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

Toyota to Recall FCVs.
Toyota Motor Corporation is recalling all six of its hydrogen-powered vehicles after it found a leak in the fuel tank of one of the cars. The leak occurred in the vehicle leased to Japan’s Environment Ministry while the high-pressure hydrogen tank was being refilled. The tank was manufactured by a foreign parts maker, not Toyota, but Toyota is recalling the six fuel cell cars, as well as postponing the lease of six more to two local governments and four private companies.


UPS to Operate DaimlerChrysler Fuel Cell Fleet.
The United Parcel Service will operate a small fleet of fuel cell powered vehicles on daily runs to test the fuel cell’s performance during heavy stop-and-go driving in a busy metropolitan area. Initially, UPS will use DaimlerChrysler’s F-Cell cars, but as the project expands, they will use fuel cell powered Freightliner Sprinter vans. Researchers at the Environmental Protection Agency will perform examinations of the vehicles every six months to check the effects of normal driving conditions on fuel cell performance. A hydrogen station will be built in Ann Arbor, Michigan, to provide fuel for the UPS vehicles.

http://www.freep.com/money/autonews/cell15_20030515.htm

DaimlerChrysler Delivers Fuel Cell Bus to Madrid.
DaimlerChrysler has delivered the first fuel cell powered Citaro city bus to Madrid, the first of three buses to be delivered within the framework of the Clean Urban Transport for Europe (CUTE) and Ecological City Transport System (ECTOS) projects.

http://www.daimlerchrysler.com/index_e.htm?/news/top/2003/t30505a_e.htm

Fuel Cell Powered Submarine Begins Sea Tests.
A fuel cell powered U 31 submarine, developed by Howaldtswerke-Deutsche Werft AG, has begun shallow water testing in the western Baltic Sea. The submarine is expected to leave domestic waters by the end of July 2003, to continue testing until it returns to Kiel, Germany, in March 2004.
Proton Energy Systems Awarded Phase II Contract from Naval Research Lab.
Proton Energy Systems, Inc. has received authorization to begin Phase II of its contract with the Naval Research Laboratory for advanced fuel cell technology development. Initial contract funding for Phase II is $385,000 with the total potential contract value worth up to $4.5 million. This effort is part of a DARPA “Water Rocket” program to apply fuel cells to advanced space propulsion and energy systems.

http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=prtn&script=410&layout=6&item_id=412183

STATIONARY POWER

Avista Fuel Cell Powers Battle of the Bands.
Ponaganset High School, home of the fuel cell-powered band, Protium, recently held a Battle of the Bands fundraiser with an Avista Labs Independence 1000 fuel cell powering the instruments and amplifiers for all ten bands during a 2 1/2 hour concert. The Avista Independence performed perfectly and there was enough hydrogen left in the storage cylinder for another six hours of music. Protium will be playing at the Fuel Cell Seminar in Miami this coming November. For more information on the band, contact Ross McCurdy at rkmccurdy@yahoo.com.

DTE to Install Fuel Cells At Three Michigan Educational Institutions.
DTE Energy Technologies is in the final stages of installing three energy|now™ fuel cell systems at three state educational institutions as part of a grant program provided by the State of Michigan. The systems, manufactured by Plug Power, should be fully operational by the end of the month.

http://biz.yahoo.com/prnews/030527/detu023_1.html

Dow to Use GM Fuel Cells to Power Manufacturing Facility.
The Dow Chemical Company will use fuel cells manufactured by General Motors to generate electricity from hydrogen created as a co-product at Dow’s operations in Freeport, Texas. If tests proceed according to plan, Dow could eventually use up to 35 megawatts of power generated by 500 GM fuel cell units on an ongoing basis. The test is expected to begin during the fourth quarter of 2003 and to run through 2005.


Hydrogenics to Supply Power Modules to General Hydrogen.
Hydrogenics Corporation will supply six HyPM-LP(2) fuel cell power modules to General Hydrogen. These power modules, to be used in General Hydrogen’s family of products for logistic operations in large distribution centers, represent the first commercial sale of Hydrogenics’ new 10 kW HyPM-LP(2) power module.


FuelCell Energy Enters Alliance with Alliance Power.
FuelCell Energy, Inc. has signed an agreement with Alliance Power, Inc. to integrate FuelCell Energy's Direct FuelCell® power plants into Alliance Power's portfolio of distributed generation solutions. Alliance Power will focus its marketing efforts initially in the state of California.
http://biz.yahoo.com/prnews/030602/nym098_1.html

**Matsushita Electric Develops Residential Fuel Cell System.**
Matsushita Electric Industrial Company, Ltd. has developed a home-use fuel cell cogeneration system that features industry-leading durability, 35-percent power-generating efficiency and quiet operation. It aims to commercialize the system, which will be exhibited at the 22nd World Gas Conference in Tokyo, Japan, by the end of the next fiscal year ending March 2005, following field-testing at the Matsushita Electric research facility in Osaka, Japan.

**Proton Energy Announces Acquisition of Northern Power Systems.**
Proton Energy Systems, Inc. will soon acquire Northern Power Systems, Inc., a leading designer and manufacturer of integrated on-site power systems for stationary, commercial and industrial applications. Together, the companies will offer a wide array of practical energy technologies, including Proton's advanced hydrogen generation products and Northern's renewable and fossil-fuel power systems, to meet critical power needs of customers. Proton will pay $27.5 million to Northern's security holders, approximately two-thirds in cash and the balance in Proton common stock. Northern's security holders will also receive warrants to purchase approximately 2.5 million shares of Proton stock.

**PORTABLE/BACKUP POWER**

**Medis to Produce Fuel Cell Power Pack for Military.**
Medis Technologies will design and develop a pre-production prototype fuel cell Power Pack for the personal digital assistant (PDA) that General Dynamics is developing for the military. Medis is expected to deliver completed Power Pack prototypes late in 2004, which will be ready for field testing and later delivery to the armed forces.

**Army Launches Ventura Capital Initiative for Soldier Power Sources.**
The U.S. Army has created a $25 million Venture Capital Initiative to obtain lighter, more efficient power sources for individual soldier systems. The fund will be managed by OnPoint Technologies of Florida, and will be modeled on the CIA's venture capital initiative, In-Q-Tel.

**Marconi and Metallic Power Partner to Deliver Zinc Fuel Cells.**
Metallic Power and the Outside Plant, Power & Services group of Marconi Corporation announced a partnership to provide innovative zinc-based fuel cell backup power
sources. Under the terms of the reseller agreement, Marconi will use Metallic Power's zinc fuel cells in a variety of applications in the telecommunications industry.

http://biz.yahoo.com/bw/030529/295040_1.html

Manhattan Scientifics Licenses Fuel Cell Patents to Ballard.
Manhattan Scientifics, Inc. has issued a non-exclusive, patent license of its NovArs mid-range fuel cell technology to Ballard Power Systems. Manhattan Scientifics received an initial payment of US$300,000 concurrent with the execution of the license agreement, which provides unlimited use rights to Ballard for the proprietary technology and systems developed by Manhattan Scientifics. The company is scheduled to receive an additional payment of US$200,000 upon commercial launch by Ballard of a product using the technology.

http://www.hawkassociates.com/mhtx/mhtxpr53.htm

FUELS/REFORMERS/STORAGE

BP to Construct Hydrogen Fueling Station in Singapore.
BP has joined with Air Products to construct the country's first hydrogen refueling station at BP's local Upper East Coast Road kiosk. The new station, which is being developed under a joint venture between BP and the Singapore Economic Development Board, is expected to cost between $500,000 and $1 million and will begin supplying 20 kilograms of compressed hydrogen per day starting early next year.

IdaTech Develops Liquid Hydrocarbon-Fueled Fuel Cell System.
IdaTech has developed a prototype fuel cell system that is able to operate using liquid hydrocarbon fuels such as low-sulfur diesel, kerosene, biodiesel, gas-to-liquids (GTLs) and Fischer-Tropsch. The prototype, which features the company's patented fuel processor technology and a Nexa FC module manufactured by Ballard Power Systems, Inc., is similar in size to its FCS 1200™ platform, with the exception of an additional water tank.

http://www.idatech.com/media/news.html?article=50

Delphi Set to Show Feasibility of Gasified Coal to Power SOFCs.
Delphi Corp. is set to demonstrate a unique innovation by powering its Solid State Energy Conversion Alliance (SECA) Generation-2 solid oxide fuel cell (SOFC) using gaseous fuel extracted from coal. The demonstration will take place at the Power Systems Development Facility (PSDF) coal-gasification plant in Wilsonville, Alabama.


Dynetek and enviroMECH to Develop Storage Solutions.
Dynetek Industries Ltd. has formed a Strategic Alliance with enviroMECH Industries Inc. (EMI) to develop and install Complete Fuel Storage Solutions for the compressed gas market in North America. Formalizing the agreement will be the opening of EMI’s new facility in Thousand Palms, California. Dynetek and EMI will jointly market complete fuel storage solutions and will focus initially on the North American transport and power generation industries.
FUEL CELL COMPONENTS

SMP and EVI Enter Agreement for Electrocatalyst Supply. Superior MicroPowders (SMP) and Energy Visions Inc (EVI) have signed a Strategic Alliance agreement for the non-exclusive supply of fuel cell electrocatalysts and services by SMP to EVI.
http://www.smp1.com/

Toray Develops New Polymer Electrolyte Membrane for DMFCs. Toray Industries, Inc. has developed a new polymer electrolyte membrane that reduces methanol permeability in direct methanol fuel cells (DMFCs) by 20 percent when compared to conventional membranes. The new membrane triples the power density and energy capacity of DMFCs, even when the methanol concentration is 30 percent.
http://www.toray.co.jp/english

UQM Technologies Announces Compressor Order From Ballard. UQM Technologies, Inc. has received an order from Ballard Power Systems for additional fuel cell compressor drive motors for use in fuel cell engines, following another order received earlier this year.

NexTech Ready to Sell New SOFC Materials. NexTech Materials, Ltd. has released for sale new materials and material forms for use in solid oxide fuel cells (SOFC), oxygen generators, and other ceramic oxygen and electric conducting systems. The new forms include inks for screen-printing of ceramic cathode electrolyte in aqueous suspension formulated for ultrasonic spray coating.
http://www.nextechmaterials.com

REPORTS/MARKET STUDIES

Australia to Study Hydrogen and Fuel Cells in Antarctica. The Australian government will provide a $500,000-Australian (~US$330,000) grant to its Australian Antarctic Division and the University of Tasmania's Institute of Antarctic and Southern Ocean Studies to investigate the use of hydrogen in the country's Antarctic operations. This grant will accelerate work underway into the use of hydrogen in fuel cells to reduce reliance on diesel fuel for Antarctic operations.
http://www.ea.gov.au

Fuel Cell Supply Chain. Allied Business Intelligence has published a new study, titled “Fuel Cell Supply Chain: Global Market Analysis, Potential and Forecasts”, that predicts the global fuel cell industry will generate more than $18.6 billion in 2013. The study examines each major market segment’s sales breakdown for the next decade in the U.S., Europe and Japan and presents each major fuel cell market segment’s potential revenues both in dollars and in unit shipments.
World Fuel Cells.
“World Fuel Cells”, a new study from The Freedonia Group, Inc., projects the world commercial market for fuel cell products will increase tenfold through 2007 to $2.4 billion.
http://www.freedoniagroup.com/

Fuel Sources Report.
WinterGreen Research has released “Fuel Sources: Market Analysis, Forecasts, and Supplier Strategies - 2002 to 2007.”
http://www.researchandmarkets.com/reports/1501/

The Outlook For Fuel Cells To 2010.
“The Outlook For Fuel Cells To 2010: Commercial Opportunities in Power Generation Markets” is now available from Reuters Business Insight.

REQUESTS FOR PROPOSALS

DOE Issues Hydrogen Fleet & Infrastructure Demo & Validation Solicitation.
The DOE Office of Hydrogen, Fuel Cells, and Infrastructure Technologies is soliciting applications for Validation projects that include the testing, demonstration, and validation of hydrogen fuel cell vehicles and infrastructure, and the required vehicle and infrastructure interfaces for complete system solutions. The validation projects should also include a comprehensive safety plan, a program that enhances the development of codes & standards, and a comprehensive, integrated education and training campaign. DOE anticipates selecting approximately three to five applications for negotiation toward award. Subject to the availability of annual congressional appropriations, the total cumulative DOE funding available under this Solicitation for all projects is anticipated to be between $150 million and $240 million. Deadline for applications is August 14, 2003.

Renewable Hawaii, Inc., a wholly-owned subsidiary of Hawaiian Electric Company, has issued an RFP for renewable energy projects on the Island of Oahu. Eligible projects include fuel cells running on hydrogen derived from renewable sources. Renewable Hawaii has approval to invest up to $10 million under this solicitation. Deadline for response is August 22, 2003.
http://www.renewablehawaii.com/RenewableHawaii/home/

DOD SBIR Includes Fuel Cell Topics.
The U.S. Department of Defense has issued its Small Business Innovation Research Solicitation for 2003, featuring fuel cell topics in the Army and DARPA topic lists. Topics include “Hydrogen Generation and Storage for Fuel Cell Systems” and “Mixed-Feed Direct Methanol Fuel Cell.” Technical questions about the topics may be asked of the Topic Authors up until June 30, 2003. This solicitation is for Phase I awards only, which
are typically $60,000 to $100,000 over a period of six to nine months. Deadline for proposals is August 14, 2003.

NETL Solicits Comments on FutureGen Program.
The National Energy Technology Laboratory has issued a Request for Information (RFI) regarding its plans for implementing FutureGen, a $1 billion, 10-year demonstration project to create the world’s first coal-based, zero emissions power plant to produce electricity and hydrogen. NETL is seeking comments on any aspect of its proposed plans for the project. Deadline for comments is June 16, 2003.

MISCELLANEOUS

Governor Taft Announces $18 Million for CWRU to Expand Fuel Cell Research.
Case Western Reserve University will receive an $18 million grant to support the research, development and commercialization of fuel cells by establishing the Power Partnership for Ohio, a Wright Center of Innovation. The Power Partnership for Ohio consists of a statewide collaboration of universities, companies and institutions to create a competitive advantage for Ohio in power and energy generation and utilization, with a focus on fuel cells. Proposed research areas include portable fuel cell systems, instrumented bipolar plates, science-based durability studies of fuel cells, modeling of fuel cell systems, and advanced catalysts for fuel cells and fuel processors.
http://www.thirdfrontier.com/3rdfrontier/

ASME Releases New Performance Test Code.
The American Society of Mechanical Engineers (ASME) has released ASME (PTC) 50, a Performance Test Code on Fuel Cell Power Systems Performance. ASME PTC 50 provides guidance for evaluation of fuel cell power systems to determine their power output and efficiency.
http://www.asme.org/codes/ptc50.html

Hawaii Fuel Cell Test Facility Opens.
The Hawaii Fuel Cell Test Facility is a joint project coordinated by the University of Hawaii at Manoa’s Hawaii Natural Energy Institute (HNEI), with partners UTC Fuel Cells, the Office of Naval Research and Hawaiian Electric Company. The recently opened 4,000 square foot facility currently houses three fuel cell test stands with two more to be received by the end of this year.
http://www.hnei.hawaii.edu/HFCTFDeDStarB.pdf

Fuel Cells UK Launched in London.
Fuel Cells UK was launched at the Department of Trade and Industry in London, and will help raise the profile of the fuel cell industry in the United Kingdom.
CONFERENCES

Join over 700 delegates to discuss the latest developments in hydrogen, fuel cell research and product developments in Vancouver, British Columbia, Canada on June 8-11, 2003. Also available will be an exciting array of industrial and product demonstrations. For more information, please visit www.hydrogenfuelcells2003.com.

Hydrogen Production and Northwest Transportation.

Renewable Energy Summit.

15th World Hydrogen Energy Conference.
The 15th World Hydrogen Energy Conference will be June 27 – July 2, 2003, in Yokohama, Japan. For details, go to www.whec15.jp.

The 5th International conference on New Materials for Fuel Cell Systems will be held in Montreal, Canada on July 6-11, 2003. For conference details, go to www.newmaterials.polymtl.ca.

Grove Fuel Cell Symposium VIII.
Join international delegates to discuss developments in fuel cell technology and commercialization at the Eighth Grove Fuel Cell Symposium in London, England, on September 24-26, 2003. New for 2003 is a large exhibition area featuring over 100 exhibitors, vendor presentations and live demonstrations. Find out more at www.grovefuelcell.com or contact sm.wilkinson@elsevier.com.

f-cell 2003.
f-cell 2003 – 3rd Forum for Producers and Users, will be held September 29-30, 2003 in Stuttgart, Germany. For program and registration information, go to www.f-cell.de/english.

Sustainable Energy Expo.
The Sustainable Energy Expo and Conference will be held October 1-3, 2003, at the Los Angeles Convention Center in Los Angeles, California. For more information, please visit www.sustainableexpo.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.