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SRNL WINS COVETED R&D 100 AWARD

AIKEN, S.C. (Sept. 12, 2006) – Researchers at the Savannah River National Laboratory, along with team members from the Massachusetts Institute of Technology (MIT) and the Pacific Northwest National Laboratory, have been named winners of an R&D 100 Award for their invention, the MilliWave Thermal Analyzer. The R&D 100 awards, considered the “Oscars of research and development,” are presented each year by R&D magazine to the 100 most technologically significant inventions of the year.

The MilliWave Thermal Analyzer, developed by SRNL’s Gene Daniel and Don Miller and their colleagues, uses millimeter-wave electromagnetic radiation for non-contact, real-time measurements of temperature, amount of energy emitted, and physical changes of materials under extreme temperatures or corrosive environments.

This is the second R&D 100 Award received by the team of SRNL, MIT and PNNL for a development that resulted from a single long-term research project. In 2001, Gene Daniel and Bond Calloway of SRNL and their colleagues received the award for the MilliWave Viscometer, which uses similar technology to measure the viscosity of high temperature fluids under harsh conditions. This research project has been funded by the U.S. Department of Energy Office of Science/Environmental Management’s Science Program for eight years so far. The project focuses on enhancing operations at Savannah River Site and the Hanford Site to convert highly radioactive waste to a stable glass form, but the two inventions also have wide applicability in industrial uses. The Thermal Analyzer is being tested at SRNL for development of the next generation of melter to be used in SRS’ Defense Waste Processing Facility.

From 1962 through 2005, the Department of Energy has supported the basic research for 698 projects that garnered R&D 100 Awards - among the highest number of R&D 100 awards for any government agency or private enterprise. Secretary of Energy Samuel W. Bodman noted the achievements. "I congratulate the researchers who have won these awards, which highlight the power and promise of DOE's investments in science and technology," Bodman said. "Through the efforts of dedicated and innovative scientists and engineers at our national laboratories, DOE is helping to enhance our nation's energy, economic and national security."

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The WSRC Team:

Washington Savannah River Company LLC • Bechtel Savannah River, Inc. • BNG America Savannah River Corporation
BWXT Savannah River Company • CH2 Savannah River Company

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According to the inventors, the MilliWave Thermal Analyzer is currently the only thermal characterization technology that can monitor the properties of materials in the extreme conditions inside a glass melter or process reactor. This technology was designed to withstand previously inaccessible conditions created by high temperatures, corrosive fluids, melting materials, and radioactive or biologically contaminated environments. The instrument does not have to make contact with the materials being analyzed, meaning that it can monitor these properties while the process is running, rather than periodically taking samples of the material out of the process for analysis.

“SRNL’s emphasis has always been on putting science to work to create practical solutions that work,” said SRNL Laboratory Director Dr. G. Todd Wright of Washington Savannah River Company. “The R&D 100 Awards recognize that kind of real-world usefulness.” WSRC, a subsidiary of Washington Group International, operates SRNL for the Department of Energy.

For 44 years, the R&D 100 Awards program has recognized the developers of the top 100 technologically significant products introduced into the marketplace over the past year. Many of the winning products accomplish tasks for which no previous product was able to satisfy. In years past, the R&D 100 Awards have recognized many winning products that later became household names, including Polacolor film (1963), the flashcube (1965), the automated teller machine (1973), the halogen lamp (1974), the fax machine (1975), the liquid crystal display (1980), the laser printer (1986), the Kodak Photo CD (1991), the Nicoderm antismoking patch (1992), Taxol anticancer drug (1993), lab on a chip (1996), and HDTV (1998).

Members of the award-winning team will be honored in Chicago in October, at R&D Magazine’s 44th annual awards banquet.