



**Savannah River**

Nuclear Solutions, LLC

A Fluor Daniel Partnership<sup>SM</sup>

# SRS History: The Cold War Years

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**Paul Sauerborn**

Manager, Cold War Historic Preservation  
Program

**Caroline K. Bradford**

Curator of Cold War Artifacts  
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# SRS Cold War Historic Preservation Program

Who We Are and What We Do



- **Driven by National Historic Preservation Act of 1966**

- Requires federal entities to care for their historic resources

- **We cover history, artifacts, and the built environment from 1950 to 1989**

- **315-M Curatorial Facility**

- Where artifacts are collected, stored, catalogued, studied
- Provides climate controlled storage for equipment, small items, documents, etc.
- Provides work space for curator and researchers
  - Provides storage and office space for Savannah River Archaeological Research Program

# Preservation of Modern History

- Cold War History covers everything from Site Selection to shutdown and contract change of 1989
  - We identify buildings for preservation
  - We write histories
    - ▶ *We document buildings that are demolished*
    - ▶ *We take oral history interviews from retirees*
  - We collect and manage artifacts
    - ▶ *Public outreach and exhibitions*

• **The history of the Cold War is interesting and inspiring, and we have the opportunity to save valuable resources before they are lost.**



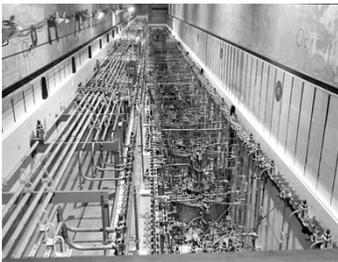
**Robin, walking robot c. 1985**

# Site Chronology (Construction)

Excerpted from *SRS at 50*



- Nov. 28, 1950—Public Announcement: new nuclear materials production facility near Aiken, SC
- Dec. 22, 1950—General layout of the Savannah River Plant is completed
- Feb. 1, 1951—CONSTRUCTION BEGINS
- Sept. 1951—Construction completed on CMX pilot plant; first operating facility
- June 30, 1952—All site land is acquired from private land owners (this began Dec. 21, 1950)
- August 1952—D area begins operations (producing heavy water)
- Sept 1952—305-M graphite test pile is the first reactor to go critical at SRS
- Dec 28, 1953—R REACTOR GOES CRITICAL
- Nov. 1954—F AREA OPERATIONS BEGIN



# Site Chronology (Production)

- Dec. 28, 1954—FIRST SHIPMENT OF PLUTONIUM FROM SRP
- October, 1955--Tritium facilities in operation
- November, 1955—FIRST SHIPMENT OF TRITIUM FROM SRP
- 1955—Cobalt 60 first produced for peaceful uses (highest specific activity 2/9/1966)
- 1956—Neutrino discovered at P-reactor
- 1959—Pu-238 first produced at SRP
- 1963—First production of Curium-244
- 1964—R reactor is shut down
- December, 1965—Record high flux recorded in C reactor [ $6.1 \times 10^{15} \text{n/cm}^2(\text{sec})$ ]
- 1969—First Cf-252 produced on site (2.1 g total would be made at SRP)
- 1983—Ground broken on DWPF facilities (operations begin in 1996)
- 1990—Saltstone process is operational
- 1993—Last reactor (K) placed on cold standby



Above: Managers at SRP celebrate the first shipment of plutonium offsite.

Below: Bronze plaque commemorating record high flux.



# Featured Artifacts

## Reactor Testing in 777-M

- **Physics Assembly laboratory**

- Built to hopefully provide answers to the most basic and important questions regarding heavy water production reactors

- Flux shapes, fuel types, etc.

- **Contained several different test reactors.**

- Graphite, heavy water, and pressurized reactors provided different measurements



From negative  
DPSPF-8929-15



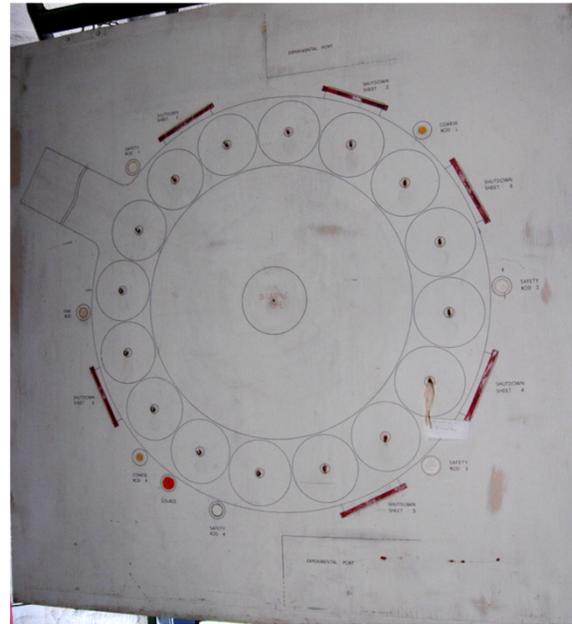
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# SP Reactor & Artifacts

- **The Standard Pile (SP) was a graphite reactor**
  - It used natural uranium fuel elements
  - This assembly board was used to make note of how much uranium was in each position during any given run. The tags would have hung off the hooks.



Sam Burdette controls the SP (Negative 3360-2-56).

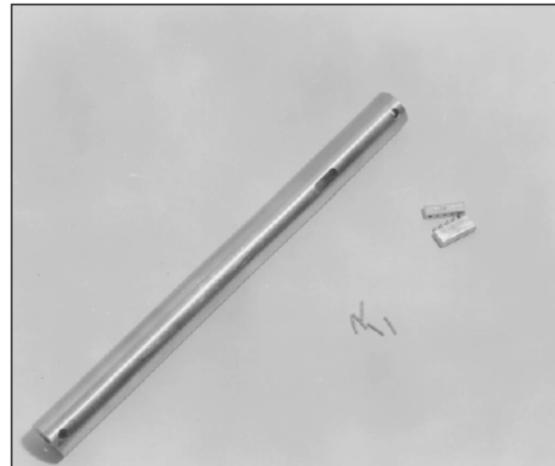
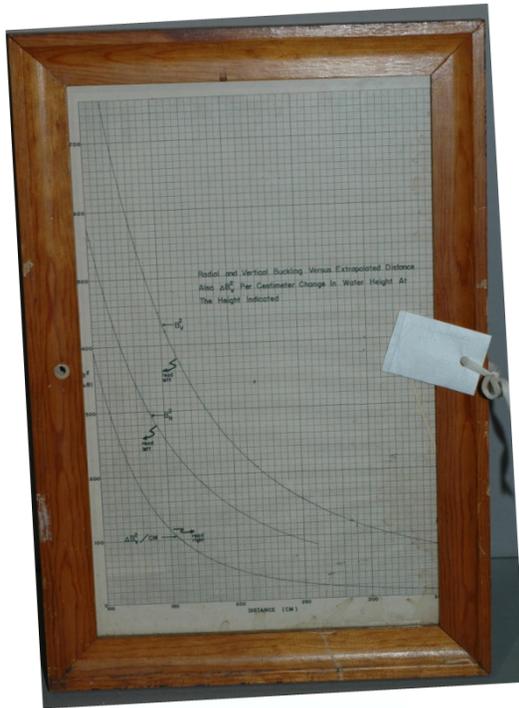


Front face and side view of Assembly Board



# Thimble for gold pins

- Gold pins were useful for measuring the neutron flux at any given point. They could tell provide detailed point data.



Thimble & gold pins,  
from negative DPSTF-  
1-166

This graph shows “buckling” and is an example of the type of data collected in relation to neutron flux.