

# CNTA *ware*

March 2004

## PLANNING FOR SRS VISITOR CENTER CONTINUES by Walt Joseph

The CNTA Visitor Center Committee continues to plan for a visitor center focusing on the heritage of the Savannah River Site. Although Deactivation and Decommissioning (D&D) activities continue to at the Site, buildings and artifacts that can help interpret SRS historic contributions are being preserved and planning for a visitor center is continuing. The Committee members include Walt Joseph, Chair, Todd Crawford, Vice Chair, several museum professionals, several elected officials, and SRS retirees.

The Committee has been granted Consulting Party status under the provisions of the National Historic Preservation Act. This allows CNTA representatives to participate in discussions of historic preservation at SRS with members of

the Department of Energy, the South Carolina State Historic Preservation Office, and the national Advisory Council on Historic Preservation. CNTA signs agreements among these organizations. The SRS Citizens Advisory Board and the City of Augusta also have been named as Consulting Partners.

After a series of ongoing discussions, DOE in January made the following commitments:

- To preserve Reactor Building 105-C and its support facilities
- To preserve significant artifacts from the Pile Physics Building 777-10A
- To establish Artifact Selection Teams to assist in re-

covering historic artifacts from buildings prior to initiation of D&D work

- To work with CNTA to transfer an SRS building for use as an SRS visitor center
- To expand opportunities for public involvement in the historic preservation process at SRS

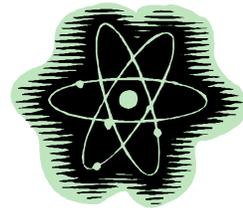
The CNTA Committee regards these commitments as a very good beginning toward creating a visitor center for SRS. We will hammer out the details of how these commitments will be implemented during the

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the next several months.

The Committee has initiated efforts to form the nonprofit SRS Heritage Foundation and has opened a dialogue with a firm of historical architects to develop input on potential sites for the visitor center and other issues.



## 50th ANNIVERSARY OF R-REACTOR CELEBRATED By Stan Goodman

With a big push from CNTA, the 50th anniversary of the initial startup of the first of the Savannah River production reactors was celebrated on October 28th, 2003. Well over 100 former operations personnel who were assigned to "R" Area when the reactor went critical on December 28th, 1953, were invited to a luncheon at the North Augusta Community Center. They had a great time meeting each other again, enjoyed barbeque, received commemorative tee shirts, heard a talk by former DuPont executive, Frank Kruesi and watched a special video production. This very

well done video was prepared by the WSRC Media Relations Group and included interviews with a number of folks who witnessed the initial startup.

Later in the day, a small group of these folks were invited to attend the 12th Annual Edward Teller Lecture/Banquet in Augusta. The video was presented again at this event and was received by over 400 attendees with standing applause directed toward the former employees.

Many thanks to the CNTA Board and especially, Mal McKibben and Tina Frazier for their ideas and untiring work to make this celebration possible. Costs were covered by sponsors:

E.I. DuPont, DOE-SR, WSRC, Argonne National Laboratory and the North Augusta Chamber of Commerce.

**Copies of the R-Area  
Video available at the  
CNTA Office for \$7.00**

**CNTA  
NEEDS  
YOUR  
SUPPORT  
.....ASK A  
FRIEND  
OR CO-  
WORKER  
TO JOIN  
TODAY!**

# BENEFICIAL USES OF RADIATION

The Nuclear Energy Institute has an article on their website with this title. We have extracted portions printed below. The entire article can be obtained on [www.nei.org](http://www.nei.org)

## KEY FACTS:

- Radiation, a form of energy abundant in nature, has been harnessed to provide hundreds of beneficial uses. Radioisotopes, found in nature as well as made by man, are used in X-rays, medical diagnosis and treatment, common household products such as television sets and smoke alarms, and electricity from nuclear power plants, basic scientific research, manufacturing, minerals exploration and agriculture.
- America's high standard of living would not be possible without the use of radioactive materials. These materials make processes better, easier, quicker and cheaper.
- The use and handling of man-made radiation is strictly controlled and regulated by the U. S. Nuclear Regulatory Commission.
- Radioactive materials also provide substantial economic benefits to Americans. Every year, radioactive materials are responsible for approximately \$420.7 billion in total industry sales, 4.4 million jobs and billions in tax revenues.

## HOW RADIATION IS USED: *Benefits of Man-Made Radiation.*

Just as early man harnessed fire to improve his life, mankind in the 20th century harnessed radiation. The devel-

opments of nuclear technology is one of the most significant achievements of the 20th century, according to the National Academy of Engineering. Today nuclear technology is used in nearly every aspect of our lives—from medicine, to manufacturing and construction, to powering common household items, to producing electricity for one of every five U.S. homes and businesses.

**Medicine** - Every year, one in three of the 30 million Americans who are hospitalized is diagnosed or treated with nuclear medicine. More than 11 million nuclear medicine procedures are used every year, prolonging and improving lives. Radionuclides are also used in 100 million laboratory tests on fluid and tissue specimens. Today, approximately 500,000 cancer patients in the United States receive radiation treatment at some point in their therapy.

Diagnosis is one of the main uses of nuclear medicine, one of the most powerful diagnostic tools known today. It is possible because certain elements concentrate in certain parts of the body. For example, iodine concentrates in the thyroid, phosphorus in the bones, and potassium in the muscles. Radioactive isotopes of these elements are introduced into a patient's body, and a special camera takes pictures of the internal workings of the organ, providing striking detail. Radionuclides are used to treat a number of diseases, such as Grave's disease, a thyroid condition. This treatment is so successful that it has virtually replaced thyroid surgery. Radioactive iodine is also widely used to treat thyroid cancer.

**Energy**—Nuclear power plants generate 20 percent of the United States' electricity

and 17 percent of world's electricity. Nuclear plants do not contribute to smog, acid rain, heavy metal poisoning or global warming. In producing one-fifth of America's electricity, U.S. nuclear plants cut emissions of carbon dioxide, principal greenhouse gas, by 189.5 million metric tons of carbon in 2002.

**Scientific Research**—Radioactive materials are integral to research in nearly all fields of modern science. More than 80 percent of Food and Drug Administration drugs are tested with radioactive materials. Radioactive materials also are essential to the biomedical research into causes and cures for diseases like AIDS, cancer and Alzheimer's disease. Radionuclides are used extensively in metabolic studies, genetic engineering and environmental protection studies. Carbon-14, a naturally occurring, long-lived radioactive substance, allows archaeologists to determine the age of artifacts containing plant or animal.

Activation analysis is used for chemical analyses. Criminal investigators used radiation to examine physical evidence and to link suspects to crimes. An example is the toxic element arsenic in hair, which can be detected through the irradiation of just a single strand.

**Agriculture Products**—More than 40 countries have approved the use of radiation to help preserve and kill pathogens in nearly 40 different varieties of food. Radiation has been used to breed new seed varieties with higher yields, such as the "miracle" rice that has greatly expanded rice production in Asia.

**Space Exploration** - Radio-

Erators (RTGs) are used to provide power for unmanned spacecraft. A typical modern RTG produces about 300 watts and will operate unattended for years. RTGs have been used to provide power for 24 U.S. space missions.

**Powering the U.S.**—Nuclear reactors are used to power both surface ships and submarines. The modern U.S. submarine can cruise up to one million miles, or more than 25 years, without refueling.

**Industry, Manufacturing, Engineering**—Practically every industry uses radioactive materials.

- The automobile industry tests the quality of steel.
- Aircraft manufacturers check for flaws in jet engines.
- Mining and petroleum companies locate and measure oil, gas and minerals.
- Manufacturers measure thickness of tin and aluminum.
- Pipeline companies look for defects in welds.
- Oil, gas and mining companies map geological contours, using test wells and mine bores, and determine the presence of hydrocarbons.
- Construction crews gauge the density of rod surfaces.

**Consumer Products and Services**—Radioactive materials supply necessities and conveniences that virtually everyone depends on. Including:

- Smoke detectors rely on a tiny radioactive source to sound an alarm when smoke is present.
- Computer disks "remember" data better when treated with radioactive materials.
- Nonstick pans are treated with radiation to ensure that the coating will stick to the surface.

(Continued on page 3)

(Continued from page 2 Radiation)

- Photocopiers use small amounts of radiation to eliminate static and prevent paper from jamming the machine.
- Cosmetics, hair products and contact lens solutions are sterilized with radiation to remove irritants and allergens
- Radioactive materials also are used to sterilize medical products.

**Economic and Employment Benefits**—Each year in the U.S, radioactive materials are responsible for about \$420 billion in industry sales, 4.4 million jobs and \$77.8 billion in federal, and local tax revenues.



**UP AND ATOM BREAKFASTS**—So far this year we have had two Up and Atom breakfasts. On February 24, Dr. Hadyn Williams, Section Chief for Nuclear Medicine at the Medical College of Georgia spoke on “New Developments in Nuclear Medicine and Positron Emission Tomography”. On March 9, Tom Christopher, President of Framatome ANP, spoke on “The Future of Commercial Power” in the United States.

In the near future we expect to have speakers on the status of food irradiation, preservation of historically valuable nuclear facilities in the U.S., national nuclear security initiatives, and perhaps the status of hydrogen-power research.

We are always looking for subjects and speakers. If you have ideas please let us know.

### Trivia Spot:

*After Pearl Harbor the “Manhattan Project” was created to pull together several nuclear research activities. The “pile” research had already moved from Columbia University to the “Metallurgical Laboratory” at the University of Chicago where Enrico Fermi’s team achieved the world’s first sustained criticality December 2, 1942. The Metallurgical Lab became Argonne National Laboratory (ANL).*

## VICE CHAIRMAN BILL REINIG IS MOVING

By Mal McKibben

Bill Reinig, one of the founders of CNTA and long-time Vice Chairman, has announced his resignation as Vice Chairman. He is moving to a retirement community in Annapolis, MD where his physician son lives. The good news is that Bill will remain on our Board of Directors.

It would not be possible to exaggerate Bill’s contribution to CNTA. The organization was created by a small group, including Bill, who envisioned the benefit of a citizen-based education group to counter prevailing anti-nuclear nonsense, and to support SRS. Most of what CNTA is today came out of Bill’s fertile mind. Since CNTA’s creation he has been it’s premier champion, motivator, guide, and counselor.

Many current SRS employees are probably unaware of the huge contribution that Bill made at SRS and to national and international radiation protection. His security badge was the 28th issued, and his team of health physicists was conducting environmental surveys of the site before the first dirt was moved.

Bill served in the Navy during World War II, and after the war obtained a Mechanical Engineering degree from his home town college, Polytechnic Institute (later named Brooklyn Polytechnic Institute). He worked at the Hanford nuclear project, then became supervising health physicist at Brookhaven National Laboratory before joining DuPont at SRP in 1951. For DuPont, Bill subsequently managed three departments, Environmental Analysis and Planning, Health Physics, and Technical, before retiring from WSRC in 1993.

Bill is past-president and Fellow of the international Health Physics Society. He served as chairman of the American Board of Health Physics and director of the American Academy of Health Physics. He was a member of the National Council on Radiation Protection (NCRP). For Georgia Tech he served on the Advisory Committee for nuclear engineering and health physics.

Bill published over forty papers, and was editor of the book “Environmental Surveillance in the Vicinity of Nuclear Facilities.

In 2000, CNTA, WSRC, DOE-SR, and the mayors of Augusta, North Augusta, and Aiken presented a Distinguished Service Award to Bill Reinig which said, in part, *“TO OFFER RECOGNITION AND SINCERE APPRECIATION TO MR. WILLIAM C. REINIG FROM THE SAVANNAH RIVER SITE, CITIZENS FOR NUCLEAR TECHNOLOGY AWARENESS, AND THE COMMUNITIES OF THE CENTRAL SAVANNAH RIVER AREA FOR OVER FIFTY YEARS OF DISTINGUISHED SERVICE TO RADIATION SCIENCE, ENVIRONMENTAL PROTECTION, RADIATION HEALTH PROTECTION, AND FOR PROMOTING PUBLIC UNDERSTANDING OF NUCLEAR SUBJECTS.”* Bill, we thank you.



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**What Makes CNTA Special:**

- *Extensive nuclear library for your use.*
- *Speaker's Bureau—Request a Speaker to give a presentation to your organization or group.*
- *Teller Lecture/Banquet—Annual event with prestigious and provocative speakers.*
- *Up & Atom Breakfast—Members & guests invited to breakfasts that feature speakers on current nuclear-related topics.*

## UPCOMING EVENTS AND PAST HIGHLIGHTS :



**Golf Tournament**—We are presently making arrangements for the 2nd Annual CNTA Golf Tournament. We'll keep you informed on when and where. The 1st Annual CNTA Golf Tournament was a big success, lots of prize and great fun for all. Hope you plan on joining us for our 2nd one. **It should be bigger and better then the last!**

**Edward Teller Banquet/Lecture**—Our featured speaker was Dr. John S. Foster, Jr., Director of the Lawrence Livermore National Laboratory (LLNL) and Associate Director of the Lawrence Berkeley National Laboratory. The event was attended by more then 400 CNTA members and guests. It was a wonderful evening. If you haven't attended in the past...plan on attending our 2004 event, which we are working on.



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