate

technology mimics the structure seen in animal lungs and plant tissues to allow the gases to flow through the plate more efficiently.
http://www.morganfuelcell.com/article_default_view.fcm?articleid=2188&subsite=673

SatCon Delivers Fuel Cell Electronics for Use in Petrochemical Plant.
SatCon Technology Corporation has delivered the first of two prototype power conditioning systems (PCS) for a 75-kW fuel cell power generation unit for a petrochemical plant application. SatCon's PCS units condition the electricity from the fuel cell into useable AC electricity. Both systems will be tested this fall.
http://www.satcon.com/news/091803.html

REPORTS/MARKET STUDIES

Future Wheels II.
The Northeast Advanced Vehicle Consortium (NAVC) recently published "Future Wheels II: A Survey of Expert Opinion on the Future of Transportation Fuel Cells and Fuel Cell Infrastructure" revealing the results of interviews conducted with 34 fuel cell experts affiliated with a variety of organizations throughout the world.
http://www.navc.org/Future_Wheels_II.pdf

Large Stationary Fuel Cell Markets.
"Large Stationary Fuel Cell Markets Quantified," a new survey from Fuel Cell Today, analyses recent developments in large-scale stationary applications, including the rate of adoption, region of development and funding. It reveals that fuel cells in this field continue to advance as power sources at a wide range of sites including hospitals, hotels, waste-water treatment plants and schools.
http://www.fuelcelltoday.com/surveys

Industry Analysis.
"Fuel Cell Industry Competitive Analysis: Assessment of Major Players, Global Markets and Technologies," a new report from Allied Business Intelligence, provides an overview of fuel cell technology and markets with an emphasis in detailing the present efforts of key fuel cell players. The study provides growth projections by market through 2013, as well as potential revenues both in dollars and in unit shipments.
http://www.abiresearch.com/reports/FCIP.html

REQUESTS FOR PROPOSALS

Hydrogen Education Development Solicitation.
The U.S. Department of Energy (DOE) is soliciting Applications for hydrogen technology education projects in the following topic areas: middle school and high school curriculum and teacher professional development; educational materials, including a hydrogen technology overview publication and program information kit; and co-sponsorship of conferences and events.. Approximately $3.5 million will be available for projects over a five-year period under this solicitation. The deadline for proposals is December 4, 2003.

http://www.eere.energy.gov/hydrogenandfuelcells/financial.html#ed_solicit

MISCELLANEOUS

EU Creates Hydrogen Partnership.
The European Hydrogen and Fuel Cells Technology Partnership was recently launched in Brussels. The Partnership, steered by an Advisory Council, will devise a Hydrogen Research Strategic Agenda and will include all major hydrogen stakeholders, private and public, at EU level. The Commission will also fund hydrogen development and deployment research projects to promote commercialization and business development.
http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/03/1229|0|RAPID&lg=EN

UK Fuel Cell Vision Launched.
The UK Fuel Cell Vision was be launched by the Department of Trade and Industry (DTI) to guide industry, academia and government on the way to developing a world-class fuel cell industry in the UK.
http://www.dti.gov.uk

Wayne State University to Offer Fuel Cell Degree.
Starting this December, Wayne State University's College of Engineering is offering Fundamentals of Alternative Energy I as part of a series of courses that concentrate on hydrogen fuel cell technology. Supported by a $300,000 grant from NextEnergy, the master's degree program in Alternative Energy Technology is expected to become a fully accredited, degree-granting program in Fall 2005.
http://www.media.wayne.edu/news.releases/03September/AlternateEnergyDegree.html

Illinois 2 H2 Partnership Begins Regional Forums.
Illinois 2 H2, a public private partnership established earlier this year by the Illinois Coalition and the Illinois Department of Commerce & Economic Opportunity, has begun a series of six regional forums. The purpose of these forums is to reach out to Illinois citizens, facilitating communication and gaining regional input into the state's roadmap to the hydrogen economy, which will be presented to state, federal and municipal leaders early next year.
http://media.prnewswire.com/en/jsp/latest.jsp?resourceid=2532517&access=EH

Dana Opens New Support Centers.
Dana Corporation has opened new Fuel Cell Support Centers in Rugby, England, and Toyohashi, Japan. At the Rugby center, the team is engaged in developing derivations of Dana's Intelligent Cooling™ pumps to make them suitable for fuel-cell applications. The new center in Japan is located in the existing Dana Asian Technical Center. The center will focus on new business and applications support for the Asian markets. Personnel experienced with fuel-cell knowledge are joining existing staff currently working at the technical center
http://www.dana.com/news/pressreleases/prpage.asp?page=1308

CONFERENCES

H2Expo.
The H2Expo in Hamburg, Germany is scheduled for October 9-11, 2003 and September 15-17, 2004. For more information, visit www.h2expo.com.

Hannover Fair 2004.
The Hannover Fair takes place April 19-24, 2004, in Hannover Germany. Join more than 100 Exhibitors and Forum participants from all over the world presenting their latest H2/FC developments and products. Visit http://www.fair-pr.com/ or contact arno@fair-pr.com for more information. Click on www.virtual-fair.com to visit the virtual exhibits.

Hydrogen Expo USA
Hydrogen Expo USA will be held on April 26 - 29, 2004 in Los Angeles, California in partnership with the National Hydrogen Association's (NHA) 15th annual conference. For conference details, go to www.hydrogenexpo.com.

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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.