

**Power Electronics and Electric Machinery Center  
National Transportation Research Center  
Oak Ridge, Tennessee**

**Trade Study for Integrating Numerous Solid State Energy Conversion Alliance  
(SECA) Solid Oxide Fuel Cell (SOFC) Modules**

During May 2003, a 2 kW alkaline fuel cell from Zetek (Figure 1) was tested. A leak in the fuel cell stack that allows the potassium hydroxide electrolyte to enter the air chamber in one of the modules has halted the testing until it is repaired. Discussions with Fuel Cells Limited (England) indicated that they could repair or replace the faulty module.

A 200-kW United Technologies Corporation phosphoric acid fuel cell (Figure 2) has been commissioned to partially power National Transportation Research Center (NTRC) building and the ac grid.



Fig. 1. Alkaline fuel cell from Zetek.



Fig. 2. United Technologies Corporation phosphoric acid fuel cell.

Fossil Energy Program staff participated in the Third Annual DOE/UN Hybrid Conference and Workshop at Newport Beach, California, and gave a presentation titled "Power Electronics Interface for Integrating Multiple Distributed Generators".

Go to <http://www.netl.doe.gov/publications/proceedings/03/hybrid/Ozpineci.unhc.pdf>.

Fossil Energy Program staff participated in the International Future Energy Challenge as a judge. Go to <http://www.energychallenge.org/>.

**[Read more about this work](#)**