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**FUEL CELL CONNECTION – April 2004 Issue**  
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## News on U.S. Government Fuel Cell Programs

### 1. DOT Approves Transport of Hydrogen in Texaco Ovonic Metal Hydrides

The U.S. Department of Transportation has approved the transport of hydrogen in metal hydride storage systems developed by Texaco Ovonic Hydrogen Systems for portable applications. The DOT exemption for the hydride systems allows hydrogen storage capacity up to 1300 standard liters. <http://www.txohydrogen.com/news/20040420.htm>

### 2. DOE Announces Hydrogen Research Agreement with Brazil

DOE Secretary Spencer Abraham and Brazilian Mines and Energy Minister Rousseff announced a collaborative effort to advance hydrogen sector research, development and deployment activities.

[http://www.energy.gov/engine/content.do?PUBLIC\\_ID=15621&BT\\_CODE=PR\\_PRESSRELEASE\\_S&TT\\_CODE=PRESSRELEASE](http://www.energy.gov/engine/content.do?PUBLIC_ID=15621&BT_CODE=PR_PRESSRELEASE_S&TT_CODE=PRESSRELEASE)

## New Government Publications Posted

### 3. FutureGen Program Plan Published

DOE has published its official FutureGen Program Plan, submitted as a report to Congress. The Program Plan identifies activities to be conducted with the \$9 million provided for FY2004 to initiate the FutureGen Program, laying out overall objectives as well as figures detailing yearly levels of funding needed for each major FutureGen subprogram.

[http://fossil.energy.gov/programs/powersystems/futuregen/futuregen\\_report\\_march\\_04.pdf](http://fossil.energy.gov/programs/powersystems/futuregen/futuregen_report_march_04.pdf)

## RFP/Solicitation News

### 4. NASA Issues RFP for Fuel Cell and Electrolyzer Stack Development

NASA's Glenn Research Center is seeking light-weight, 5-kWe hydrogen-oxygen PEM fuel cell stacks and 15-kWe hydrogen-oxygen PEM electrolyzer stacks. Respondents to the RFP may propose delivering either the fuel cell, electrolyzer stack, or both. Deadline for proposals is May 14, 2004. <http://prod.nais.nasa.gov/cgi-bin/eps/sol.cgi?acqid=109667>

5. *STAC Energy Efficiency & Fossil Energy Science Initiative Solicitation*

The State Technologies Advancement Collaborative (STAC) has issued an Energy Efficiency and Fossil Energy Science Initiative solicitation, which will provide a minimum of approximately \$4.3 million for cost-shared energy efficiency and clean energy projects. Program areas of interest include Hydrogen Separation Technology and Islanding and Grid-Independent Power Generation. The deadline for responses is May 24, 2004. <http://www.naseo.org/stac/04-STAC-1/default.htm>

6. *DOE RFP Issued for Solid Oxide Fuel Cell Renewable Energy Projects*

DOE has issued a solicitation for projects that use solid oxide fuel cell technology for renewable power parks and automobile refueling stations for distributed production of electricity and hydrogen. DOE encourages system integration with renewable resources such as biomass, solar, wind, and geothermal, but concepts relying on distributed natural gas will also be considered. Over \$2.4 million is available under this solicitation. Deadline for proposals is May 28, 2004. <http://www.fedgrants.gov/Applicants/DOE/PAM/HQ/DE-PS36-04GO94020/Grant.html>

7. *DOD Fuel Cell Buy-Down Program Accepting Proposals*

The Department of Defense's Climate Change Fuel Cell Program is now accepting proposals for its \$1000/kW funding of fuel cell power plant installations. A total of \$6 million is available for this year's solicitation, which will fund projects to purchase, install, operate, and maintain fuel cell power plant(s) with a combined capacity of 3 kW to 3 MW. The program is being managed by Bonneville Power Association this year. Proposals are due on June 1, 2004. [http://www.bpa.gov/Energy/N/projects/fuel\\_cell/dod\\_climate\\_change/](http://www.bpa.gov/Energy/N/projects/fuel_cell/dod_climate_change/)

8. *INEEL Seeks Collaborators on Alkaline Metal-Based Hydrogen Generation Process*

The Idaho National Engineering and Environmental Laboratory (INEEL) has devised and modeled an alkaline metal-based hydrogen generation process that it says "has the potential to significantly reduce the cost of compressing and liquefying hydrogen." INEEL is soliciting funding and collaboration from qualified companies to support the technology development and to test the process at a pilot scale. Responses are due by May 31, 2004. <http://www.eps.gov/spg/DOE/INEEL/ID/04-09/SynopsisR.html>

9. *Massachusetts Initiative to Fund Distributed Renewable Energy Technologies*

The Massachusetts Technology Collaborative is accepting proposals for Feasibility Study and Design & Construction Grants under its Green Buildings & Infrastructure Program's Commercial, Industrial & Institutional Initiative. The solicitation invites grant applications of up to \$40,000 per feasibility study, or up to \$650,000 per design & construction project for development of at least 10 kW of eligible renewable energy generation systems, including fuel cells. Deadline for applications is June 4, 2004. [http://www.masstech.org/Grants\\_and\\_Awards/GBP/GreenBuildingsandInfrastructureProgram.htm](http://www.masstech.org/Grants_and_Awards/GBP/GreenBuildingsandInfrastructureProgram.htm)

10. *DOD SBIR Features Navy Fuel Cell Topic*

The Department of Defense Small Business Innovation Research program solicitation features "Fuel Cell Supply Integration and Safety" as one of the topics for the Navy's Expeditionary Power Systems Program. The objective of the topic is "to identify, develop and demonstrate necessary technology and means to safely transport and distribute potential fuels for small fuel cell systems" of 20-100 watts in size. June 17, 2004, is the deadline for proposals. <http://www.acq.osd.mil/sadbu/sbir/solicitations/sbir042/index.htm>

11. *DOE Inventions & Innovation Program Funding Available*

Up to \$1.6 million in funding is available for DOE's Inventions and Innovation solicitation in FY2004. DOE will provide financial assistance of up to \$50,000 for conceptual projects, up to \$250,000 for developmental projects, and up to \$500,000 for demonstration projects, that fit within the scope of the mission of DOE's Office of Energy Efficiency and Renewable Energy. Deadline for applications is June 21, 2004. <http://www.eere.energy.gov/inventions/>

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**Contract / Funding Awards**  
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*12. DOE Announces \$350 Million in Hydrogen Project Funding Awards*

DOE Secretary Spencer Abraham announced \$350 million in nationwide funding for science and research projects to establish a hydrogen economy. \$150 million over 5 years will fund Hydrogen Storage Centers of Excellence through DOE's "Grand Challenge" solicitation; \$190 million over 5 years will fund fuel cell vehicle "Learning Demonstrations"; and \$13 million over 3 years will fund fuel cell research projects that address critical fuel cell cost and durability issues for consumer electronics and other applications. Winners of Hydrogen Education Development contracts were also announced.

[http://www.energy.gov/engine/content.do?PUBLIC\\_ID=15725&BT\\_CODE=PR\\_PRESSRELEASE  
S&TT\\_CODE=PRESSRELEASE](http://www.energy.gov/engine/content.do?PUBLIC_ID=15725&BT_CODE=PR_PRESSRELEASE&S&TT_CODE=PRESSRELEASE)

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*13. MTI Micro Fuel Cells Receives Contract from Army Research Laboratory*

The Army Research Laboratory has awarded a \$200,000 contract to MTI MicroFuel Cells, which includes the sale of direct methanol fuel cell systems for delivery in the second quarter of 2004. The units will each produce approximately 5 watts of continuous power.

<http://www.mechtech.com/newsandevents/article.asp?id=144>

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*14. Army National Automotive Center Expands Contract with Quantum*

The Army TARDEC-NAC (National Automotive Center) has expanded its contract with Quantum Fuel Systems Technologies to include a transportable hydrogen refueler, the HyHauler Plus™. The refueler will be used to support the hydrogen fuel cell light-duty off-road vehicle currently being developed as part of Quantum's original \$1 million contract with the Army, announced in October 2003. [http://www.qttw.com/press\\_releases/pr\\_apr\\_05\\_2004.shtml](http://www.qttw.com/press_releases/pr_apr_05_2004.shtml)

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*15. Navy Selects Contractor for Prototype Regenerative Fuel Cell Modification*

The Naval Air Systems Command, Naval Air Warfare Center Weapons Division has awarded a \$499,000 contract to Proton Energy Systems for the modification of a prototype regenerative fuel cell. <http://www2.eps.gov/spg/DON/NAVAIR/dept2/Awards/N68936-04-C-0036Ln0001%20&%200002.html>

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*16. SECA Program Approves Acumentrics' Early Advancement to 2<sup>nd</sup> Budget Period*

DOE's Solid-State Energy Conversion Alliance (SECA) has approved Acumentrics' advancement into their second budget period six months early, increasing the company's role to a fully-funded industry partner in the SECA Program. <http://www.acumentrics.com/March29-04SECA.htm>

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**State Activities**  
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*17. California Energy Commission Proposes Rebate Reductions for Renewables*

The California Energy Commission (CEC) has issued a staff draft report with proposed revisions to the Emerging Renewables Program Guidebook, based on new rebate levels for various eligible technologies, including fuel cells using a renewable fuel. Rebate levels for fuel cells and solar thermal electric technologies have been reduced from \$4.00 to \$3.60 per watt for systems less than 30 kW in size. The program may provide rebates for fuel cells that operate on non-renewable fuels and are used in CHP applications, but "at a later date when funds from other sources are no longer available." Proposed revisions will be discussed at a public workshop on May 3, 2004, at 9:30 am at the CEC offices in Sacramento, CA.

<http://www.energy.ca.gov/renewables/02-REN-1038/documents/index.html>

<http://www.energy.ca.gov/renewables/02-REN-1038/index.html>

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*18. PA Energy Development Authority Resurrected*

Pennsylvania Governor Edward Rendell has revitalized the Pennsylvania Energy Development Authority to provide financing for a wide range of energy research, development and demonstration projects that will promote and utilize indigenous energy resources in Pennsylvania. The state's new Advanced Energy Portfolio Standard will push for 10 percent of all the energy generated in Pennsylvania to come from clean, efficient sources in 10 years.

<http://www.dep.state.pa.us/newsletter/default.asp?NewsletterArticleID=8477>

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*19. Illinois 2H<sub>2</sub> Partnership Publishes Hydrogen Highway Report*

The Illinois 2H<sub>2</sub> Partnership has published "The Hydrogen Highway: Illinois' Path to a Sustainable Economy and Environment." The Partnership was formed by the Illinois Coalition and the Illinois Department of Commerce and Economic Opportunity.

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

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**University Activities**  
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*20. Shell Hydrogen and Howard University to Partner on Hydrogen Fuel Cell Education*

Shell Hydrogen will sponsor the Shell Hydrogen Scholars Program at Howard University's College of Engineering, providing financial aid to undergraduate students. The \$30,000, two-year Program includes funding for student research in hydrogen fuel cell projects.

<http://media.prnewswire.com/en/jsp/latest.jsp?resourceid=2658044&access=EH>

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*21. Lamar Institute to Offer New Fuel Cell Training Program*

The Lamar Institute of Technology will offer training in fuel cell technology, featuring five new courses on fuel cell systems, principles and components. "Fuel Cell Technology" training will be offered as a specialty in the technical college's Heating, Ventilation, and Air Conditioning (HVAC) Technology Program. The institute plans to purchase a \$20,000 hydrogen-fueled fuel cell, as well as a fuel cell demonstration unit that will be used both in training, and for educating the public on the technology. <http://theinstitute.lamar.edu/newspage.asp?PageID=329>

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*22. Florida Universities in Joint Venture to Provide Hydrogen Project News*

The Florida Solar Energy Center and six Florida state universities have launched a new web site featuring news on upcoming hydrogen and fuel cell events as well as an extensive list of related informational sites and scientific publications. <http://www.hydrogenresearch.org>

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## Industry Headlines

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### 23. Ford and BP to Test Fuel Cell Vehicles in Three Cities

Ford and BP have announced a joint venture to put fuel cell vehicle fleets on the road in three cities starting in 2005: Detroit, Sacramento, and Orlando. The fuel cell-powered Focus sedans will use hydrogen fuel.

<http://www.bp.com/genericarticle.do?categoryId=120&contentId=2017980>

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### 24. Samsung Unveils 10-Hour Fuel Cell Notebook

Samsung Advanced Institute of Technology has developed a fuel cell-powered notebook computer that provides 10 hours of continuous usage without recharging. The notebook utilizes a methanol solution as the fuel.

<http://www.sait.samsung.co.kr/sait/src/saitEnIndex.html>

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### 25. Mitsubishi Achieves High-Pressure Hydrogen Production Without a Compressor

Mitsubishi Corporation announced that it has achieved production of high-pressure hydrogen gas without a compressor through its prototype electrolyzer High-pressure Hydrogen Energy Generator (HHEG). The electrolyzer capacity is 2.5Nm<sup>3</sup>/h and its maximum pressure level is 35MPa (5,000psi). Mitsubishi expects to introduce commercial products based on this prototype into the market in 2005.

<http://www.mitsubishicorp.com/en/pdf/pr/mcpr040416e2.pdf>

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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 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.

[\(http://www.netl.doe.gov/\)](http://www.netl.doe.gov/)