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**FUEL CELL CONNECTION – February 2004 Issue**  
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IN THIS ISSUE

- * DOE Announces Date for Decision Regarding On-Board Fuel Processing
- * DOE Issues Hydrogen Pilot Plant Design Report
- * NIST Opens 2004 Advanced Technology Program Competition
- * State Alliance Formed to Fund Clean Energy Projects
- * GM Fuel Cell Powers Dow Facility

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**CONTENTS**

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

1. DOE Announces Date for Decision Regarding On-Board Fuel Processing
2. PNNL and NASA to Collaborate on SOFC Challenges
3. Fuel Processor Completes Acceptance Testing at ANL
4. DOE Announces New Hydrogen Education Effort
5. Manhattan Scientifics Delivers Fuel Cell to Army
6. Army Fuel Cell Locomotive Project Unveils Conceptual Design
7. USCG May Sell Renewable Energy Credits to Offset Fuel Cell Maintenance Costs
8. ANL Develops TuffCell SOFC Design Concept

**New Government Publications Posted**

9. DOE Issues Hydrogen Pilot Plant Design Report
10. PNNL Breakthroughs Magazine Details Lab's Fuel Cell Efforts
11. National Defense Magazine Reports on Military Fuel Cells
12. ANL Determines Hydrogen Storage Requirements Using New Modeling Tool
13. New Guidebook on Funding Landfill Gas Projects Available

**RFP / Solicitation News**

14. Army Seeks Information for Future Solicitation on Tactical Generator Improvement
15. Presolicitation Notice Issued on Regenerative Fuel Cell Modification
16. NIST Opens 2004 Advanced Technology Program Competition
17. NYSERDA Solicitation to Fund DG, CHP Systems

**Contract / Funding Awards**

18. DOE Selects CSA for Hydrogen Standards Development
19. Hydrogenics Selected for Navy Hydrogen Refueler Contract

**State Activities**

20. State Alliance Formed to Fund Clean Energy Projects
21. Florida's Energy Future to Include Fuel Cells
22. Wisconsin Finalizes DG Interconnection Standards

**University Activities**

23. Delaware Competitiveness Fund to Create Fuel Cell Research Center
24. Penn State to Demo Hydrogen, Fuel Cell Vehicles

- 25. Kettering University Receives Two Grants for Fuel Cell Center
- 26. University of Minnesota Produces Hydrogen from Ethanol

**Industry Headlines**

- 27. GM Fuel Cell Powers Dow Facility
- 28. Nippon Oil Unveils Kerosene Fuel Cell System
- 29. Fujitsu Announces Fuel Cell Breakthrough

**Administration**

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News on U.S. Government Fuel Cell Programs
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*1. DOE Announces Date for Decision Regarding On-Board Fuel Processing*

The U.S. Department of Energy has announced June 30, 2004, as the planned date for its go/no-go decision regarding on-board fuel processing for fuel cell vehicles. A panel has been assembled by the National Renewable Energy Laboratory to review the current state of fuel processing activities against technical criteria. Based on the findings of the panel, NREL will submit a written recommendation to DOE on or before June 18, 2004. *Written position papers for consideration by DOE regarding this decision must be received by May 15, 2004. NREL must receive requests to speak before the review panel no later than May 15, 2004.* For further information, contact Valri Lightner, DOE, Ph. 202-586-0937, or [valri.lightner@ee.doe.gov](mailto:valri.lightner@ee.doe.gov).  
<http://frwebgate6.access.gpo.gov/cgi-bin/waisgate.cgi?WAISdocID=911647334632+0+0+0&WAIAction=retrieve>

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*2. PNNL and NASA to Collaborate on SOFC Challenges*

Pacific Northwest National Laboratory and NASA's Glenn Research Center have signed a Space Act Agreement to team on the development of sealing technologies for the stacks of solid oxide fuel cells (SOFCs).  
[http://www.pnl.gov/breakthroughs/winter04/solutions\\_update.stm](http://www.pnl.gov/breakthroughs/winter04/solutions_update.stm)

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*3. Fuel Processor Completes Acceptance Testing at ANL*

The STAR™ gasoline fuel processor developed by Nuvera Fuel Cells has completed acceptance testing at Argonne National Laboratory. The 75-liter fuel processor met or exceeded performance requirements, converting up to 200 kWth of gasoline into a stream of hydrogen containing less than 10 ppm of carbon monoxide, yielding up to 2.1 kWth of hydrogen per liter.  
[http://www.nuvera.com/news/pr\\_star.htm](http://www.nuvera.com/news/pr_star.htm)

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*4. DOE Announces New Hydrogen Education Effort*

DOE Secretary Spencer Abraham announced a new effort to educate state and local government officials about hydrogen and fuel cell technologies, hydrogen safety, and the challenges to a hydrogen economy. The six-city tour, "Hydrogen Power: The Promise, The Challenge," will start in Lansing, Michigan.  
[http://www.energy.gov/engine/content.do?PUBLIC\\_ID=15085&BT\\_CODE=PR\\_PRESSRELEASE\\_S&TT\\_CODE=PRESSRELEASE](http://www.energy.gov/engine/content.do?PUBLIC_ID=15085&BT_CODE=PR_PRESSRELEASE_S&TT_CODE=PRESSRELEASE)

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5. *Manhattan Scientifics Delivers Fuel Cell to Army*

Manhattan Scientifics has delivered a 700-watt NovArs prototype fuel cell system to the U.S. Army under a contract with the Communications-Electronics Command's Foreign Technology Evaluation Program. The fuel cell is being evaluated as a possible battery charger for tactical units. <http://www.hawkassociates.com/mhtx/mhtxpr56.htm>

6. *Army Fuel Cell Locomotive Project Unveils Conceptual Design*

The conceptual design of a fuel cell locomotive has been unveiled by an international consortium funded by the U.S. Army Research, Development, and Engineering Command's National Automotive Center. The goal of the project is to develop a 1.2 MW locomotive, powered by eight 150-kW PEM fuel cells, for defense and commercial railway applications.

<http://www.vehicleprojects.com>

7. *USCG May Sell Renewable Energy Credits to Offset Fuel Cell Maintenance Costs*

A report on the status of the U.S. Coast Guard Air Station Cape Cod Fuel Cell Project shows the USCG is exploring the possibility of selling the fuel cell's renewable energy credits as a means to offset the fuel cell's operation and maintenance costs. Selling or trading of the credits could conceivably cover the entire annual planned maintenance costs, given current projected fuel cell production and credit trading rates.

<http://www.uscg.mil/systems/gse/energy/FuelCell/Fuel-Cell-Consolidate-Status-Report-2004.pdf>

8. *ANL Develops TuffCell SOFC Design Concept*

Argonne National Laboratory has developed a bipolar plate-supported solid oxide fuel cell concept it calls TuffCell, which features a metal-supported design, high mechanical strength, easy fabrication and cell stacking. Researchers expect the design cost to be "considerably lower than that of current SOFC designs." <http://www.transportation.anl.gov/fuelcell/tuffcell.html>

**New Government Publications Posted**

9. *DOE Issues Hydrogen Pilot Plant Design Report*

DOE has issued a design report for the Arizona Public Service Alternative Fuel Pilot Plant, a model refueling system generating and dispensing hydrogen, compressed natural gas (CNG), and hydrogen/CNG blends. The purity of the Pilot Plant's hydrogen, produced via electrolysis of water, exceeds 99.999 percent.

[http://newsdesk.inel.gov/press\\_releases/2004/02-24alternative\\_fuel.htm](http://newsdesk.inel.gov/press_releases/2004/02-24alternative_fuel.htm)

10. *PNNL Breakthroughs Magazine Details Lab's Fuel Cell Efforts*

The new issue of Pacific Northwest National Laboratory's Breakthroughs Magazine, features an article detailing the Lab's fuel cell and hydrogen projects, which address grid modernization, overcoming barriers to the hydrogen economy, and cleaning up energy production.

[http://www.pnl.gov/breakthroughs/winter04/special\\_report4.stm](http://www.pnl.gov/breakthroughs/winter04/special_report4.stm)

11. *National Defense Magazine Reports on Military Fuel Cells*

An article in the February 2004 issue of National Defense Magazine details military fuel cell demonstration projects, including testing of fuel cells to replace the BA5590 standard military battery with a fuel cell for hand-held tactical radios. The article also reports on the Navy's program to develop fuel cells for Unmanned Aerial Vehicles and Unmanned Underwater Vehicles.

<http://www.nationaldefensemagazine.org/article.cfm?id=1337>

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*12. ANL Determines Hydrogen Storage Requirements Using New Modeling Tool*

Argonne National Laboratory's latest issue of TransForum reports on GCtool-Eng, a modeling tool developed by researchers in ANL's Center for Transportation Research in collaboration with colleagues in ANL's Chemical Engineering and Nuclear Engineering divisions. Using GCtool-Eng, the researchers were able to determine energy storage requirements for three vehicle platforms to achieve fuel economy gains.

<http://www.transportation.anl.gov/publications/transforum/v4n3/collaboration.html>

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*13. New Guidebook on Funding Landfill Gas Projects Available*

The Landfill Methane Outreach Program of the Environmental Protection Agency has made available a new guidebook, "Funding Landfill Gas Projects: A Guide to State, Federal, and Foundation Resources." The guidebook provides information on funding available for technologies, including fuel cells, that utilize landfill methane gas for energy production.

<http://www.epa.gov/lmop/gas/gas.htm>

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RFP/Solicitation News
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*14. Army Seeks Information for Future Solicitation on Tactical Generator Improvement*

The U.S. Army Communications-Electronics Command (CECOM) is seeking information for use in a future solicitation to improve military tactical generators. Alternative technological approaches, including use of fuel cells, may be considered. White papers are due March 5, 2004.

<http://www1.epa.gov/spg/USA/USAMC/DAAB15/W909MY-04-Q-0004/listing.html>

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*15. Presolicitation Notice Issued on Regenerative Fuel Cell Modification*

The Naval Air Warfare Center Weapons Division requires modification of a prototype regenerative fuel cell developed by Proton Energy Systems. The solicitation will be issued on or about March 3, 2004, with an expected response deadline of April 2, 2004.

<http://www1.epa.gov/spg/DON/NAVAIR/dept2/N68936-04-R-0027/SynopsisP.html>

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*16. NIST Opens 2004 Advanced Technology Program Competition*

The U.S. Department of Commerce, National Institute of Standards and Technology, has opened its 2004 Advanced Technology Program (ATP) Competition. Through its annual competition, ATP "provides cost-shared, multi-year funding to single companies or to industry-led joint ventures to accelerate the development of challenging, high-risk technologies that promise significant commercial payoffs and widespread benefits for the nation." Past recipients of ATP funding include fuel cell and hydrogen projects. Public meetings for prospective proposers will be held on four dates in early-March 2004. <http://www.atp.nist.gov>

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*17. NYSERDA Solicitation to Fund DG, CHP Systems*

The New York State Energy Research and Development Authority has issued a Program Opportunity Notice that \$12 million is available to support demonstrations, feasibility studies, and product development of Distributed Generation or Combined Heat and Power systems. Through this notice, NYSERDA is also seeking Technical Assistance from potential Data Integrators. Deadline for proposals is April 29, 2004. <http://www.nyserda.org/800pon.html>

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Contract / Funding Awards
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*18. DOE Selects CSA for Hydrogen Standards Development*

DOE's National Renewable Energy Laboratory has signed an agreement with CSA America to develop new standards on an accelerated schedule for Hydrogen Gas Dispensing System and Pressure Relief Devices for use on Hydrogen Fuel Containers.

<http://www.csagroup.org/news/releases/Default.asp?articleID=8116>

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*19. Hydrogenics Selected for Navy Hydrogen Refueler Contract*

The Naval Surface Warfare Center – Crane Division has contracted with Hydrogenics Corporation to provide a proton exchange membrane electrolysis refueler for the Center's test facility in Crane, Indiana. The HyLYZER refueler will be capable of producing and dispensing 2.0 kg of high purity compressed hydrogen gas per day.

[http://www.hydrogenics.com/ir\\_newsdetail.asp?RELEASEID=129688](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=129688)

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State Activities
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*20. State Alliance Formed to Fund Clean Energy Projects*

Seventeen public funds from twelve states have agreed to support a new Clean Energy States Alliance (CESA) to promote clean energy projects and companies. The funds expect to have about \$3.5 billion collectively for these efforts over the next decade. The twelve states are California, Connecticut, Illinois, Massachusetts, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Wisconsin.

<http://www.cleanenergystates.org/library/Press/CESA%20Press%20Release%20-%2001.29.04.Final.pdf>

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*21. Florida's Energy Future to Include Fuel Cells*

Florida's Department of Environmental Protection (DEP) has posted its response to "Florida's Energy Future," a report prepared by the Florida Solar Energy Center and CPI Consulting, under contract to the Florida Energy Office. The report made several recommendations that have been addressed by the DEP. As a response to one of the recommendations, DEP and the Energy Office have developed a Hydrogen Partnership to initiate activities positioning Florida as a leader in hydrogen and fuel cell technology.

[http://www.dep.state.fl.us/energy/energy\\_future\\_response.htm](http://www.dep.state.fl.us/energy/energy_future_response.htm)

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*22. Wisconsin Finalizes DG Interconnection Standards*

Wisconsin has finalized PSC 119, Rules for Interconnecting Distributed Generation Facilities, effective February 1, 2004. The new rules establish four categories of DG facilities and uniform standards for the interconnection of small generators with utility distribution systems.

[http://www.eere.energy.gov/distributedpower/news/0204\\_wi\\_psc119.html](http://www.eere.energy.gov/distributedpower/news/0204_wi_psc119.html)

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University Activities
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*23. Delaware Competitiveness Fund to Create Fuel Cell Research Center*

Delaware Gov. Ruth Ann Minner released a New Economy Initiative that includes \$200,000 annually for five years to create and support a Fuel Cell Research Center in partnership with the University of Delaware and the private sector. The Initiative pledges up to \$800,000 in Clean Energy Performance Grants to attract manufacturers of clean energy technology such as fuel cells and photovoltaic cells. [http://www.state.de.us/governor/new\\_economy\\_initiative.doc](http://www.state.de.us/governor/new_economy_initiative.doc)

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*24. Penn State to Demo Hydrogen, Fuel Cell Vehicles*

With funding from the Pennsylvania DEP and the state's Department of Community and Economic Development, Penn State's Pennsylvania Transportation Institute will retrofit one of its own electric vehicles with a fuel cell, and run both a van and bus on a blend of hydrogen and compressed natural gas. Approximately \$3 million has been secured for a hydrogen-CNG and pure hydrogen fueling station at the Office of Physical Plant on Penn State's campus. <http://www.pti.psu.edu/listings/NewsPage.cfm?ReleaseNo=29>

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*25. Kettering University Receives Two Grants for Fuel Cell Center*

Kettering University will construct a Center for Fuel Cell System and Power Integration following a \$1.8 million federal grant from the U.S. Department of Commerce's Economic Development Administration. The center will be housed at Kettering's C.S. Mott Engineering and Science Center. Kettering also received a \$500,000 grant from the Michigan Economic Development Corporation towards development of the Center. <http://fuelcells.kettering.edu/>

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*26. University of Minnesota Produces Hydrogen from Ethanol*

University of Minnesota engineers have invented a fuel reformer that extracts hydrogen from ethanol. So far, researchers have been able to extract four hydrogen molecules per ethanol molecule. <http://www.ur.umn.edu/FMPro?-db=releases&-lay=web&-format=unsreleases/releasesdetail.html&-RecID=33795&-Find>

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Industry Headlines
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*27. GM Fuel Cell Powers Dow Facility*

With the flip of a switch, operations of a 75-kW General Motors fuel cell began providing power to a Dow Chemical site in Texas. The fuel cell is the first of up to 400 fuel cells under a transaction agreement between the companies. <http://media.gm.com/servlet/GatewayServlet?target=http://image.emerald.gm.com/gmnews/viewmonthlyreleasedetail.do?domain=3&docid=2491>

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*28. Nippon Oil Unveils Kerosene Fuel Cell System*

Nippon Oil has unveiled a 10-kW PEM fuel cell using kerosene as fuel. Nippon plans to introduce the system commercially under its ENEOS brand name by 2006 for an estimated price of around US \$20,000-30,000. The company is also developing a 1-kW fuel cell unit for home use. <http://fuelcelltoday.com/FuelCellToday/IndustryInformation/IndustryInformationExternal/NewsDisplayArticle/0,1602,3902,00.html>

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*29. Fujitsu Announces Fuel Cell Breakthrough*

Fujitsu announced it has developed a new material that allows fuel cells to be made smaller and more energy efficient. The new material allows methanol to be stored in a 30 percent solution without leakage, which the company claims is enough to power a notebook PC for eight to ten hours. <http://www.theregister.co.uk/content/54/35136.html>

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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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*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/)

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