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For Immediate Release

South Carolina Students Explore the Potential of Fuel Cells to Power Efficient Pollution-Free Cities

AIKEN, S.C. (September 11)—For most people, the promise of fuel cells is only that, a complicated technology closer to a pipe dream than reality. For tens of thousands of seventh- and eighth-graders across the United States participating in the 2007 National Engineers Week Future City Competition™, however, fuel cells are the key component of urban energy strategies that may serve as real world examples.

Future City, sponsored by the nation’s professional engineering community, each year asks students, working in teams and under the guidance of a teacher and a volunteer engineer mentor, to design and build a city of tomorrow. Students must also research and write an essay on a pressing social need. This year, the focus is on fuel cells and South Carolina middle school students will tackle the challenge full force.

The South Carolina Future City Competition, sponsored by Washington Savannah River Company, will be held on Saturday, January 27th at the University of South Carolina Aiken, Business and Education Building. The first place team from the South Carolina Regional Competition will join teams from 38 other regions for an all-expense-paid trip to the Future City National Finals in Washington, D.C., February 19-21, 2007 during Engineers Week. Grand prize is a trip to U.S. Space Camp in Huntsville, Alabama. More than 30,000 students from 1,100 middle schools are expected to participate in Future City this year as it celebrates its 15th anniversary.

“Once again, Washington Savannah River Company is proud to provide and coordinate the resources necessary to ensure another successful local competition,” Barbara Smoak, manager, WSRC Educational Outreach Program. “We believe community support is not only a corporate obligation, but an honor that we find quite rewarding.”

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The WSRC Team:

Washington Savannah River Company LLC • Bechtel Savannah River, Inc. • BNG America Savannah River Corporation
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In the competition, the nation's largest engineering education program, students first create cities on computers using *SimCity 3000* software (donated to each school by Electronic Arts), and then build three-dimensional scale models. Students also write a brief abstract describing their city and present and defend their designs before a panel of engineer judges.

And then there is the essay with its invitation to delve into a subject that most adults barely understand. The 2007 Future City essay, sponsored by IEEE-USA (the Institute of Electrical and Electronics Engineers – USA), addresses the following topic: “Develop an energy strategy to include fuel cell systems to power a city of the future.”

Fuel cells combine hydrogen and oxygen from the air to generate an electrochemical reaction that produces electrical power and by-products of heat and water. First envisioned in the mid-19th century by British chemist Sir William Grove, the cost of capturing hydrogen, as well as plentiful stocks of coal and petroleum, kept fuel cells on the back burner of energy research. The growing expense of dwindling fossil fuel supplies and the threat of global warming, however, have increasingly made fuel cells more economically competitive and sensible.

Automaker Hyundai, for example, predicts that fuel cell cars will capture 58 percent of the world market in just 19 years. Around the globe, the race is on to fit them into applications from powering MP3 players to running entire cities.

The essay must outline how the city will develop and use a reliable system of fuel cells in residential, commercial or industrial zones and how it will keep their city free of pollution. The exact type of fuel cell needs to be described, along with how kilowatt output will match specific power needs.

Having students as young as 12 years old scrutinizing and debating a process that is challenging some of the world's greatest engineering minds may seem daunting but, to Future City organizers, that's exactly what makes the program so popular.

“Every year we challenge middle school students with a task that would leave most adults shaking their head,” says Future City National Director Carol Rieg, who has been with the program since its founding in 1992. “But, that level of difficulty only seems to invigorate these kids.”

Further, says Rieg, considering energy issues at such a young age allows students to see how engineering is critical to resolving a pressing global need. “Showing that connection inspires newfound respect for the role of science, technology, engineering and math in their own future and helps lay the foundation for pursuit of engineering and technology careers, something they might otherwise have never considered,” she says.

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Registration deadline for the 2007 Future City Competition is October 15, 2006. For more information on entering or volunteering in the South Carolina regional competition, contact regional coordinator Bonnie Toole at (803) 952-8720 or bonnie.toole@srs.gov, visit www.futurecity.org or call 1-877-636-9578.

The National Engineers Week Future City Competition is sponsored in part by the National Engineers Week Foundation, a consortium of professional and technical societies and major U.S. corporations, co-chaired in 2007 by the Society of Manufacturing Engineers (SME) and Tyco Electronics Corporation.

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IN BRIEF: The National Engineers Week Future City Competition™ each year invites middle school students nationwide to create cities of tomorrow. The competition encourages interest in science, technology, engineering and math through hands-on applications. This year's challenge includes developing an energy plan for the city that employs fuel cell technology. Registration deadline for South Carolina schools is October 15, 2006. Contact regional coordinator Bonnie Toole at (803) 952-8720 or bonnie.toole@srs.gov, visit www.futurecity.org or call toll-free 1-877-636-9578.

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