



**SRNL**

# Savannah River National Laboratory factsheets

## SRNL at the Center for Hydrogen Research

### The Center for Hydrogen Research

The Savannah River National Laboratory (SRNL) has teamed with Aiken County to establish a new laboratory at the Savannah River Research Campus, a County-owned research park adjacent to the Savannah River Site, near Aiken, South Carolina. Aiken County designed, constructed and will maintain the 60,000-square-foot Center for Hydrogen Research (CHR) with the intent of leasing half of that facility to SRNL to house SRNL's Hydrogen Technology Research Laboratory (HTRL).

The County intends to lease the balance of the lab space in the CHR to universities and corporations interested in partnering with SRNL on hydrogen related research and development (R&D). CHR will also contain a 250-person conference center and a display area for use by educational institutions.

CHR's structure is intended to facilitate technology transfer between researchers and industry - a unique combination that will contribute to accelerated technology development and enhancement of the region's ability to attract hydrogen-related industry.



*Aiken County's Center for Hydrogen Research*

## FAST FACTS

- ▶ SRNL's half of the Center for Hydrogen Research is called the Hydrogen Technology Research Laboratory (HTRL)
- ▶ All of SRNL's unclassified hydrogen research will take place at HTRL
- ▶ The Center for Hydrogen Research formally opened February 13, 2006

### SRNL's Hydrogen Technology Research Laboratory

SRNL's Hydrogen Technology Research Laboratory (HTRL), located at Aiken County's Center for Hydrogen Research, houses SRNL's unclassified, non-radioactive R&D on hydrogen storage, processing, production, and detection, in support of both the National Nuclear Security Administration (NNSA) and hydrogen energy programs. HTRL consists of 16,000 square feet divided into 22 lab modules and a high bay area, plus 8,600 square feet of office space.

HTRL's lab modules are outfitted with a centralized gas delivery system providing hydrogen, nitrogen, helium, and argon supplies; a variety of hood configurations (including walk-in); room and hood hydrogen monitors; ample power, and computer network access. There are numerous gloveboxes and a clean room.

Washington Savannah River Company, which operates SRNL for the U.S. Department of Energy, has signed a 10-year lease for the facility, which is being paid by NNSA.

## SRNL at the Center for Hydrogen Research

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Approximately 50 researchers and technicians from four organizations within SRNL will form the initial staff for HTRL. Plans include adding another 40 researchers in the next two years.

- (1) The entire Hydrogen Technology Section (HTS) - Hydrogen Processing Group (which is part of the National and Homeland Security Directorate) - 15 employees, 5 labs.
  - ▶ HTS focuses on hydrogen processing applications: separation of hydrogen isotopes, purification of hydrogen, stripping of hydrogen, storage of hydrogen in metal hydrides, characterization of metal hydrides, and analysis of gas samples using mass spectrometry.
  - ▶ Primary customers: NNSA-Defense Programs (DP), Savannah River Site (SRS) Tritium Facilities, other national labs involved in the tritium business: Los Alamos National Laboratory, Sandia National Laboratories, Lawrence Livermore National Laboratory, Idaho National Laboratory, and Pacific Northwest National Laboratory. New customers are expected in the fusion community: DOE- Office of Science and the U.S. ITER (International Thermonuclear Experimental Reactor) Project Office.
- (2) The entire Energy Security (ES) Directorate - 11 employees, 5 labs.
  - ▶ ES focuses on development of advanced hydrogen storage materials, including alanates and borohydrides, and the production of hydrogen via high temperature electrolysis.
  - ▶ Primary customers: DOE-Energy Efficiency and Renewable Energy, DOE-Nuclear Energy, Science & Technology, and industry involved in fuel cell vehicles.
- (3) A portion of Analytical Development - 8 employees, 8 labs.
  - ▶ These employees focus on development of analytical techniques for detecting hydrogen in process streams.
  - ▶ Primary customers: NNSA-DP, SRS Tritium Facilities, other national labs involved in the tritium business. New customers are expected within industry involved in fuel cell vehicles and the hydrogen economy.
- (4) A portion of Materials Science & Technology - 2 employees, 1 lab.
  - ▶ These employees focus on the use of coherent optical (laser) spectroscopy in characterizing changes in mechanical properties of vessels used for hydrogen containment.
  - ▶ Primary customer: SRS Tritium Facilities.

## CONTACT

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