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## **FUEL CELL CONNECTION – May 2003 Issue**

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## **Administration**

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## **News on U.S. Government Fuel Cell Programs**

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### *1. EPA Announces Fuel Cell Vehicle, Fueling Demo with UPS and DaimlerChrysler*

The Environmental Protection Agency has announced a fuel cell vehicle demonstration program in which United Parcel Service will operate a small fleet of fuel cell powered vehicles. 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 EPA will perform examinations of the vehicles every six months to check the effects of normal driving conditions on fuel cell performance. EPA will build a hydrogen station at a facility in Ann Arbor to provide fuel for the UPS vehicles.

[http://www.epa.gov/newsroom/headline\\_051903a.htm](http://www.epa.gov/newsroom/headline_051903a.htm)

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### *2. Coast Guard Fuel Cell Installation Completed*

FuelCell Energy has completed the installation of a 250-kW Direct FuelCell® power plant at the U.S. Coast Guard Air Station Cape Cod in Bourne, Massachusetts. The fuel cell system provides electricity to the air station, including its hangars and administrative buildings, and supplies hot water for use in the air station's barracks.

[http://www.corporate-ir.net/ireye/ir\\_site.zhtml?ticker=fcel&script=410&layout=-6&item\\_id=414360](http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=fcel&script=410&layout=-6&item_id=414360)

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### *3. High School Teams Compete in Hydrogen Fuel Cell Model Car Challenge*

Six high school teams were winners of the first annual Hydrogen Fuel Cell Model Car Challenge, part of the Department of Energy's National Science Bowl. Winning teams received funding for their schools' science departments.

[http://www.energy.gov/HQPress/releases03/maypr/pr03093\\_v.htm](http://www.energy.gov/HQPress/releases03/maypr/pr03093_v.htm)

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### *4. Companies Team Up to Produce Fuel Cell Power Pack for Military Applications*

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.

[http://www.medisel.com/press\\_view.cfm?press\\_id=121](http://www.medisel.com/press_view.cfm?press_id=121)

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### *5. 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.

<http://www.dtic.mil/armylink/news/May2003/r20030507r-03-028.html>

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### *6. Delphi to Use Gasified Coal in SECA Fuel Cell*

Delphi Corporation will demonstrate its Generation-2 solid oxide fuel cell using gaseous fuel extracted from coal. The demonstration project, which is part of the Department of Energy's Solid-State Energy Conversion Alliance (SECA), will take place at DOE's Power Systems Development Facility coal-gasification plant in Wilsonville, Alabama.

<http://media.prnewswire.com/en/jsp/latest.jsp?resourceid=2461273&access=EH>

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*7. Article Highlights USMMA Kings Point Hydrogen Project*

An article in SolarAccess.com featured details of the Kings Point Hydrogen Project of the U.S. Merchant Marine Academy. The project, started in 1999, uses solar-powered electrolysis to generate hydrogen, which is then compressed and stored in tanks on a "Flying Scot" 19-foot sailboat. The hydrogen will be used in a 5-kW Plug Power fuel cell, which will charge three 12-volt batteries to power a small trolling motor on the boat.

<http://www.solaraccess.com/news/story?storyid=3661&p=1>

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*8. Air Products Completes 11-Year Project to Demonstrate Methanol-From-Coal Method*

Air Products Liquid Phase Conversion Company has completed a nearly 11-year project, co-funded by DOE, to demonstrate an advanced method for making methanol from coal. According to one of the project's topical reports, methanol from the Liquid Phase Methanol (LPMEOH™) process, purified to chemical-grade specifications, should be suitable for use in fuel cells.

[http://www.fossil.energy.gov/techline/tl\\_liqphasemethanol\\_success\\_print.html](http://www.fossil.energy.gov/techline/tl_liqphasemethanol_success_print.html)

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**RFP/Solicitation News**  
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*9. NASA Issues Quick-Turnaround Fuel Cell RFQ*

NASA/Glenn Research Center has issued a Request for Quote (RFQ) to analyze and specify hydrogen-oxygen and hydrogen-air fuel cell systems and water electrolyzers. The offeror shall work with the NASA GRC design team to develop concepts for fuel cell powered aircraft. Responses are due June 3, 2003.

<http://prod.nais.nasa.gov/cgi-bin/eps/synopsis.cgi?acqid=105814>

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*10. Solicitation Addresses Idle-Reduction Technologies for Class 7 & 8 Trucks*

DOE's Idaho Operations Office is seeking applications for cost-shared demonstration and information dissemination projects for onboard idle-reduction technologies on Class 7 & 8 trucks. Idle reduction technology demonstration projects already underway may apply to expand the project for analysis tasks and for information dissemination aspects of the project. Approximately \$250,000 of funding will be available for this solicitation in FY2003. Deadline for applications is June 11, 2003.

<http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2003/03-10883.htm>

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*11. 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.

<http://www.netl.doe.gov/coalpower/sequestration/futureGen/main.html>

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*12. California Power Authority Announces 2003 Industrial Development Bond Program*

The California Power Authority has announced the availability of its Industrial Development Bond Program for 2003, which is authorized to issue up to \$30 million of tax-exempt IDB loans. Eligible technologies & equipment listed under this program include fuel cells using a renewable or non-renewable source. Manufacturers of components of the clean distributed technologies listed may qualify for loans for new and/or expanded eligible manufacturing facilities in California. Loan applications are due no later than August 1, 2003.

<http://www.capowerauthority.ca.gov/News/IDB.htm>

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*13. 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.

<http://www.acq.osd.mil/sadbu/sbir/solicitations/sbir032/index.htm>

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*14. 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. [http://www.eere.energy.gov/hydrogenandfuelcells/2003\\_solicitation\\_notice.html](http://www.eere.energy.gov/hydrogenandfuelcells/2003_solicitation_notice.html)

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*15. Hawaii Seeks Renewable Energy Projects, Including Hydrogen Fuel Cells*

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/>

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**Contract / Funding Awards**  
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*16. Nuvera Fuel Cells Selected for Demonstration at Coast Guard Facility*

The U.S. Department of Defense has selected Nuvera Fuel Cells to demonstrate a 4-kW natural gas fuel cell system, called Avanti™, at the Coast Guard facility in Bristol, Rhode Island. The contract was awarded through the Construction Engineering Research Laboratory.

<http://media.prnewswire.com/en/jsp/latest.jsp?resourceid=2459252&access=EH>

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*17. Proton Energy Systems Awarded Phase II Contract from Naval Research Lab*

Naval Research Laboratory has authorized Proton Energy Systems to begin Phase II of its contract 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](http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=prtn&script=410&layout=6&item_id=412183)

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*18. NASA/GRC Selects Designer/Builder for Fuel Cell Test Facilities*

NASA's Glenn Research Center has selected Northland Scientific of Venice, Florida, to design test facilities for fuel cell powered 500-kW electric powered distribution systems. <http://www.eps.gov/spg/NASA/GRC/OPDC20220/Rfq-C3E-7977/SynopsisP.html>

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**Legislation / Regulations**  
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*19. SAFETEA Directs Funds to Hydrogen Infrastructure R&D*

U.S. Secretary of Transportation Norman Y. Mineta unveiled the Bush Administration's six-year \$247 billion surface transportation reauthorization proposal, "Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2003" (SAFETEA). Funding for "Hydrogen Infrastructure Safety Research and Development" is specified at \$1 million for FY2004, \$15 million for FY2005, \$13 million for FY2006, \$11 million for FY2007, \$9 million for FY2008 and \$6 million for FY2009. The funding is in the section of the bill that establishes a multimodal research program to encourage and promote the research, development, demonstration and testing of technologies that have multimodal transportation applications. Section 3013 of the bill, "Research, Development, Deployment, and Demonstration Projects," includes a Fuel Cell Transit Bus component but does not specify funding levels. <http://www.fhwa.dot.gov/reauthorization/safetea.htm>

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*20. DFC200A Fuel Cell Power Plant Receives ANSI Certification*

FuelCell Energy's DFC300A Direct FuelCell® power plants have been certified to meet the American National Standards Institute (ANSI) products safety standards for stationary fuel cell systems, ANSI Z21.83. [http://www.corporate-ir.net/ireye/ir\\_site.zhtml?ticker=FCCEL&script=412&layout=-6&item\\_id=409084](http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=FCCEL&script=412&layout=-6&item_id=409084)

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**State Activities**  
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*21. Washington State Legislature Requires Fuel Cell Consideration by State Agencies*

The Washington State Legislature has approved a bill requiring state agencies to consider installing fuel cells as the primary source of power for state buildings that require uninterruptible power sources. [http://www.leg.wa.gov/pub/billinfo/2003-04/House/2150-2174/2172-s\\_pl\\_04272003.txt](http://www.leg.wa.gov/pub/billinfo/2003-04/House/2150-2174/2172-s_pl_04272003.txt)

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*22. 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>

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**Industry Headlines**  
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*23. 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.

[http://media.gm.com/news/releases/030507\\_dow.html](http://media.gm.com/news/releases/030507_dow.html)

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*24. 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.

<http://www.deutschemarine.de/80256B100061BA9B/vwContentByKey/3CDA479B0C7016F2C1256D01002F98D0>

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*25. 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](http://www.daimlerchrysler.com/index_e.htm?/news/top/2003/t30505a_e.htm)

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*26. Fuel Cell Propelled Boeing In Development*

An experimental one-person aircraft is being developed by Boeing, which will rely entirely on a 25-kW fuel cell for propulsion once airborne. Batteries will be used to accelerate to the required speed during take-off. The aircraft could be ready for test flights by December 2003.

<http://www.newscientist.com/news/news.jsp?id=ns99993717>

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*27. 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.

<http://www.gnn.gov.uk/gnn/national.nsf/TI/264571794DDEC1E080256D1F004F820E?opendocument>

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*28. Eighth Grove Fuel Cell Symposium*

Eighth Grove Fuel Cell Symposium – “Building Fuel Cell Industries” – ExCeL, London, UK. 24-26 September 2003 – <http://www.grovefuelcell.com>. Conference: sm.wilkinson@elsevier.com. Exhibition: pamchattin@aol.com.

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## Administration

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Press releases and story ideas may be forwarded to Bernadette Geyer, editor, for consideration at [bernie@usfcc.com](mailto:bernie@usfcc.com).

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## About *Fuel Cell Connection*

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### The Sponsors

*U.S. Fuel Cell Council* -- The U.S. Fuel Cell Council is the business association for anyone seeking to foster the commercialization of fuel cells in the United States. Our membership includes producers of all types of fuel cells, as well as major suppliers and customers. The Council is member driven, with six active Working Groups focusing on: Codes & Standards; Transportation; Power Generation; Portable Power; Stack Materials and Components; and Education & Outreach. The Council provides its members with an opportunity to develop policies and directions for the fuel cell industry, and also gives every member the chance to benefit from one-on-one interaction with colleagues and opinion leaders important to the industry. Members also have access to exclusive data, studies, reports and analyses prepared by the Council, and access to the "Members Only" section of its web site.

[\(http://www.usfcc.com/\)](http://www.usfcc.com/)

*National Fuel Cell Research Center* -- The mission of the NFCRC is to promote and support the genesis of a fuel cell industry by providing technological leadership within a vigorous program of research, development and demonstration. By serving as a locus for academic talent of the highest caliber and a non-profit site for the objective evaluation and improvement of industrial products, NFCRC's goal is to become a focal point for advancing fuel cell technology. By supporting industrial research and development, creating partnerships with State and Federal agencies, including the U.S. Department of Energy (DOE) and California Energy Commission (CEC), and overcoming key technical obstacles to fuel cell utilization, the NFCRC can become an invaluable technological incubator for the fuel cell industry.

[\(http://www.nfcrc.uci.edu/\)](http://www.nfcrc.uci.edu/)

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<http://www.netl.doe.gov>