NEWS from
The Savannah River Site

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FOR IMMEDIATE RELEASE

SAVANNAH RIVER NATIONAL LABORATORY, CENTER FOR HYDROGEN RESEARCH TEAM UP TO BUILD HYDROGEN POWER SYSTEM

AIKEN, S.C. (Nov. 7, 2006) – The Savannah River National Laboratory and the Center for Hydrogen Research are teaming up to build and test a prototype system to demonstrate how hydrogen fuel cells can be effectively used to provide an emergency backup power system for hospitals and other critical facilities.

The partners will combine SRNL's unique hydrogen storage technology with a fuel cell capable of generating electricity from hydrogen fuel and an electrolyzer to produce hydrogen. These combined elements will make up a regenerative fuel cell system that will provide a rugged, compact, quick-response, reliable emergency power supply for occasions when grid power is temporarily cut off. The resulting prototype will serve as a model for future larger scale systems that would enhance U.S. energy security by providing safe, reliable, and renewable backup power for a variety of critical applications.

CHR, a nonprofit organization that is a subsidiary of the Economic Development Partnership of Aiken and Edgefield Counties, is dedicated to promoting partnerships to build the foundations for a clean, secure, safe energy source of the future. SRNL is the applied research and development laboratory at the U.S. Department of Energy's Savannah River Site. This project is sponsored by the Department of Energy Office of Electricity Delivery and Energy Reliability.

"There are many critical facilities, like hospitals, telecommunications centers and manufacturing control rooms, where a consistent, reliable power source is absolutely critical," says SRNL Laboratory Director Dr. G. Todd Wright of Washington Savannah River Company. WSRC, a subsidiary of Washington Group International, operates SRNL for the U.S. Department of Energy. "Power disruptions to these facilities can be disastrous, which is why they have some type of electrical backup system. A hydrogen fuel cell system could replace the high maintenance battery and generator systems in use today, and offer a higher degree of reliability. This project allows SRNL to demonstrate the viability of these systems to enable hospitals, telecommunications systems and others to be confident in their ability to continue providing critical services in an emergency.

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“Recent hurricanes in the southeast U.S. have revealed limitations with traditional backup systems that rely on batteries or generators,” he adds. “Competition for gasoline and diesel fuel during disasters, along with limited battery life, has made many of these systems unable to meet the demand.”

The prototype system will be housed at Aiken County’s new hydrogen laboratory facility located at the Savannah River Research Park. Here, CHR will test and evaluate the regenerative fuel cell system to determine its performance in various simulated and real-world backup power situations.

At the completion of the project, the integrated system will remain at the laboratory facility to be used as part of the CHR’s ongoing educational outreach program, demonstrating the use of hydrogen as a safe and secure source of energy in the future hydrogen economy. “We are excited about embarking on this first collaborative research project between CHR and SRNL,” says Fred Humes, Director of the Economic Development Partnership. “Installing this prototype hydrogen fuel cell system at Aiken County’s state-of-the-art facility will enable us to showcase the safe, effective use of hydrogen energy for a wide variety of people, from students and teachers to end users, such as cell phone service providers, to engineers and codes and standards agents. This is the beginning of our future in promoting alliances to bring the power of hydrogen out of the laboratory to the people in the street.”

SRNL will characterize and evaluate several promising storage materials and select the best candidate for further development and testing for this application. SRNL will also design and fabricate a prototype hydrogen storage system. “This project takes advantage of the extensive hydrogen research and development that SRNL has been involved in for many years, and fits in great with our other current hydrogen initiatives,” says Dr. Ted Motyka, SRNL’s Hydrogen Storage Program Manager, who is leading SRNL’s participation.