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FUEL CELL CONNECTION -- July 2002 Issue

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News on U.S. Government Fuel Cell Programs

1. NREL Launches Fuel Research Lab in Denver

National Renewable Energy Laboratory has dedicated a new research facility, the Renewable Fuels and Lubricants Research Laboratory (ReFUEL), which will develop cleaner fuels for trucks and buses.

http://www.nrel.gov/hot-stuff/press/2002/2602_nrel_launches_fuel.html

2. NETL Developing Tools for 3-D Analysis of Solid-State Fuel Cell Systems

National Energy Technology Laboratory researchers are developing FLUENT-based 3-D analysis tools for complex solid-state fuel cell geometries. The tools will provide performance predictions, thermal stress distributions, and the ability to explore complex design options.

http://www.ornl.gov/news/pulse/pulse_v111_02.htm

3. U.S. Navy's Afloat Lab Features Fuel Cell, Other Technology Demonstrations

The U.S. Navy's "Afloat Lab" is visiting three U.S. ports to showcase its technology demonstrations to the public. Technologies being demonstrated include a fuel cell that relies on the organic remains of decaying marine plants and sea creatures to power naval instruments that currently rely on batteries. The Afloat Lab has already visited Baltimore Harbor (July 25-28, 2002). It will visit Annapolis (MD), September 6-8, and Norfolk (VA) Fleet Week, October 13-20.

http://www.onr.navy.mil/events/afloat/port_visit.asp

4. National Science Foundation Introduces SBIR "MatchMaker" Program

The National Science Foundation is welcoming inquiries from Venture Capital Groups, Angel Investors and Strategic Corporate Partners interested in teaming up with SBIR Phase II Grantees through the NSF "MatchMaker" Program. The MatchMaker Program is designed to be a vehicle to refer SBIR Phase II Awardees to interested, accredited investors and strategic partners. Topics included in the NSF SBIR solicitation includes fuel cell membranes.

<http://www.eng.nsf.gov/sbir/matchmaker.htm>

5. NETL Awarded Patent for Planar Fuel Cell

National Energy Technology Laboratory received a patent on a "Planar Fuel Cell Utilizing Nail Current Collectors for Increased Active Surface Area."

<http://www.netl.doe.gov/business/patents/abstracts.html>

6. Fuel Cells One of Top Ten Innovations for Home Comfort and Convenience

Battelle, which co-manages four national laboratories for the U.S. Department of Energy, has issued its forecast of the Top Ten Innovations in Home Comfort and Convenience in 2012. Fuel cell technology – both for residential and small portable power applications – is listed as one of the innovations, along with voice recognition and universal controls for home appliances.

<http://www.battelle.org/news/02/07-09-02Healthy.stm>

7. EPA Joins California Fuel Cell Partnership

The Environmental Protection Agency has joined the California Fuel Cell Partnership, and will support the group by making its testing facilities available, and by providing objective assessments of fuel cell vehicle emissions performance and fuel efficiency.

http://www.caafcp.org/releases/2002_7_12_epa_joins_caafcp.html

8. EERE Posts Redesigned Web Site for Redesigned Organization

DOE's newly reorganized Office of Energy Efficiency and Renewable Energy launched its redesigned web site on July 1 as the reorganization became official. In addition to highlighting the 11 new programs, the site seeks to be a portal for information on energy efficiency and renewable energy technologies and topics.

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

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**RFP/Solicitation News**  
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9. LLNL Seeks Industrial Partners for Carbon Conversion Fuel Cell Technology

Lawrence Livermore National Laboratory is seeking partnerships with industry to develop and commercialize Direct Carbon Conversion Fuel Cells. LLNL scientists have developed a configuration for a carbon/air fuel cell that consumes particles of carbon and oxygen in a molten salt electrolyte and produces electric power at practical rates at an efficiency of 80% based on the heat of combustion of carbon. Companies interested in this solicitation should provide a written statement of interest and a description of corporate capabilities relevant to commercializing the technology. Deadline for responses is August 18, 2002.

<http://www.eps.gov/spg/DOE/LLNL/LL/Reference-Number-FBO02-016-303/Synopsis.html>

10. Fuel Cell APUs Topic in DOE Truck Solicitation

DOE's Office of Heavy Vehicle Technologies is seeking applications for research and development for truck Essential Power Systems (EPS), including the topic of fuel cell auxiliary power systems. Approximately \$2.5 to \$5.0 million is expected to be available for this program over a four-year period. DOE anticipates making approximately 1-3 Phase I awards. Deadline for applications is August 26, 2002.

<http://doe->

iips.pr.doe.gov/iips/busopor.nsf/e6458ce53c05cf038525645200788ab8/ac3a812a6a87574885256bf40053dc81?OpenDocument

11. DOE's Distributed Power Program Seeks Letters of Interest on DER and Interconnection R&D

DOE's Distributed Power Program has issued a solicitation for Letters of Interest addressing four main categories of interest: Advanced Universal Interconnection Technology; Field Testing of Distributed Power Technologies for Interconnection Standards and Electrical Power Systems Configurations; Standards for Distributed Energy Resources System Integration, Interconnection and Operation with Electric Power Systems; and Analysis and Research for Alternative Rates and Tariffs for Distributed Energy Resources. NREL is expected to make up to 15 awards under this solicitation. Letters of Interest are due by August 27, 2002.

<http://www.nrel.gov/contracts/rfps/pdfs/loi.pdf>

12. Massachusetts Offers Grants for Green Buildings Design and Construction

The Massachusetts Technology Collaborative is accepting proposals for funding under the Renewable Energy Trust's Green Buildings Initiative. Grants of up to \$500,000 per project are available to support the costs of eligible renewable energy technologies (including fuel cells) in new green building construction or major renovation or rehabilitation projects. This solicitation has two deadlines per year – one in the Spring and one in the Fall – through the end of 2004. Projects that do not receive funding in any given round may be reconsidered for funding in another round upon reapplication. Deadline for the second round for this year is September 13, 2002.

<http://www.mptc.org/massrenew/designandconstruct.pdf>

13. Massachusetts Offers Grants for Green Buildings Feasibility Studies

The Massachusetts Technology Collaborative is accepting proposals for funding under the Renewable Energy Trust's Green Buildings Initiative. Grants of up to \$20,000 per project are available to support, among other activities: technical analysis and comparison of eligible renewable energy alternatives (including fuel cells); analysis of the effects of selected renewable energy options on other building systems; and life cycle cost/benefit analysis. The solicitation was originally scheduled to go through six rounds, with deadlines every third month. Two rounds have already closed. The next rounds' deadlines are: October 18 (2002), January 10 (2003), April 18 (2003) and July 11 (2003). Approximately \$80,000 is available for each of the upcoming rounds.

<http://www.mptc.org/massrenew/feasibilitystudy.pdf>

14. Army DEPSCoR Announcement Issued

The Department of Defense announced the FY2003 Defense Experimental Program to Stimulate Competitive Research, which provides funds in eligible states to enhance the capabilities of universities to develop, plan, and execute science and engineering research for defense areas of interest. Each eligible state committee may submit a proposal package requesting up to \$5 million of support from DOD for a 36-month effort. Proposals must be received by October 24, 2002.

<http://www.aro.army.mil/research/depacor03.pdf>

15. Defense Sciences Research and Technology BAA Deadline Extended

The deadline for submitting applications under the Defense Sciences Research and Technology Broad Agency Announcement has been extended from August 29, 2002, to December 15, 2002. The solicitation seeks proposals for a variety of technical topics, including materials and concepts for power generation and energy storage at all scales.

<http://www.darpa.mil/baa/baa01-42mod13.htm>

16. Army CECOM Issues Fuel Cell BAA

The U.S. Army's Communications-Electronics Command (CECOM) has issued a Fuel Cell Broad Agency Announcement seeking white papers followed by proposals for basic and applied research, development and demonstration of "lightweight, robust fuel cell power sources, associated technology and associated components for use in various applications ranging from less than one watt to several kilowatts." Proposals will be accepted through November 14, 2004.

<http://www.eps.gov/servlet/Documents/R/186087/143609>

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**Contract / Funding Awards**  
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17. DOE Awards Funding to Ten Fuel Cell Projects Through SBIR/STTR Competition

DOE has selected ten fuel cell projects for funding through its SBIR/STTR competition. Awardees include Fuel Cell Engineering Corp. for "Advanced Control Modules for Hybrid Fuel Cell/Gas

Turbine Power Plants”, NexTech Materials for “Highly Textured Composite Seals for SOFC Applications”, and Ceramtec for “Low-Temperature, Solid Oxide Fuel Cell Cathode Development”. http://www.energy.gov/HQPress/releases02/julpr/pr02139_v.htm

18. DOD SBIR Competition Funds Ten Fuel Cell Projects

Through its SBIR competition, the Department of Defense has funded ten fuel cell projects. Awardees include Create Inc. for “Lightweight, Rugges, Portable Fuel Cell”, Element One Energy for “Fuel Cells for Arms Control Applications”, and Trulite for “220 Watt, Man-Portable, Chemical Hydride Based Fuel Cell System for Arms Control Applications”.
<http://www.dodsbir.net/awardlist/abs021/dodabs021.htm>

19. DOE State Energy Program Funds Fuel Cell Special Projects

DOE's State Energy Program Special Projects competition has awarded nearly \$750,000 in funding to fuel cell projects in eleven states. Projects include a compressed hydrogen production and refueling station at Los Angeles International Airport (California); novel compression and fueling apparatus to meet hydrogen vehicle range requirements (Pennsylvania); a hydrogen power park on the big island of Hawaii (Hawaii); and Apollo alkaline fuel cell project (Florida).
http://www.energy.gov/HQPress/releases02/julpr/pr02137_v.htm

20. Navy to Purchase Fuel Cell Test Station

Naval Research Laboratory intends to award to Lynntech Industries a contract for a fuel cell test station. <http://www.eps.gov/spg/USN/ONR/3400/N00173-02-Q-0109/SynopsisP.html>

21. DOT Agreement with NAVC for Fuel Cell Bus

The U.S. Department of Transportation Research and Special Programs Administration intends to negotiate a sole source agreement with the Northeast Advanced Vehicle Consortium under the DOE's Advanced Vehicle Technologies Program for the development of a zero emission, hydrogen fuel cell bus.
<http://www.eps.gov/spg/DOT/RSPA/RSPAHQ/Reference-Number-DTRS56-02-SN-0001/Synopsis.html>

22. NETL to Purchase Fuel Cells from Canadian Developer

National Energy Technology Laboratory intends to award a fixed priced purchase order to Fuel Cell Technologies for the purchase of fuel cell power units. The EPA has a need for 3-5 kW fuel cell power units that can provide electricity for instrumentation and communications gear positioned at abandoned hardrock mines for the purpose of environmental monitoring. NETL will procure the necessary fuel cell system and then conduct performance tests before delivering the power unit to the EPA.
<http://www.eps.gov/spg/DOE/PAM/HQ/DE-RQ26-02NT02494/SynopsisP.html>

23. NOAA Purchases Hydrogen Generators from Proton Energy Systems

Proton Energy Systems received an order for up to 10 HOGEN® 20 hydrogen generators from the U.S. National Oceanic and Atmospheric Administration through a contract worth approximately \$605,000.
http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=prtn&script=410&layout=6&item_id=311419

24. NASA Awards \$5.4 Million to FSEC for Hydrogen Research

The NASA Glenn Research Center has awarded a hydrogen research grant of \$5.425 million to the Florida Solar Energy Center.

http://webplsrv.fsec.ucf.edu/operation/owa/Display_press?pressid=1970

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**Industry Headlines**  
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25. Honda FCV Certified as ZEV; Leasing to Begin in Fall 2002

Honda's FCX fuel cell vehicle has been certified as a Zero Emission Vehicle by California Air Resources Board and by the EPA as a Tier-2 Bin 1, National Low Emission Vehicle. Honda says it will start a lease program for a limited number of FCXs in the U.S. and Japan by the end of 2002. http://biz.yahoo.com/prnews/020724/law040_1.html

26. Toyota to Begin Marketing FCVs By End of 2002

Toyota will start limited marketing of a fuel cell hybrid sport utility vehicle in Japan and the U.S. around the end of 2002. The fuel cell SUV is based on the Kluger-V in Japan and the Highlander in the U.S. The company plans to initially lease about 20 vehicles.
<http://www.toyota.com/about/news/product/2002/07/01-1-fuelcell.html>

27. Dynetek Successfully Tests 12,500psi Hydrogen Storage Cylinder

Dynetek Industries successfully tested a 12,500psi (825bar) lightweight hydrogen storage cylinder. The cylinder was developed for hydrogen storage for fueling stations that are capable of fast filling fuel cell vehicles with onboard storage of compressed hydrogen at 10,000psi (700bar).
<http://micro.newswire.ca/releases/July2002/10/c3742.html/47875-0>

28. Showa Shell to Build Tokyo's First Hydrogen Refueling Station

As part of the Japan Hydrogen and Fuel Cell Demonstration Project, Showa Shell Sekiyu will build the first hydrogen refueling station in Tokyo.
http://www2.shell.com/home/Framework?siteId=hydrogen-en&FC1=&FC2=&FC3=%2Fhydrogen-en%2Fhtml%2Fiwgen%2Farticles%2Fpress_release_tokyo_2307_1117.html&FC4=&FC5=

29. Metrics Group Publishes Report on Fuel Cell Patenting Trends

A new report on U.S. fuel cell patenting trends, "Technical Intelligence Profile: Fuel Cells", is available from the Metrics Group.
<http://www.metricsgroup.com/fuelcell.cfm>

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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 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/)

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>