News from the Savannah River National Laboratory

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USC, Westinghouse Savannah River Company Sign Hydrogen Technology Agreement

COLUMBIA, S.C – The Westinghouse Savannah River Company and the University of South Carolina have signed an agreement to make South Carolina the nation's leader in hydrogen and fuel-cell technology.

The agreement, signed Wednesday, Jan. 23, by USC President John M. Palms and Dr. Susan Wood, WSRC vice president for the Savannah River Technology Center, calls for collaborative research and development in the area of hydrogen technology, including energy applications and development of hydrogen fuel-cell technology for transportation, electric power and portable power applications. The Savannah River Technology Center is the applied research and development laboratory for the Savannah River Site.

Hydrogen is considered one of the fuels of the future because it is inexhaustible, universally available and harmless to the environment. Hydrogen and fuel cells can be used to generate electricity or to power vehicles, eliminating the need for gasoline and reducing the country's dependence on imported oil.

Palms said the agreement will benefit industry and business throughout the state and the nation.

"We are pleased that we can partner with one of the country's leaders in scientific research on hydrogen technology," Palms said. "This collaboration will bring together scientists and engineers to work on a serious problem and develop solutions that will be economically and environmentally sound. This is another example of how a research university can establish partnerships with industry for the good of South Carolina and the nation."

Wood said the agreement represents great promise for USC and WSRC.

"World events have shown how important it is that we pursue hydrogen's energy applications, both because of environmental advantages and for the nation's energy security," she said. "With this agreement, we are bringing together two great resources: the university, with its excellent research capabilities, and the Savannah River Technology Center, with its long experience in putting science to work, especially in the area of hydrogen technologies. Together, we can make great progress."

At USC, a team of engineers led by Dr. Ralph White, dean of the College of Engineering and Information Technology, and Dr. John Van Zee, professor of chemical engineering, has conducted pioneering research in hydrogen fuel, and plans are under way for the establishment of a fuel-cell center in the university's College of Engineering and Information Technology.

At WSRC, engineers and scientists have devoted more than 40 years to hydrogen-fuel research for the defense industry, as well as for transportation and other non-defense initiatives.

This initiative will help to maintain and enhance SRS's expertise in hydrogen and related technologies while leveraging the nation's long investment in hydrogen technology at SRS, Wood said.

WSRC and USC will bring together their expertise and capabilities to collaborate on research and development. The two entities will look for sources of funding to expand research and development that ultimately will lead to the creation of more high-tech jobs in the state, Palms said.

White said the agreement could be the catalyst that will draw fuel-cell manufacturers and hydrogen-storage developers to the state.

USC and WSRC have worked together closely before on hydrogen storage and fuel-cell research. USC and WSRC recently collaborated with a fuel-cell company and other partners to equip a John Deere vehicle with a fuel-cell power system; WSRC designed and built the hydrogen storage units, and USC developed the fuel-cell power system.

WSRC leads a team that manages the Savannah River Site for the U.S. Department of Energy.

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