



Global Nuclear Energy Partnership (GNEP)

By Mal McKibben

The Global Nuclear Energy Partnership is a long-range initiative unveiled by DOE Secretary Samuel Bodman and Deputy Secretary Clay Sell in a news conference February 6.

This bold and brilliant plan, if fully and successfully implemented, would –

1. greatly reduce the potential for diversion of fissile material for illicit weapon production,
2. greatly reduce the risk of a successful terrorist attack,
3. create a final waste form that is much lower in radiation and heat.
4. greatly increase the amount of the final waste that can be disposed in the geologic repository, and,
5. nearly eliminate concerns about the long-term leakage to public groundwater from the repository

The key is a new fuel recycling technology called UREX+ that could recycle all of the heavy isotopes of uranium, neptunium, americium, plutonium, and curium into reconstituted fuel for power reactors. The long-lived fission products cesium-137, strontium-90, technetium-99 and iodine-129 would be either re-irradiated for transmutation or isolated for separate use or disposal. This technology has been under laboratory development as the Advanced Fuel Cycle Initiative for the past five years by Argonne National Laboratory partnered with the Savannah River National Laboratory, Oak Ridge National Laboratory, and the Idaho National Laboratory.

The overall GNEP strategy is to have a selected number of nuclear nations, perhaps including England, France, the U.S., China, Russia, and Japan provide fuel services to other nations, i.e., provide fuel recycling using the new, advanced technology and reactor fuel under strict security and onsite IAEA material accounting. Most of those nations have already expressed interest in cooperating with this program.

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Clearly, this would be a long-term expensive effort that would require the cooperation of many nations, but the potential benefits are huge and the cost is easily justified by greatly reduced waste management cost. For example, all of the U.S. waste could be disposed of in Yucca Mountain for hundreds of years, eliminating the need for building eight or nine additional geologic repositories during that time.

The next major step for the U.S. is to create a facility where the UREX+ development and engineering scale demonstration can be done. DOE is now preparing the draft NEPA (National Environmental Policy Act) documentation. SRS will be considered for that facility, which could provide some much needed jobs and economic growth for our area.

(continued on Page 6—Flowchart on GNEP)

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**SRS
Heritage
Foundation**

The SRS Heritage Foundation, Inc. Board of Directors held their first meeting on September 28th in Building 742-A at SRS.

Current Board members are:

Joe Buggy	Pres Rahe
John Cunningham	Bettis Rainsford
Dan Evans	Lee Smith
Gwen Johnson	Chris Verenes
Ann Loadholt	Joanne Zobel
Bill Mottel, President	
Walt Joseph, Director	

In January, Pres Rahe, President of Washington Group International presented a check for \$30,000 to the SRS Heritage Foundation. The money will be used to develop a preliminary design to turn Building 742-A into a museum and education center to preserve and interpret SRS history.

The SRS Heritage Foundation, Inc. has launched a membership drive to raise money for the preservation and interpretation of the SRS heritage. They plan to include technical, ecological, and sociological aspects of that heritage. Initial plans are to begin design of the Heritage Center and the Ellenton Heritage Trail and to initiate a series of occasional papers on SRS history. Your membership will help support these endeavors.

Membership levels are:

Benefactor	\$ 120.00
Patron	60.00
Sustaining	35.00
Corporate	1000.00

Please contact Walt Joseph at 803-648-5634 for information on becoming a member.



Board members-Chris Verenes, John Cunningham, Walt Joseph, Bill Mottel, Ann Loadholt & Todd Crawford in front of the 742-A Building.



Dr. Harold McFarlane at the February Up & Atom Breakfast, at Houndslake Country Club

February Up & Atom Breakfast featured Dr. Harold McFarlane

Dr. Harold McFarlane, President Elect of the American Nuclear Society and Deputy Associate Laboratory Director at Idaho National Laboratory was our guest speaker at the February 7th Up & Atom Breakfast. It was an excellent turn-out with over 100 people attending the breakfast at Houndslake Country Club. The title of Dr. McFarlane's presentation was "America's Energy Security in a Global Context".

Dr. McFarlane's technical experience is in nuclear reactor development, nuclear fuel cycle R&D, radioactive waste management, radioisotope power systems, neutron physics and plasma physics.

Previous to his position at INL he was Director of Engineering Technology Division at Argonne National Laboratory and was Deputy & Associate Director for ENT and predecessor divisions. He was an Assistant Professor of Nuclear Engineering at New York University, taught 2 years of plasma physics R&D at the University of Texas and 3 years of nuclear engineering at Caltech and NYU. He serves on the Nuclear Engineering Education Board for Argonne Associated Universities and has been a mentor to a number of current successful nuclear professionals. Dr. McFarlane has many honors and has been recognized on a national and international regard.

Dr. McFarlane and his wife, Mary Ellen are both avid golfers and enjoyed playing on many of the area courses during their visit. They expressed their gratitude from the warm and friendly people in the area and said they would like to return to Aiken again.

COME JOIN US FOR A DAY OF FUN AT OUR ANNUAL CNTA GOLF TOURNAMENT AND FUNDRAISER INFORMATION AND ENTRY FORM ON PAGE 7



HYDROGEN LAB OPENS

The Center for Hydrogen Research officially unveiled last month in Aiken. The opening marks another phase in South Carolina's bid to become the national center of hydrogen fuel research.

The goal of the center is to find ways to cheaply, reliably and safely use hydrogen as an energy source. That energy source could be used to power vehicles, homes and any number of things. It will be shared by the Savannah River National Laboratory, the state's research universities and private industries.

This center is important for a number of reasons. First, the U.S. must find alternative energy sources if it's to wean itself from dependence on foreign oil. Second, the hydrogen research industry offers a unique opportunity for South Carolina to create high-tech,



Deputy Secretary Clay Sell, with John Troutman, Senator Graham and Ronnie Young.

high-wage jobs and improve the overall economy. Finally, if that effort is to be successful, the state needs a place where collaboration between public and private research entities can take place; the center provides that.

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BOOK REPORTS

By Mal McKibben

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We have recently added two books to our library in the CNTA office. I'll give a brief review of each of them below. I think many of our members will want to add these to your personal libraries.

Radiation and Modern Life, Fulfilling Marie Curie's Dream, Dr. Alan Walter, Prometheus Books

In this, his latest book, Alan Walter documents in detail the surprising extent to which a great variety of nuclear radiation technologies have quietly permeated the U.S. economy in many different fields.

The introduction to this book was written by Dr. Helene Langevin-Joliot, the granddaughter of Marie and Pierre Curie, who is the Director of Research Emeritus of the National Center for Scientific Researchers in Paris. Alan has done a masterful job of weaving Madam Curie's visionary themes into the text throughout the book. In this way he has paid tribute to this amazingly gifted scientist and Nobel Prize winner.

Since Alan wrote this book for the general public, and not just for us nuclear nerds, he begins (well, actually it's Chapter 2) with an easily understandable description of the different types of radiation and their properties.

He then proceeds to explain how radiation technologies are improving the economic competitiveness of businesses and the quality of consumer products. For example in agriculture such techniques are routinely improving crop production, the quality and shelf-life of products, controlling key pests, improving the health of farm animals, improving many foods by irradiation, and others.

Similarly, he covers radiation medical procedures that are used in almost all quality hospitals both for diagnosis and for treatment.

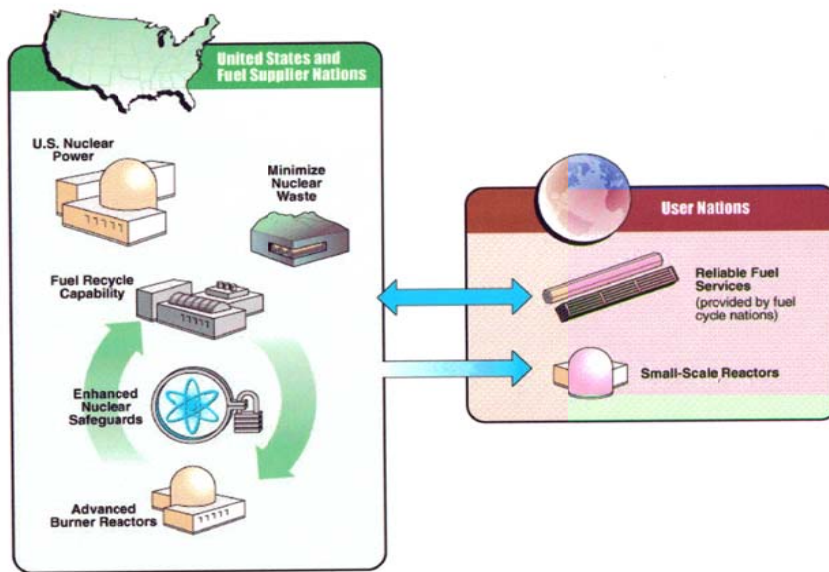
Then he moves on to electricity production, heavy and light industries, transportation, space science, criminal forensics, arts and sciences, protecting the environment, and international economy.

I consider myself a well informed nuclear professional, yet I confess there was much in this book I was unaware of. For example, in the U.S. alone nuclear and radiation technologies generate nearly half a trillion dollars in sales, over four million good-paying jobs, and nearly \$80 billion in tax revenues.

Alan has had a distinguished career, as an author of college textbooks, a senior scientist and manager at Hanford, as President of the American Nuclear Society, and as Chairman of the Department of Nuclear Engineering at Texas A&M. This book is another golden apple in his crystal bowl of notable achievements.

(WE WILL HAVE BOOKS FOR SALE AT THE OFFICE)

Continued on Page 6



The Partnership would demonstrate the critical technologies needed to change the way used nuclear fuel is managed—to build recycling technologies that enhance energy security in a safe and environmentally responsible manner, while simultaneously promoting non-proliferation. If you'd like to learn more about GNEP, visit the website at www.gnep.energy.gov

BOOK REPORT continued from Page 5

UNDER-EXPOSED: What if Radiation is actually GOOD for you?, Ed Hiserodt, Laissez Faire Books

Ed Hiserodt has dared to declare that the KINGS of radiation safety (EPA, NRC, NAS, NCRP, and all the anti-nuke-nuts, etc) don't have any clothes on. These regulators and have declared often and loud that the linear-no threshold theory (LNT) of radiation health effects is valid, radiation doses are cumulative, and summing collective low doses to large populations is a legitimate way of calculating latent fatalities.

Most nuclear professionals, including medical physicists and health physicists, insist that the LNT is not valid. But the politicized policy makers will not be deterred.

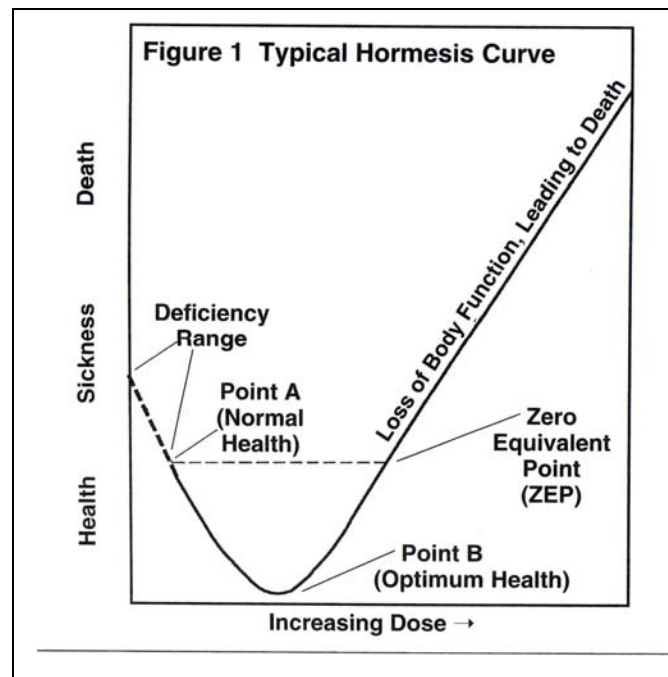
In this book, written to be understood by educated adults, the author has assembled a compelling collection of scientific data from around the world to support the position that the LNT is not valid, but we would all have fewer infirmities, and would live longer if we could arrange to increase our chronic radiation dose a bit above background .

Of course Mr. Hiserodt is by no means the first to make this claim. Books and many scientific papers have taken the same position. Some of our CNTA members will remember Dr. John Cameron, professor of Medical Physics at the University of Wisconsin and the University of Florida who was an Up & Atom breakfast speaker for us several years ago. His opposition to this non-sensical way of computing non-existent fatalities was his crusade for many years. Unfortunately, Dr. Cameron died last year at the age of ninety something.

What Ed Hiserodt has done is bring into one understandable volume a large number of the published studies, and some valid anecdotal observations, to make the point, and he did it with humor and class.

What this book does is affirm the theory of "Hormesis", which is a broad theory encompassing many things (selenium, arsenic, many vitamins, aspirin, and of course, radiation) that are deadly at high doses but very beneficial at low doses.

The following graph from his book sums it up rather well.





Annual CNTA Golf Tournament

Friday, May 12th, 8:30 AM

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Houndslake Country Club

Registration 7:30 a.m.

8:30 a.m. Shotgun Start

Entry Fee Includes:

**Green Fee, Cart, Lunch, and
Range Balls and lots of fun!**

Team Photos courtesy of RCS Corporation

Door Prizes:

**Drawings for Great Prizes - Long Weekend Get-Aways
at the Beach/Mountains, Dinners, Gift Certificates,
Golf Items, Clothing and many, many more items.**

Win a car with a "Hole In One"

**Outback Restaurant Contest to win
Gift certificates**

Try Your Hand at "Beat The Pro" Contest and more.

**Small door prizes will be drawn while you're golfing,
top prizes to be drawn after lunch**

COME JOIN THE FUN!

Open to All

\$500 Corporate Sponsor includes one (1) foursome

Sign up: singles or foursomes

(less then foursome will be paired with others to make up a foursome)

(Min. Team Handicap 60)

Red Tee Pack - \$15.00, includes 3 mulligans, one red tee and one beverage ticket

Entry Fee \$70.00/ea. or \$270/Team

Player Entry Form

\$500 Corporate Sponsor includes one foursome _____ Sponsors Name: _____

Team Foursome - \$270. _____

(Min. Team Handicap 60)

Single Player - \$70. _____

PLAYER _____ HANDICAP _____ PHONE _____ COMPANY: _____ PLAYER _____ HANDICAP _____ PHONE _____ COMPANY: _____ PLAYER _____ HANDICAP _____ PHONE _____ COMPANY: _____ PLAYER _____ HANDICAP _____ PHONE _____ COMPANY: _____
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