

April 7, 2004

BPA Fuel Cell Program Update

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Program Update:

BPA's Fuel Cell Program is evolving into an umbrella program, including this year's Climate Change Fuel Cell Program, education and outreach, support of BPA's Combined Heat and Power Consortium, distributed generation, non-wires solutions and EnergyWeb activities, and technical support for the Northwest Hydrogen Alliance (NWAH). The program steering committee conference calls continue quarterly, and we continue to work with Pacific Northwest National Laboratories (PNNL), the National Fuel Cell Research Center, Global Thermoelectric, Plug Power, and we continue to investigate new companies, such as Quantum Leap Technology. We are also testing a Relion unit in a battery charging application at a BPA radio site.

Climate Change Fuel Cell Solicitation:

BPA is managing the DoD Climate Change Fuel Cell Rebate Program this year. The solicitation for proposals was posted April 7, 2004, on the BPA web-site: http://www.bpa.gov/Energy/N/projects/fuel_cell/dod_climate_change/. The amount of any individual DoD Climate Change Fuel Cell Program grant will not exceed the lower of \$1,000/kW of installed fuel cell capacity or one-third of the total project costs. The deadline for proposals is June 1, 2004.

Fuel Cell Education:

BPA has completed most of the work under a US DOE fuel cell education grant. Two hundred Washington science teachers received training and a fuel cell curriculum and car kit targeted at 9th – 12th grade science classes. The small car uses a photovoltaic module and a reversible PEM fuel cell to generate hydrogen, and the kit includes eight hands-on experiments. For more information on this grant and how to order your own kit, see the BPA web-site:

http://www.bpa.gov/Energy/N/projects/fuel_cell/education.shtml

While you're there, take the Fuel Cell Quiz!

A final event will include an Earth Day award ceremony in Olympia, Washington, for the winner of the Fuel Cell Poster Contest. For details, see:

http://www.bpa.gov/Energy/N/projects/fuel_cell/PosterContest.shtml. Two presentations on this grant are scheduled for April 27, 2004, at the National Hydrogen Association conference in Hollywood, and at the DOE peer review on May 26, 2004, in Philadelphia. Award information for another fuel cell education

grant proposal, which would provide a similar program in 23 states, is expected in May.

Combined Heat and Power Consortium Update:

BPA is part of a Combined Heat and Power Consortium, spearheaded by Northwest Natural, which dedicated a 5 kW Plug Power GenSys PEM fuel cell at the Harkins House Juvenile Detention Center in Hillsboro, Oregon, on February 18, 2004. This one-year demonstration project will include heat recovery for pre-heating domestic hot water.

The Consortium has also installed a 30 kW Capstone microturbine at Lewis & Clark College in Portland, Oregon. To attend an April 22 dedication ceremony, call Janice Carter at 503-768-2850. For more information on Consortium projects, see: http://www.bpa.gov/Energy/N/projects/dg_chp/

NWHA:

BPA provides technical support for several Northwest Hydrogen Alliance (NWHA) grant proposals. One proposal is for hydrogen fueling stations at Ft. Lewis and Anchorage; another is for documentation of issues and benefits of fleet purchasing hydrogen vehicles. A March meeting at PNNL with Fuel Cells Canada, Industry Canada and Canadian fuel cell companies, explored opportunities for US-Canada fuel cell and hydrogen projects, as well as the opportunity to join the 2010 Olympic Sustainability Committee.

Another NWHA activity includes support of the International Hydrogen Drive 2004, which begins in Mexico on June 28 and finishes in Victoria, B.C., Canada on July 12. This exciting event will have at least eight hydrogen vehicles, including a hydrogen Prius and Shelby Cobra. It will stop in Salem and Portland on July 9, and Olympia and Seattle on July 10. For more information see: www.hydrogendrive.com

Plug Power Update:

Plug Power Inc and Honda Research and Development Company, Ltd., have agreed to a second phase of an ongoing program to develop a fuel cell-based Home Energy Station to provide electrical power for a home or business and to generate hydrogen for fuel cell vehicles.

In addition to the 5 kW Plug Power GenSys fuel cell installed at the Harkins House Juvenile Detention Center, BPA is sponsoring a late-May demonstration of Plug Power's GenCore direct hydrogen fuel cell. More info will be sent once the date has been set.

PNNL Update:

PNNL continues to work on solid oxide fuel cells under the SECA Program, and is now providing hydrogen safety elements. PNNL will draft comprehensive

safety plans, integrating safety into all DOE projects and will publish a handbook for “Best Management Practices for Safety”. They will also develop a national training facility for hydrogen safety. In June, PNNL will coordinate the Hydrogen and Fuel Cells Summit VIII. For more information and to subscribe to the PNNL newsletter, go to www.pnl.gov/fuelcells/

Relion (formerly Avista Labs) Update:

On March 15, as part of the DOE Fuel Cell Education grant, BPA’s Vice President of Energy Efficiency, Mike Weedall, cut the ribbon on a Relion Independence 1000 PEM fuel cell at Central Washington University (CWU). CWU engineering students served as project managers, designing the fuel cell installation. The public is invited to tour the CWU Fuel Cell Learning Center. To arrange a tour contact Dr. Kaminski at 509-963-1756 or kaminski@cwu.edu.

In addition, this spring BPA will lab-test a Relion Independence 1000 fuel cell prior to a one-year battery charging field test at a BPA radio site. The field test will be documented in a final report, which will also include recommendations for other battery charging fuel cell applications at BPA. See <http://www.dodfuelcell.com/res/McChordInitialPrjtDesc.pdf> for a description of a FAA battery charging fuel cell installation at McChord Air Force Base.

Upcoming Events:

- **April 22** -Lewis & Clark College microturbine dedication
- **April 25** -Earth Day award ceremony in Olympia, Washington for the winner of the Fuel Cell Poster Contest
- **April 27-30** -National Hydrogen Association conference in Hollywood (If you’re going, plan on seeing the Fuel Cell Education grant presentation on **April 27**)
- **Late-May** -Demonstration of Plug Power’s GenCore direct hydrogen fuel cell and hydrogen BBQ
- **June 15-17** -Hydrogen and Fuel Cells Summit VIII
- International Hydrogen Drive 2004
 - **July 9** -Salem and Portland,
 - **July 10** -Olympia and Seattle