



SRS HERITAGE FOUNDATION

NEWSLETTER

December, 2015

Preserving & Interpreting Savannah River Site History



Happy Holidays!

Your friends at the SRS Heritage Foundation wish you a joyous holiday season and a healthy and exciting new year.

2015 was a Good Year

The SRS Heritage Foundation made steady progress on several fronts during 2015.

After receiving the keys to the building October 27, 2014, dedicated volunteers spent several months cleaning and painting the building interior. During 2015 the fire safety system was upgraded, a security system was installed and a handicapped-access ramp was emplaced. Our first professionally designed exhibit, the SRS Timeline, was installed in July and a variety of other exhibits were designed and built. The Museum was opened to the public for brief preview openings in July, August, September and October. Visitor responses to the openings were uniformly positive.



While these activities were going on in the building, the Foundation employed an architectural draftsman and an architect who prepared “as built” drawings of the building and then designed the modifications required to adapt the facility for use as a museum. These adaptations will include a fire suppression system, a handicapped restroom, heating and air conditioning modifications, an elevator accompanied by a stairwell to provide access to the second floor and external stabilization and appearance enhancements. The Aiken Design Review Board reviewed the building plans and approved them for use in December. As the year ended, the Foundation was obtaining bids from construction companies prior to selecting a general contractor for all the building upgrades. *Cont'd on pg 2*



We received a key to the dedicated Foundation gate at the Ellenton Heritage Trail during a ribbon-cutting ceremony in May. Plans for conducting public tours were developed and the first public tour was held in June. The procedures worked very well.

A program of collecting video interviews from former employees at SRP and nearby residents was implemented after receiving a bequest from the estate of Dr. Todd Crawford and Bea Crawford. Thirty-two interviews were conducted during the year. A grant was received from the Watson-Brown Junior Board to assist in editing the interviews.



2016 Promises to be a Great Year



Now that the groundwork has been laid, the Foundation expects to see substantial progress in the coming year. A general contractor for the building modifications should be selected in the first quarter and we expect the City to issue our Building Permit shortly thereafter. Individual phases of the project will be launched as capital funding is available with several phases expected to be well under way by summer. Sawdust and scaffolding will be prevalent. Exhibits on the first



floor will be completed and public access to the building will be expanded as construction permits. Planning of exhibits for the second floor will be begun in anticipation of completion of the elevator that will provide visitor access. Special programs and events will be held at the SRS Museum so as not to interfere with construction projects.

Public tours of the Ellenton Heritage Trail will be scheduled and conducted.



SRS Public Tours Announced

**Tour Dates: Two tours per month
except for November and
December**

January 14, 21
February 11, 17
March 10, 31
April 7, 27
May 12, 26
June 16, 23
July 14, 18
August 11, 25
September 15, 29
October 13, 27
November 9
December 8

**Tour attendance may be
reserved at:
[www.srs.gov/general/tour/
public.htm](http://www.srs.gov/general/tour/public.htm) or by
telephoning 803-952-8994**

Volunteer Recognition Luncheon

Volunteers from the SRS Heritage Foundation are invited to attend the Wind-Down Luncheon at the Aiken County Historical Museum from 12:00 to 1:PM on Monday, December 28th. The Luncheon is provided to say “Thank You” to Museum volunteers and Aiken County employees who supported the Museums during the year. We are pleased that SRS Museum volunteers are included as part of the County Museum “family”.



SRS at *Sixty*

By Art Osborne

At the close of 1955 the construction of the Savannah River Plant was considered complete and the Plant was in full operation. The start up of C Reactor, H Canyon, the Tritium facilities and the filling of the first waste tank with waste from the Purex separations process signaled full operation. This marked the culmination of an incredible national effort and demonstrated the resolve of the American people to deter and ultimately prevail over the Soviet Union. The somber and serious mood of the country was highlighted when it was announced by the Atomic Energy Commission and the Department of Defense that the SRP would be protected with anti-aircraft installations.

At about the same time that SRS was completed it was recognized more Plutonium and Tritium would be needed to meet the growing national defense demands. This production was limited by the total power output that could be safely achieved in SRP's new reactors. The production rate of Plutonium and Tritium is directly proportional to the reactor's power output. Reactor power output, in turn, was limited by the ability to transfer and manage greater heat output. Greater heat output required increased capacity to transfer heat from the fuel elements to the primary coolant (heavy water, D₂O) and thence to the secondary cooling water (Savannah River water, H₂O) without exceeding temperatures that would damage the elements or cause the primary coolant to boil. The choice was to get the urgently needed increased production from the existing reactors or build more reactors.

The DuPont engineering team rose to the challenge and achieved a remarkable four to five fold increase in the production rate; going from peak reactor powers of 500 Megawatts (MW) in 1955 to over 2000 MW by 1959. The original SRP reactor design basis power was 375 MW. These increases were achieved by improved fuel element design and spacing in the reactor cores and improvements in the cooling processes.

Major gains in the cooling process were made in 1955 with improved heavy water flow through the

reactor core. In 1956 secondary cooling was greatly increased with the change to larger river water pump impellers, the addition of six heat exchangers to R, P, L and K Reactors and a process flow change to two heat exchangers in series. 1957 saw larger pipe and pumps used for the primary core coolant heavy water and an increase in the secondary river water flow with the heat exchangers connected in parallel. A final increased secondary coolant flow was achieved when PAR Pond was created in 1958. All the cooling water discharge from P reactor went into this 2,600 acre lake where it was cooled by evaporation. Water was then pumped back into P and R reactors replacing some of the water that had been pumped to them from the river, thereby allowing for increased river water flow to L, K, and C reactors. The name PAR Pond came from its location; about midway between P and R reactor Areas.

Additional improvements were made throughout the life cycles of all the reactors. To understand the significance of these reactor improvements in the late 1950s and early 60s it is important to recall the urgency of those years. The Korean War ended with an uneasy truce, the Soviet Union continued its drive to build a nuclear arsenal, and the world was coming to grips with the existence of the thermonuclear Hydrogen Bomb, which dwarfed the destructive power of the atomic bombs that ended World War II. SRP, and today SRS, met and continues to meet the challenges needed to protect our country, protect and clean the environment, and manage nuclear materials in a safe and responsible manner.

See photo and caption on page 5



All of the cooling water effluent from P reactor went into the pond where it was cooled by evaporation. Water from Par Pond was pumped to R and P reactors, replacing some of the water that had been pumped to them from the river, allowing more river water for L, K, and C reactors. Bebbington notes that Par Pond allowed an increase in the total flow of cooling water from 650,000 to 775,000 gallons per minute. This translated into a gain of 850 megawatts in the overall power output of Savannah River's reactors. A 1960 upgrade to the river pumphouses and the addition of three pumps at Par Pond played a critical role in C reactor reaching a peak power level of 2,525 megawatts in 1961. Source: William P. Bebbington, *History of DuPont at the Savannah River Plant*. (Wilmington, Delaware: E. I. du Pont de Nemours & Co., 1990), 68-69.

We've come a long way since the concept of a museum was considered, our move from the Chamber office, painting/cleaning, the ribbon cutting in October of 2014, to constructing displays and making plans for the future!



THANKS TO OUR SRS HERIT- AGE FOUNDATION SPONSORS 2014

We are please to recognize our sponsors who have made substantial contributions to Foundation programs.

Corporate Sponsors
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A special thank you to the individual members for their continued support of the Foundation

Museum at Cold War Symposium—The Savannah River Site Museum and the Aiken County Historical Museum each presented exhibits at the Cold War Symposium in Atlanta sponsored by the National Archives. Approximately 100 people attended the September Symposium, titled the Cold War and the American South. The Symposium is an annual event at the Archives with different topics each year.

Melissa Jolley, Curator of the Cold War Artifact Collection at SRS with the SRS Museum exhibit



LIKE US ON FACEBOOK! We will be posting news and tidbits during these exciting times of Foundation progress. The SRS Heritage Facebook page is open for business. Please join us at <http://www.facebook.com/srs.heritage>. And don't forget the news and archives at the website, <http://www.srsheritage.org/> or check out the srsmuseum@aikencountysc.gov

We're working hard to make the SRS Museum a place where you can learn what contributions the Site has made and continues to make to the CSRA and a place to enjoy with family and friends.

Thank you for your past membership in the SRS Heritage Foundation. We could not do our work without your loyalty and support.

Your membership enabled the Foundation to accomplish much in 2015:

- We upgraded the Museum building and installed fire and security systems and a handicapped-access ramp.
- We were able to open the SRS Museum on a limited basis to the public and community groups.
- We built exhibits including the SRS Timeline, Cold War and Fallout Shelter, SRS Plutonium in Space, Underground Counting Facility, Defense Waste Processing Facility, and the Simulated Glovebox and Radiation Gallery—and plan for more.
- We opened the Ellenton Heritage Trail and operated our first public tour.

We are proud of our accomplishments and could not have done it without you.

Building on these successes, we plan to achieve even more in 2016.

- The Museum is a work in progress and work on the building will accelerate as we install a handicapped rest room, put in a fire suppression system, modify the heating and ventilating system and restore the building exterior.
- We will complete existing exhibits on the first floor and begin to design exhibits for the second floor.
- We will conduct scheduled public tours of the Ellenton Trail.

Please renew your membership today. If you renew your membership in December you can take a tax deduction **and** have membership through 2016. Consider renewing at a higher level or adding an extra amount. **Tis the season!**

Thank you again for your loyalty and support.

Sincerely,

A rectangular box with a thin black border. In the top-left corner, there is a small square icon containing a red 'x'. The rest of the box is empty, indicating that the signature has been redacted.

Walt Joseph
Executive Director
SRS Heritage Foundation

**DON'T MISS OUT ON ALL THE GREAT NEWS AND EVENTS
THAT ARE COMING....JOIN TODAY...(use this form to become a member)**



SRS HERITAGE FOUNDATION MEMBERSHIP APPLICATION

I would like to become a member of the SRS Heritage Foundation in the following level. (Please Check One)

<i>Benefactor</i>	<i>\$120.00</i>	<input type="checkbox"/>
<i>Patron</i>	<i>\$ 60.00</i>	<input type="checkbox"/>
<i>Sustaining</i>	<i>\$ 35.00</i>	<input type="checkbox"/>
<i>Student</i>	<i>\$ 15.00</i>	<input type="checkbox"/>
<i>Small Business</i>	<i>\$ 250.00</i>	<input type="checkbox"/>
<i>Corporate Member</i>	<i>\$1,000.00</i>	<input type="checkbox"/>
<i>Corporate Sponsor</i>	<i>\$5,000.00</i>	<input type="checkbox"/>

*I would be willing to help with Publications____, Membership____,
Fundraising____, Publicity____, other____*

This membership is valid through December 2016

Name:
Address:
City, Zip Code:
Phone:
Email (s):
Fax #:

My check, made out to the SRS Heritage Foundation, Inc. is enclosed. Contributions to the Foundation are tax exempt. Federal ID#20-1629370

Please mail to:
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