



We Put Science To Work

Savannah River National Laboratory Update

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Laboratory Director
June 11, 2009



Governor's Nuclear Advisory Council



EM Office of
Environmental Management
safety ♦ performance ♦ cleanup ♦ closure

Current SRNL R&D Portfolio Elements



SRS Tritium Facilities

National and Homeland Security

- Tritium Technology
- Plutonium Technology
- Homeland Security Support
- Non-Proliferation Technology
- National Law Enforcement
- Intelligence Support



Energy Security

- Hydrogen Storage Technology
- Production of Hydrogen
- Renewable Energy Research
- Nuclear Technologies
- ITER



Environmental Management

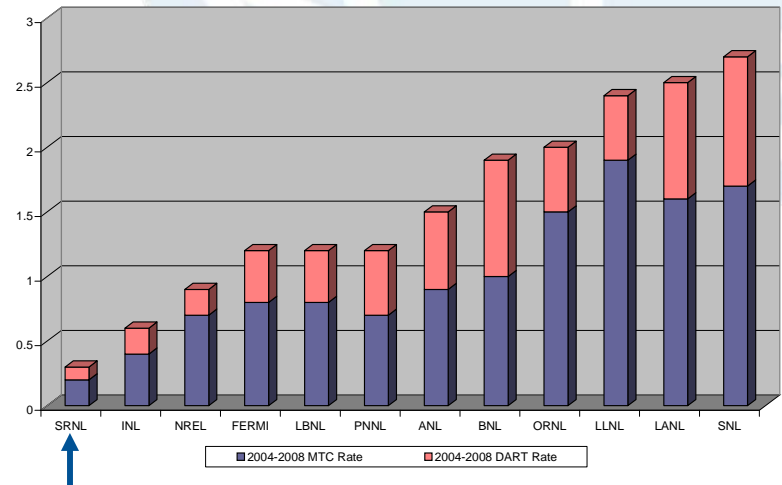
- EM Corporate Laboratory
- Materials Stabilization and Disposition
- Cleanup Technologies

All three areas are supported by Science & Technology Directorates (Materials Science, Biotechnology, Computer Science and Analytical Chemistry).

Overall Summary of Highlights Since 9/08

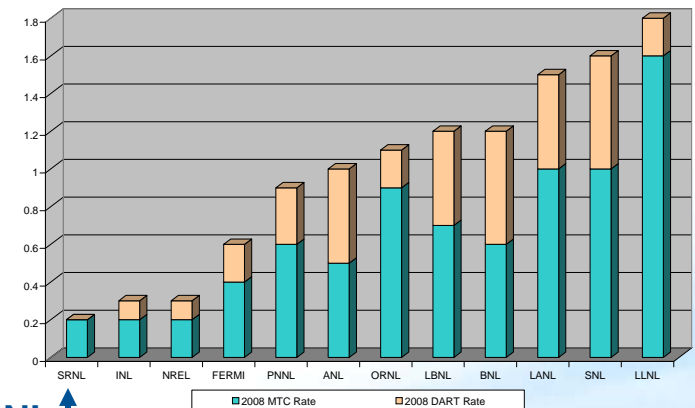
- Retained position as “Safest National Laboratory”
- Number of prestigious awards
- Laboratory Director’s seminar series started
- Laboratory Advisory Board initiated
- Several programmatic initiatives started
- Nuclear Forensics Analysis Center received ISO 17025 accreditation
- Tritium R&D consolidation at SRNL
- Strategic LDRD call – 34 responses
- National Hydrogen Association (NHA) Conference in Columbia
- Increased funding for ITER
- Number of significant publications/presentations

National Laboratory Injury & Illness Data
Per 200,000 Hours Worked, CYs 04, 05, 06, 07, & 08
Note: Data obtained from DOE Computerized Accident/Incident Reporting System (CAIRS)



SRNL ↑

National Laboratory Injury & Illness Data
Per 200,000 Hours Worked, CY 08
Note: Data obtained from DOE Computerized Accident/Incident Reporting System (CAIRS)



SRNL ↑

Environmental Program Initiatives

- Support expansion of EM technology funds
- Formalize EM Corporate Laboratory role and responsibilities
 - Technology development/deployment
 - Support to all EM sites/contractors
 - Support EM in assessments/evaluations
 - Maintain technology/process database for use by US contractors

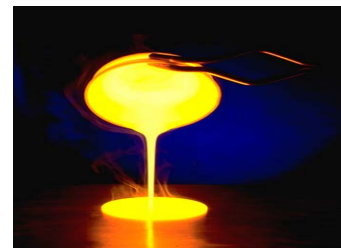


Closing high-level radioactive waste storage tanks

EM-20 Flowsheet Testing



Basic Science Studies



DWPF Glass Studies



Saltstone Vaults

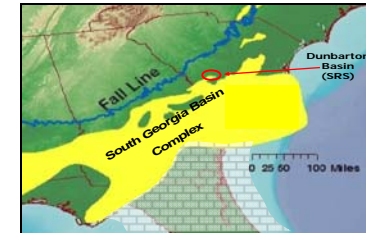
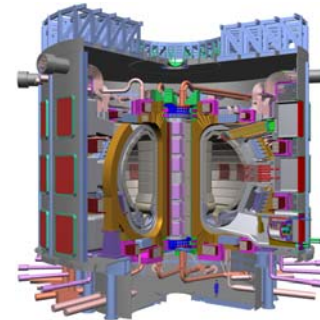
National / Homeland Security Initiatives

- **FBI support**
 - REEF facility nearing completion
 - ISO17025 accreditation for Nuclear Forensics Center
- **Tritium R&D consolidated at SRNL**
- **DHS testing programs enhanced**
 - IPRL
- **DoD program development initiated**
 - Lockheed Martin support
 - Huntsville Office (with ORNL)
 - SERDP funding for DoD installation
- **Intelligence programs expansion**
 - SCIF
 - Materials Science
- **Growth of Global Security program**



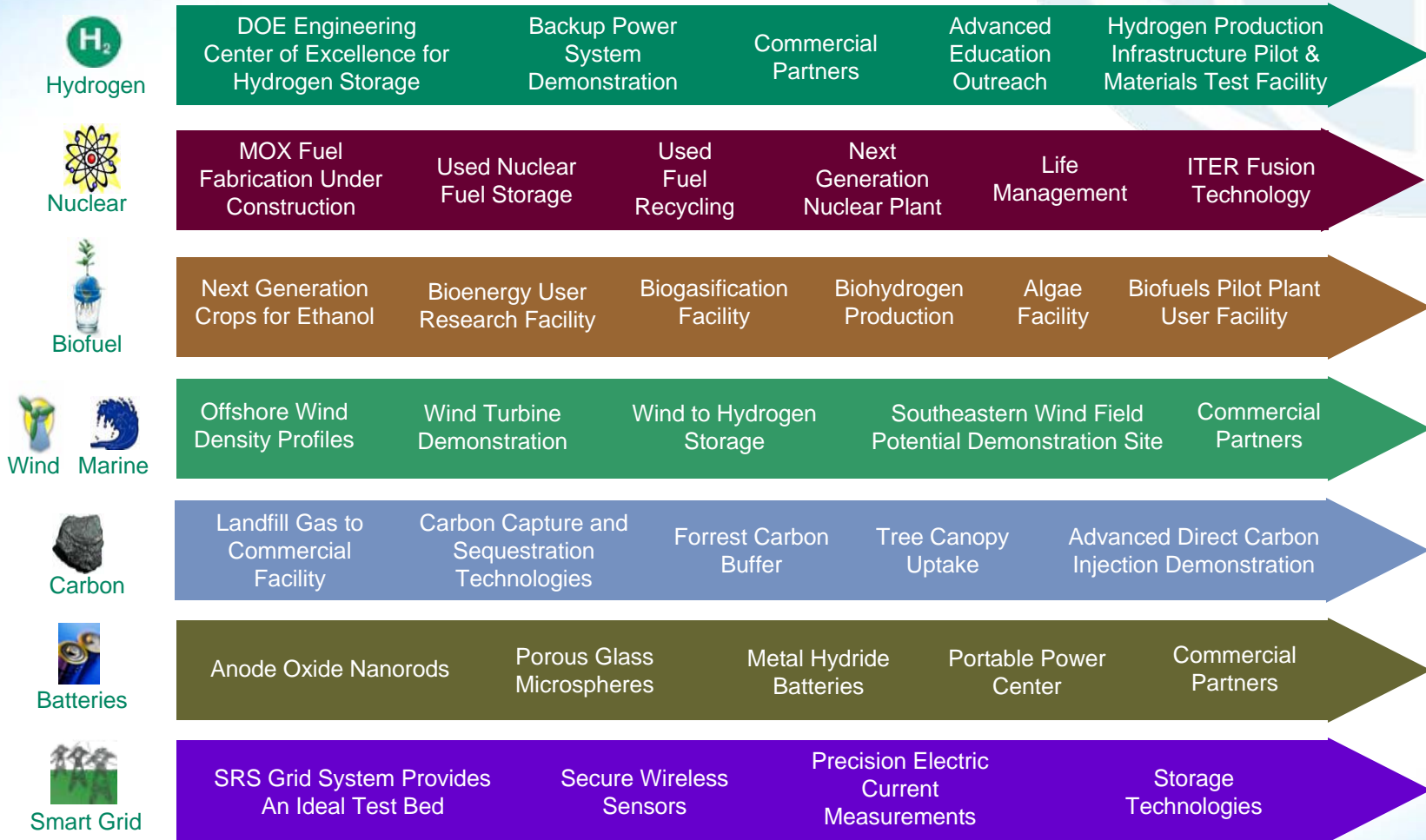
Energy Security Initiatives

- **Developing balanced energy program portfolio**
- **Early focus on renewables**
 - Administration priorities
- **Increased support to ITER**
- **Continued work on Hydrogen**
 - Storage
 - Production
- **Support to LLNL's LIFE projects**
 - Tritium system
- **Nuclear initiatives**
 - NRC support
 - SUNRISE



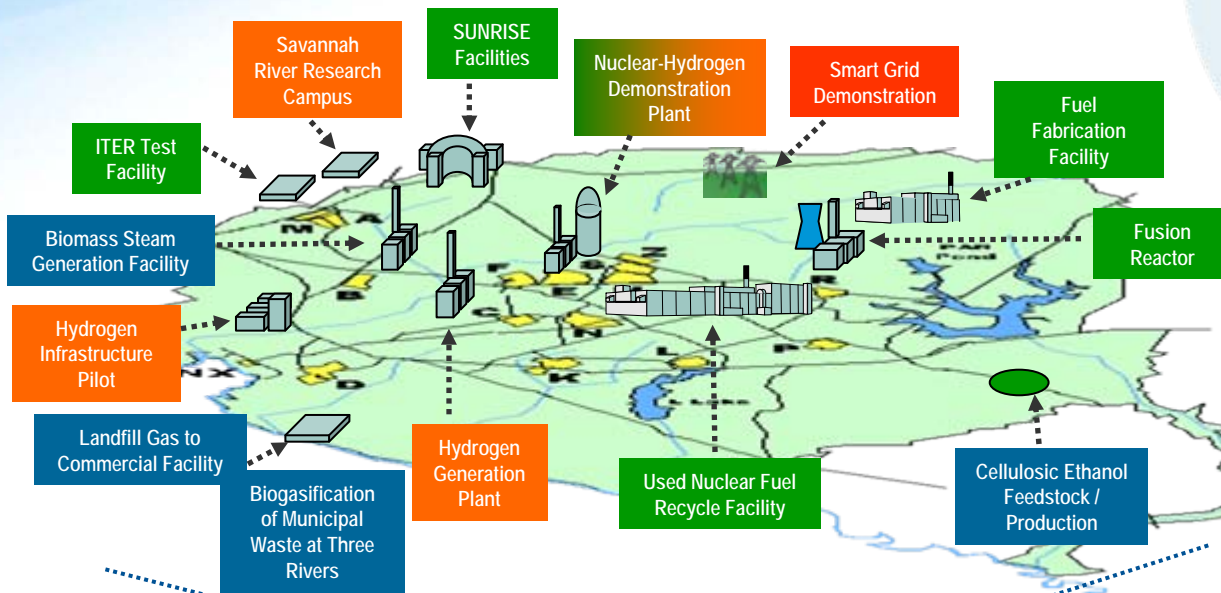
Savannah River National Laboratory

Unique, capable and leading the way

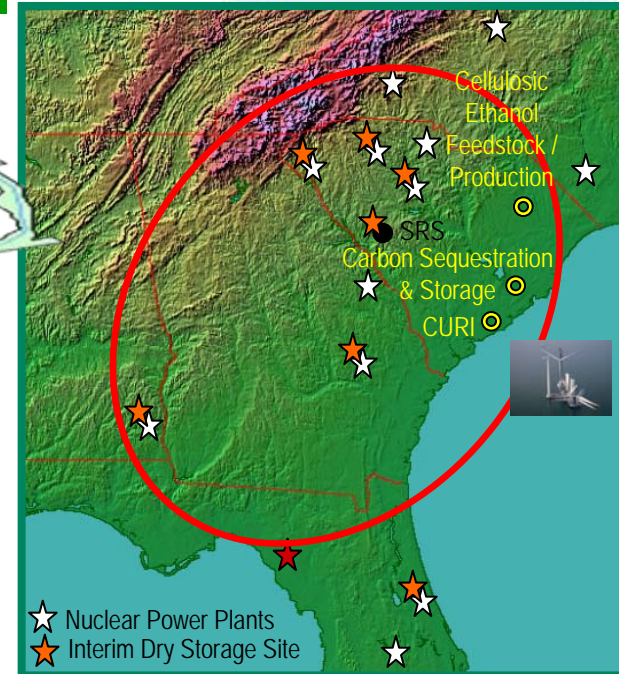


Energy Security

Potential SRS Energy Park Initiatives

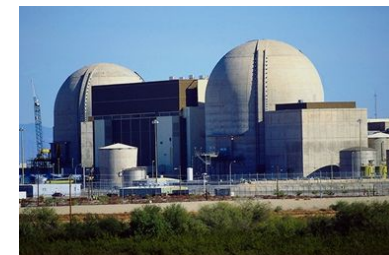
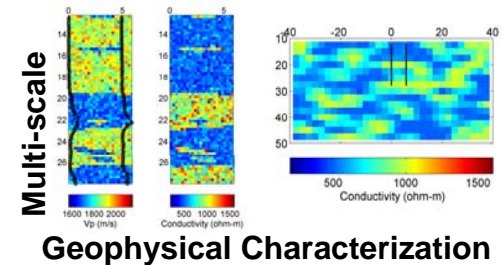


Proposed Offsite Facilities



Other Programs

- **Scientific Computing**
 - Connect to Lambda Rail
 - Integrated performance modeling for EM
- **Biotechnology**
 - Joint activities on transformational science with Universities
- **Materials Science & Technology**
 - Reactor life extension
- **Nuclear Technology**
 - Focus on back-end of fuel cycle through EM



SRNL Infrastructure Actions

- **Master Plan**

- Retain 773-A for radiological work
- Remediate SED, install improved HVAC
- Create new Research Campus in stages



Hot Cells

- **Funding Strategies**

- ARRA stretch funds for source term reduction
- EM-1 sponsored task force to lay out line items
- IGPP funds (added to labor rate)
- Third party financed buildings



New Campus

Significant Honors/Awards (2009)

- Linda Nichols – Secretary of Energy Honors Achievement Award
- Blythe Ashcraft – ACS Young Chemist Leadership Award
- John Steimke – AIChE Shining Star Award; AIChE Fellow
- Joette Sonnenberg – American Society for Engineering Management Meritorious Service Award 2008
- Patricia Lee – Health Physics Society Board of Directors
- DOE Women of Excellence Award, 2009
 - Dr. Amy Ekechukwu, Dr. Laura Tovo, Dr. Martine Duff, Dr. Carol Jantzen, Dr. Anna Knox, Dr. Christine Langton, Dr. Patricia Lee, Kerry Dunn, Carol Eddy-Dilek, Dr. Linda Nichols, Karen Vangelas
- Natraj Iyer – Lead on the IAEA Expert Panel Review on Research Reactors
- Bruce Wiersma – Member, Hanford Single Shell Tank Integrity Panel
- George Wicks – President of American Ceramic Society
- Sam Bhattacharyya – Distinguished Achievement Award, University of Wisconsin
- Clemson University Materials Science Department Award for role in Adjunct Professors and Interns
- Ragaiy Zidan Paper Citation – Journal of Nano Letters January 2009 – also made DOE Science Eureka Highlights
- Bond Calloway – 1st Herb Epstein Award from American Institute of Chemical Engineers presented by Shell Global Solutions
- George Wicks – Distinguished Life Member Alpha Sigma Mu Intl Honorary Society (Materials Science)



Summary

- **Continued progress in advancing SRNL**
 - Infrastructure Plan
 - Significant initiatives
- **Increasing recognition**
 - Awards
 - Publications
 - Proposals
- **Support of State and Federal political leadership will continue to be important**

