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FUEL CELL CONNECTION – October 2003 Issue

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News on U.S. Government Fuel Cell Programs

1. *Canada Joins International Partnership for a Hydrogen Economy*

Canada's Minister of Natural Resources announced that the country will join the International Partnership for a Hydrogen Economy launched by U.S. Energy Secretary Spencer Abraham earlier this year.

http://www.nrcan-rncan.gc.ca/media/newsreleases/2003/200383_e.htm

2. *SECA and NASA to Collaborate on Next Generation Aircraft*

DOE's Solid State Energy Conversion Alliance (SECA) will work with the National Aeronautics and Space Administration (NASA) through the Next Generation Clean Aircraft Power and Propulsion program to lower emissions of commercial aircraft and other aerial vehicles by using solid oxide fuel cells as auxiliary power units.

http://www.seca.doe.gov/seca-today/News/news_101703.html

3. *Fuel Cell Uses Coal Mine Methane*

The Department of Energy is funding a project demonstrating the use of coal mine methane as the fuel for a fuel cell power plant. The 200-kW fuel cell, manufactured by FuelCell Energy, generates enough electricity for an average of 40 homes.

http://www.fossil.energy.gov/news/techlines/03/tl_cmmfuelcell.html

4. *Fuel Cell Powers Navy Houses During Blackout*

Fuel cell power plants manufactured by Plug Power provided electricity to several families at the Naval Support Unit in Saratoga Springs, New York, during the major blackout which occurred in the United States and Canada on August 14, 2003.

<http://www.cecer.army.mil/td/tips/docs/fuelcellsfinney6.pdf>

5. *DOE-Funded GTL Plant Dedicated*

DOE and Syntroleum announced the dedication of a gas-to-liquids (GTL) demonstration plant near Tulsa, Oklahoma, constructed under DOE's Ultra-Clean Fuels program. While the fuel will

initially be tested in diesel fleets, it also has potential additional applications in fuel cells because of its hydrogen content.

http://www.fossil.energy.gov/news/techlines/03/tl_syntroleum_dedication.html

6. Article Details Naval Interest in Fuel Cells

An article in the October 2003 issue of *National Defense Magazine* details the U.S. Navy's interest in fuel cells for everything from cell phones and laptop computers to a future fleet of electric ships. Among projects mentioned are the Navy's study of options for using fuel cells in the future DD-X all-electric destroyer, and the Marine Corps' plans to field test two hydrogen fuel cell units in Okinawa, Japan, in 2004.

<http://www.nationaldefensemagazine.org/article.cfm?id=1217>

7. DOE Announces 1st University Student Hydrogen Design Contest

Teams of graduate and undergraduate students enrolled in North American colleges and universities for the 2003-2004 academic year are invited to participate in the first University Student Hydrogen Design Contest, submitting innovative and imaginative designs for a next-generation hydrogen fueling station.

<http://www.hydrogenconference.org/contest.asp>

8. SECA Posts New Project Info on Database

DOE's SECA program has posted information to its database on seven new projects in the program, including "New Cathode Materials for Intermediate Temperature SOFCs" by the University of Houston, and "Thermally Integrated High Power SOFC Generator" by FuelCell Energy. <http://www.seca.doe.gov/map/proj-table.html>

9. SBCCOM is Re-Designated, RDECOM Created

The U.S. Army Soldier and Biological Chemical Command (SBCCOM) has been re-designated, to create the U.S. Army Research, Development and Engineering Command (RDECOM), Chemical Materials Agency and Guardian Brigade. RDECOM's mission is to develop and field technologies for the Army.

<http://www.rdecom.army.mil/pressrelease29Sep.pdf>

10. Fossil Energy Office Web Site Highlights Hydrogen, Clean Fuels

The DOE Office of Fossil Energy's web site now highlights Hydrogen and Other Clean Fuels as a section of the site. The section links to a listing of all the Office's hydrogen and natural gas-based clean fuels R&D projects, as well as a link to the Office's Hydrogen Program Plan.

<http://www.fe.doe.gov/programs/fuels/>

New Government Publications Posted

11. NETL Publishes Fuel Cell Annual Report

DOE's National Energy Technology Laboratory has published its 2003 Fuel Cell Annual Report, providing the status of projects funded under the Fossil Energy Fuel Cell Program, notably projects within the scope of the Solid State Energy Conversion Alliance.

<http://www.netl.doe.gov/scng/enduse/refshelf/2003FuelCellAnnualReport.pdf>

12. *New Issue of Fuel Cell Summit Newsletter*

The new issue of *Fuel Cell Summit* is available online, detailing the status of fuel cell and hydrogen codes, standards, and regulations.

<http://www.pnl.gov/fuelcells/Newsletter/Vol4Issue4.pdf>

13. *MARAD Strategic Plan Includes Support of Hydrogen Fuel Initiative*

The U.S. Department of Transportation's Maritime Administration has published its Strategic Plan for Fiscal Years 2003-2008, noting its intent to support the President's Hydrogen Fuel Initiative through cooperative research on marine applications of hydrogen technologies.

<http://www.marad.dot.gov/Publications/Strategic%20Plan%201998-2002/MARAD%202003-2008%20strategic%20plan.html>

14. *Reports on NREL Interconnection Testing & Validation Projects*

National Renewable Energy Laboratory (NREL) researchers have released two reports on the testing of GE's Universal Interconnection Device and the validation of P1547.1 Draft Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources With Electric Power Systems.

http://www.eere.energy.gov/distributedpower/news/1003_nrel.html

15. *NETL Posts Fuel Cell Research Fact Sheet*

DOE has posted a fact sheet detailing fuel cell research at the National Energy Technology Laboratory, and how the research correlates to three key federal initiatives for energy and the environment. <http://www.netl.doe.gov/publications/factsheets/policy/Policy009.pdf>

16. *SECA Modeling & Simulation Training Session Proceedings*

Proceedings of the 2003 SECA Modeling & Simulation Training Session are now available online. Presentation topics include Solid Oxide Fuel Cell Modeling with FLUENT and Spreadsheet Model of SOFC Electrochemical Performance.

<http://www.netl.doe.gov/publications/proceedings/03/seca-model/seca-model03.html>

17. *Proceedings of SECA Core Technology Program Review Meeting*

Proceedings from the Core Technology Program Review Meeting for SECA are now available online. Presentation topics include Functionally Graded Cathodes for SOFCs and A High-Efficiency Low-Cost DC-DC Converter for SOFC.

<http://www.netl.doe.gov/publications/proceedings/03/seca-review/seca-prm03.html>

18. *Report on Biological Hydrogen Production Workshop*

The results of a two-day workshop on biological hydrogen production, sponsored by the Air Force Office of Scientific Research, are available online. The primary objective of the workshop was to define the future role of biotechnology, biomimetic chemistry and artificial photosynthesis in the development of innovative hydrogen-production technologies. Participants detailed challenges and current scientific understanding in each of the above areas.

http://www.nrel.gov/news/press/2003/3003_hydro_prod.html

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**RFP/Solicitation News**  
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19. Fuel Cells Within Scope of Technical Assistance RFQ

The California Energy Commission has issued a Request for Qualifications for Architectural and Engineering Technical Assistance for New and Existing Facilities. A single consulting Prime Contractor is needed to head a team of engineers and architects with regards to a Scope of Work that includes evaluation of fuel cells and other opportunities for cogeneration, distributed generation, and energy efficiency at wastewater treatment facilities. An estimated \$2.24 million is available. Deadline for submitting a Statement of Qualifications is November 19, 2003.

http://www.energy.ca.gov/contracts/RFQ_400-03-401/2003-10-07_400-03-401.PDF

20. PIER Program Seeks CHP Projects

The California Energy Commission's Public Interest Energy Research (PIER) Program has issued a Request for Proposals for Combined Heat and Power Research, Development, and Demonstration Projects. Improvements to fuel cells will be eligible for funding under this RFP only if the improvements relate to CHP, such as enhancing the quality or usability of heat. Each bidder can request up to a maximum of \$2 million. The Commission anticipates awarding 3-8 contracts under this solicitation. Deadline for proposals is December 12, 2003, but bidders must submit a Notice of Intent to Bid by November 21, 2003.

http://www.energy.ca.gov/contracts/500-03-503/00_RFP_500-03-503.PDF

21. Fuel Cell Topics in DOD SBIR

Fuel cell-related projects are among the topics covered by the latest Department of Defense Small Business Innovation Research (SBIR) solicitation. Topics include MEMS Based Sulfur Detection for Logistic Fuel-Based Fuel Cell Power Generators and JP8 Solid Oxide Fuel Cell to Power Existing Hybrid 25K Loader. Phase I awards under the solicitation are typically \$60,000-\$100,000 for a six-to-nine month project period. DOD will begin accepting proposals on December 1, 2003, and the final deadline is January 15, 2004.

<http://www.dodsbir.net/solicitation/default.htm>

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**Contract / Funding Awards**  
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22. TACOM Awards Contract to Energy Conversion Devices

The U.S. Army Tank-Automotive and Armaments Command has awarded a \$500,000 contract to Energy Conversion Devices for development by Texaco Ovonic Hydrogen Systems of a transportable solid hydrogen storage and refueling system for hydrogen fuel cell powered off-road military vehicles. http://www.ovonic.com/news_events/5_2_press_releases/20031020.htm

23. IdaTech Receives DOE Funds for Fuel Cell System

DOE has awarded a three-year, \$9.6 million cost-shared cooperative agreement to IdaTech for development of a 50-kW PEM fuel cell system suitable for providing grid-independent energy for large facilities. <http://www.idatech.com/media/news.html?article=54>

24. GrafTech Receives Cash Grants from State of Ohio

The State of Ohio has awarded two cash grants totaling \$1.4 million to GrafTech International's Advanced Energy Technology subsidiary to support fuel cell development programs.

<http://www.graftech.com/GrafTech/News+Room/Press+Releases/2003/GTI+Awarded+Cash+Grants+for+Fuel+Cell+Technology.htm>

25. *Quantum Technologies Awarded Contract for Army Fuel Cell Vehicle*

Quantum Technologies has been awarded a contract by the U.S. Army National Automotive Center to integrate a hydrogen fuel cell powered hybrid electric powertrain into a light-duty off-road vehicle. http://www.qtw.com/press_releases/pr_oct_08_2003.shtml

26. *FuelCell Energy to Participate in Navy Fuel Cell Verification Program*

FuelCell Energy has received a \$954,000 contract award for participation in the U.S. Navy Marine Fuel Cell Technology Verification-Trainer program. The 16-month program includes engineering and development for installing diesel-fueled Direct FuelCell® power plants at naval facilities and on ships, as well as development of a marine fuel cell simulator for use as an operator training aid. http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=FCEL&script=412&layout=-6&item_id=454762

27. *Jadoo Fuel Cell Contract with Navy*

The Patuxent River, Naval Air Warfare Center has a requirement to procure a Jadoo fuel cell and ancillary equipment through a sole source contract. <http://www.eps.gov/spg/DON/NAVAIR/NAVAIRHQ/N00421-04-T-0016/SynopsisP.html>

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**Legislation / Regulation**  
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28. *Wisconsin Adopts DG Interconnection Rules*

The Wisconsin Public Service Commission has adopted a new chapter in its administrative code that establishes uniform standards for the interconnection of small generators with utility distribution systems. The new rules will apply to all public utilities and will cover new DG systems up to 15 MW operating in parallel with electric utilities. Alliant Energy has already incorporated many provisions of the standards into its internal procedures, and Wisconsin's rural electric cooperatives are likely to adopt the new standards and procedures. http://www.eere.energy.gov/distributedpower/news/0903_wipsc.html

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**State Activities**  
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29. *Minnesota Renewable Hydrogen Initiative Sponsors Technical Forum*

The Minnesota Renewable Hydrogen Initiative is sponsoring a technical forum on portable fuel cells, October 29, 2003. Participants include Minnesota-based companies such as 3M and Entegris, as well as companies from other parts of the U.S. <http://www.minnesotatechnology.org/events/TechForums/forum.asp?forumId=59>

30. *Report on Greater Rochester's Fuel Cell Plans*

Greater Rochester Enterprise issued a report on the fuel cell research and commercialization plan for the Greater Rochester New York Region. The report, conducted by Deloitte & Touche, concludes Rochester is "well-suited to become a leading fuel cell research and manufacturing center and has the promise to appeal to a broad spectrum of the fuel cell industry as an ideal place to locate their operations." http://greaterrochesterenterprise.com/GREV10/t_GREDetail.aspx?t=2&np=8&n=69&m=80

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**Industry Headlines**  
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31. DaimlerChrysler Introduces F-Cell Vehicle to General Customers

DaimlerChrysler has entered partnerships with three companies, including Tokyo Gas, for use of fuel cell passenger cars as part of the "F-Cell Global Program" under which a total of 60 F-Cell cars will be introduced into four countries.

http://wwwsg.daimlerchrysler.com/SD7DEV/GMS/TEMPLATES/GMS_PRESS_RELEASE/0,2941_0-25-48115-1-1-text-1-0-Media,00.html

32. Fuel Cell Powers Radio Site During Hurricane Isabel

A Maryland government microwave radio tower site in Elk Neck State Park was successfully powered by an Avista Labs Independence 1000™ fuel cell system during Hurricane Isabel, when the grid lost power. The fuel cell system, installed in May 2003 by havePOWER, enabled medical service, police, and other critical communications during the hurricane and its aftermath.

http://biz.yahoo.com/prnews/031008/sfw017_1.html

33. Hydrogen Fuel cell Water Taxi on San Francisco Bay

The first hydrogen fuel cell water taxi is being demonstrated on San Francisco Bay, powered by a fuel cell engine from Anuvu Incorporated. Hydrogen is provided by a Millennium Cell Hydrogen On Demand™ fuel system.

<http://www.anuvu.com/bayboat.html>

34. Honda Develops Cold-Weather Stack, Home Energy Station

Honda announced its development of a fuel cell stack designed to operate at temperatures as low as -20 degrees C (-4 degrees F). The stack nearly doubles the power density compared to the Honda FCX V3 stack, increasing a vehicle's estimated driving range to more than 180 miles.

Honda also announced that it has developed an experimental Home Energy Station that generates hydrogen from natural gas for use in fuel cell vehicles, while supplying electricity and hot water to the home. The automaker says next-generation solar cell panels made by Honda Engineering, along with a new electrolysis unit, have been mounted on the Honda solar-cell powered hydrogen refueling station in Torrance, California.

<http://world.honda.com/news/2003/4031010.html>

<http://world.honda.com/news/2003/c031002.html>

35. BTI Study Concludes Fuel Cell Investment Yields Jobs

A new study by the Breakthrough Technologies Institute concludes that increasing fuel cell investment will yield nearly 200,000 new jobs in the next 20 years. The study, "Fuel Cells at the Crossroads: Attitudes Regarding the Investment Climate for the U.S. Fuel cell Industry and a Projection of Industry Job Creation Potential," can be downloaded free of charge at

<http://www.fuelcells.org>.

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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.

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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 eight active Working Groups focusing on: Codes & Standards; Transportation; Power Generation; Portable Power; Stack Materials and Components; Sustainability; Government Affairs; and Education & Marketing. 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/)

National Energy Technology Laboratory -- The National Energy Technology Laboratory is federally owned and operated. Its mission is "*We Solve National Energy and Environmental Problems.*" NETL performs, procures, and partners in technical research, development, and demonstration to advance technology into the commercial marketplace, thereby benefiting the environment, contributing to U.S. employment, and advancing the position of U.S. industries in the global market.

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