



Together we will lead the Nation in
Energy Independence,
National Security, and
Environmental Excellence.

Our Commitment, Your Expectation.

Savannah River Cleanup

Presentation to National Academy of Sciences – EM Roadmap Committee

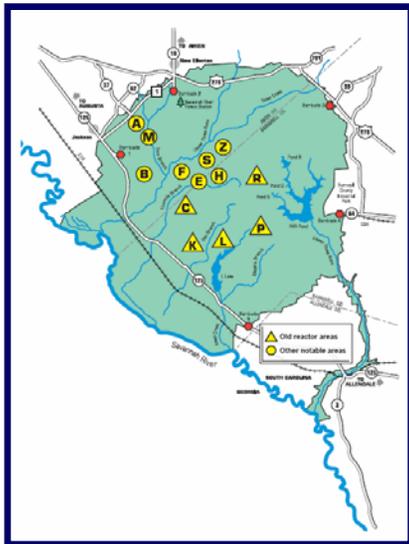
January 8, 2007

Jeff Allison, Manager
Department of Energy
Savannah River Operations Office



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Savannah River Site



- **198,000 acres= 310 square miles**
- **DOE/SRS and NNSA/SRS**
- **Contractors:**
 - Washington Savannah River Company (WSRC)
 - Wackenhut Services, Incorporated (WSI)
 - Shaw AREVA MOX Services
 - Parsons
 - U.S. Forest Service
 - University of Georgia
- **SRS workforce: 9,954 (as of 12/31/07)**
 - Approximately 80% WSRC
- **Annual budget ~ \$2 billion**
- **EM lifecycle baseline ~ \$36.4B (FY 07-31)**
- **Future missions**
 - MOX (Mixed Oxide Exchange) – construction under way
 - Pit Disassembly and Conversion
- **Possible future missions**
 - National Energy Park
 - Hydrogen fuel
 - Global Nuclear Energy Partnership



EM Environmental Management
safety ♦ performance ♦ cleanup ♦ closure



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Savannah River Site

EM Budget Summary (\$M)

Appropriation	FY06	FY07	FY08 (a)
Environmental cleanup	1,179	1,084	1,206
Safeguards & security	135	164	149
Federal program direction	44	50	51
Total budget authority	1,359	1,300	1,406

(a) Reflects President's FY08 budget request



Savannah River Site

Major Accomplishments in FY2007

- Produced 160 cans of vitrified high-level waste, for a total of 2,374
- Disposed of 690 cubic meters of transuranic waste, for a total of 4,946
- Completed D&D of 15 facilities, for a total of 262
- Shipped 4,693 kilograms of LEU to TVA, for a total of 238,000
- Completed remediation of 12 environmental sites, for a total of 336
- Completed construction, startup testing and cold runs at the Modular Caustic Side Solvent Extraction Unit and Actinide Removal Process
- Ready to restart Saltstone, after reaching resolution on legal issues (Restarted October 2007).
- Started up the Tritium Extraction Facility, the nation's first source of new tritium since 1988



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SRS Progress and Initiatives in 2007

Liquid Waste: Interim Salt Processing



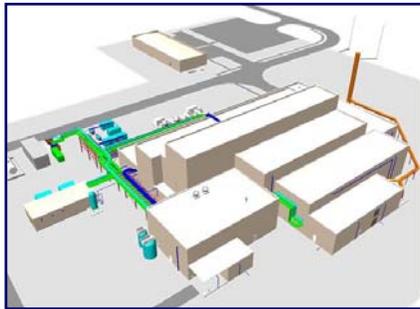
Modular CSSX Unit/Actinide Removal Process:
Construction, startup testing, cold runs complete
Saltstone: *Renovated to simplify process and improve robustness and safety of operations.*



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SRS Progress and Initiatives in 2007

Liquid Waste: Salt Waste Processing Facility



Salt Waste Processing Facility: Approval has been received to begin construction on the new Salt Waste Processing Facility.

SWPF will be built in a new SRS area called J Area, outlined in blue.

An artist's rendering of SWPF appears in the inset.



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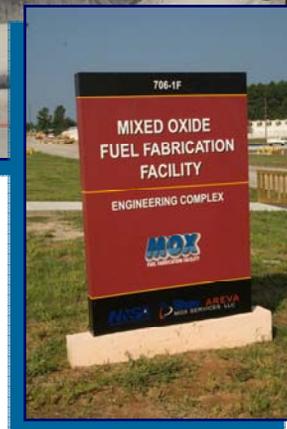
SRS Progress and Initiatives in 2007

Plutonium Disposition:

Mixed Oxide Fuel Fabrication Facility



MFFF: Construction began Aug. 1 on the Mixed Oxide Fuel Fabrication Facility.



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SRS Progress and Initiatives in 2007

National Security: Tritium Extraction Facility



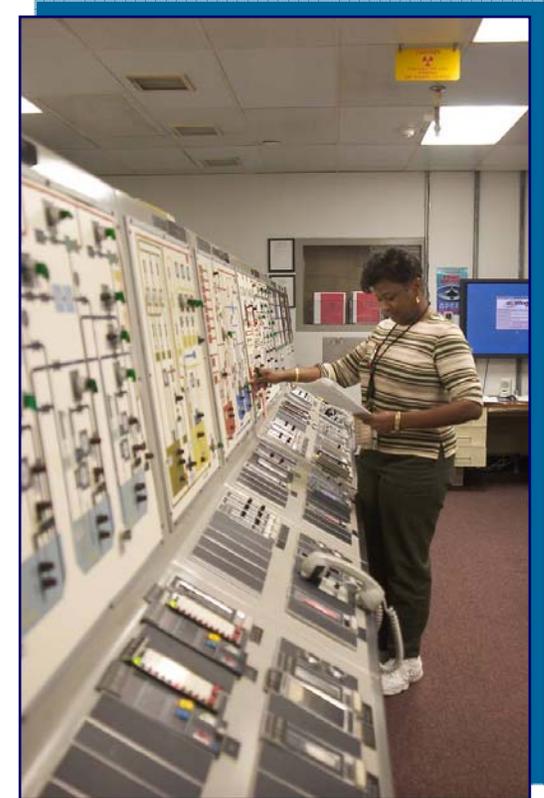
TEF: *The Tritium Extraction Facility began radioactive operations in November 2006.*



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SRS Progress and Initiatives in 2007

Material Disposition: H Area Activities



H Area: *H Canyon now plans to operate until 2019. Work includes processing spent fuels, uranium materials, and some quantities of plutonium.*



SRS Progress and Initiatives in 2007

Energy Security: New Bio-mass Power Houses



***A Area:** Construction has begun on a new wood chip power house to replace a 1950s-vintage facility in A Area. The new power house will operate much more efficiently and with fewer emissions.*



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SRS Progress and Initiatives in 2007

Environmental Cleanup: P Reactor Deactivation

P Reactor: Deactivation is in progress at P Reactor, in support of P Area closure. Activities have included:



- Removing moderator
- Removing friable asbestos
- Removing historical artifacts
- Installing temporary power and lighting
- Mold abatement
- Made area cold and dark at the area fence
- Mitigated water intrusion into the building
- Restarted building exhaust fans on temporary power



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SRS Progress and Initiatives in 2007

Soil & Groundwater Remediation Activities



**Old
Radioactive
Waste
Burial
Ground:
General
Separations
Area
Consolidated
Unit 75-acre
geosynthetic
capping
completed**



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SRS Progress and Initiatives in 2007

SRNL: Homeland Security Activity



EM Corporate Lab: *The FBI established its new Radiological Evidence Analysis Lab Suite facility at Savannah River National Laboratory.*



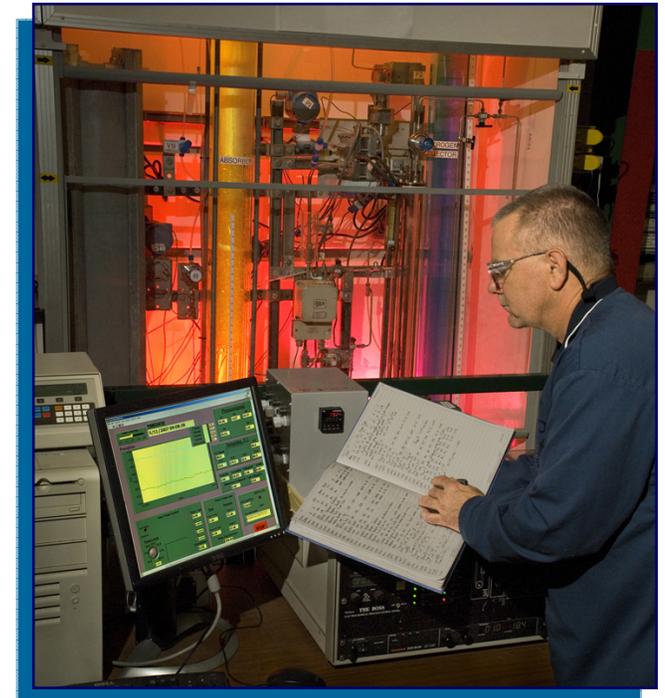
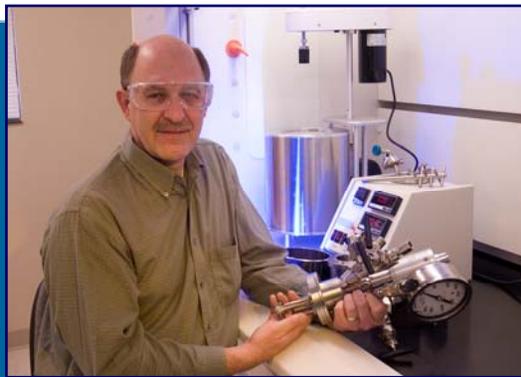
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SRS Progress and Initiatives in 2007

SRNL: Energy Security Activities

EM Corporate Laboratory:

SRNL is leading international program to study safety of new hydrogen storage materials. Unique electrolyzer is key element in process that could use heat from nuclear reactor to efficiently produce hydrogen



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SRS Acquisition Strategy

SRS Contract Competition

- DOE is in the process of executing its previously published acquisition strategy for follow-on contracts to replace the current M&O contract with WSRC
- Multiple contract strategy will replace single M&O site contract strategy
- Several small business “break-out” acquisitions over the next three years
 - First one – Information Technology
 - is in negotiation stages with Chickasaw Advisory Services, LLC
 - Others to follow

- Basic Site M&O contract
 - Bid proposals submitted in June 2007
- Liquid Waste Processing contract
 - Bid proposals submitted in December 2007



FY 2008 and Beyond

Challenges For Savannah River Site

- **Workforce Resources**
 - Financial and People
- **Contract Transitions**
 - One Contract to Seven Contracts
- **Liquid Waste Disposition**
 - Safely operating tank farms
 - Maintaining sufficient tank space
 - Vitrifying and storing waste for final disposition
 - Construction of SWPF
 - Removing waste from old style tanks
 - Recovering Tank 48
 - Continuing technology development for areas of high technical risk
- **Plutonium Disposition**
 - Pu Metal Oxidation Furnace with stabilization capability
 - Glass qualification testing for Pu disposition
 - Dustless Material Transfer
 - Modular Sand Filter
 - 3013 Outer Can Welder
- **Soil and Groundwater Cleanup**
 - “Tight Zones” and Mass Transfer Limitations
 - Abandoned sewer lines and distributed sources
 - Monitored Natural and Enhanced Attenuation (MNA/EA) for chlorinated solvents, metals and radionuclides.
 - Institutional Control technologies
 - MNA/EA for metals and radionuclides

