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October 11, 2010

Guest Editorial  
*The State* - Columbia SC

By Clinton R. Wolfe

### **Guaranteeing our energy future**

In the coming months and years there will be considerable public discourse about the economic viability of various nuclear fuel recycling options. As the discussion develops, it would behoove us all to understand the basis of conclusions reached about economic viability.

Specifically, the typical argument made by those opposing recycling is that the cost of recycling per pound of recovered fuel exceeds that of fuel developed from fresh uranium, ergo, it is not economical. There are several typical flaws in this kind of argument.

First, the analysis needs to go deeper into opportunity costs, such as the cost of caring for the used fuel that is not recycled. Secondly, there is never a discussion of the value we would place on being energy independent and the value of the associated improvement in national security. A value must be determined and applied for the certainty of the fuel supply, which we can guarantee by recycling used nuclear fuel. These are additional factors that an economic analysis would consider.

In other words, an accountant's view of recycling might well conclude that it isn't worth the trip in dollars and cents, but an economist's view might be that it is well worth the trip in dollars and "sense" (of the common variety).

We should also recognize that many more countries are going to join the nuclear energy club, uranium demand will increase and the depressing effect on the price of uranium due to the U.S./Russia arms agreements will end in 2013. These agreements provided for conversion of Soviet weapons uranium into low enriched nuclear fuel. This agreement has supplied 50 per cent of the uranium in our current nuclear power plants.

Imagine that 100 years ago we could have bought futures contracts on the entire future oil production of the Middle East for \$1 over the going market price of a barrel of oil in 1910. What a deal! But some would have argued that we were paying a premium for the oil and besides, we didn't need it then!

We need to get serious about guaranteeing our future energy supplies and I don't mean that we need to chop down more mountains or drill deeper wells. I also don't mean that we need to pay the crushing subsidies that would be required to provide unreliable energy from various alternative energy sources.

I do mean that we already have the answer to our energy needs for thousands of years. Nuclear energy produced from recycled fuel expands our uranium resources by at least a factor of twenty and provides clean, safe, abundant energy 24 hours a day for as far into the future as we can imagine.

Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 24, 2010

Guest Editorial  
*The Aiken Standard* - Aiken SC

By Clinton R. Wolfe

### **Nuclear is the Answer**

It is tempting to condemn offshore drilling for oil because of the recent, and continuing, release of thousands of barrels a day of the precious stuff in the Gulf of Mexico. As a passionate advocate of nuclear energy the recent calamity in the Gulf invites "I told you so" rejoinders to those debating the energy agenda in the U.S. If we are to move toward carbon free transportation solutions such as hydrogen or batteries we will need enormous amounts of electricity. That electricity must be produced by clean technologies and chief among those is nuclear energy. So, let's make sure we understand the need for continued oil production.

Expanding oil drilling to the Arctic National Wildlife Refuge (ANWR) and to offshore reserves has been portrayed as a panacea by some for our dependence on foreign oil and is offered as part of an energy bill that includes a heavy emphasis on nuclear energy that is being debated in Washington, D.C. and around the country. So we have strange bedfellows. Support for nuclear depending upon opening up offshore drilling for oil. This was considered necessary, of course, to get support from persons in congress who favor one or the other approaches. The attempt to get bipartisan support is laudable and we need to recognize that we do have a dependence on oil for things other than energy.

After all, where are we going to get the material to make the 39 billion plastic bottles that Americans put in landfills annually. Where will we get asphalt, plastic grocery bags, moldings for auto interiors, synthetic fibers, pharmaceuticals, and countless other products made from petrochemicals. In fact, only about two thirds of a barrel of oil is used for fuel and about one third is used for petrochemicals. So we can ask the question, "do we need to produce oil?" The answer is, "absolutely." We also need to ask the question, "will more oil drilling eliminate our dependence on foreign oil?" The answer is, "absolutely not."

The U.S. Geological Survey (USGS) estimates that the most likely reserves available from drilling in ANWR are equivalent to just less than one year of U.S. consumption. Estimated reserves recoverable from U.S. offshore fields are the equivalent of about 11 years of U.S. consumption. It will take decades to drill for and eventually recover this oil so it is obvious that this course does not provide energy independence although it may help with the petrochemical supply. It is also obvious that we will pay a dear price for that oil. Drilling for oil a mile under the ocean is not like setting up your backyard oil well in Texas. The viability of several major companies is in question now as the cost of the recovery from the oil spill continues to rise. Recent estimates are as high as \$10 billion. There will be no quick fix as Mother Nature, not humans, will clean up the mess. It is now 20 years since the Exxon Valdez accident and we are just now declaring recovery from that episode.

As we continue to pursue a dwindling supply of fossil fuels and we employ ever more extravagant recovery technologies, such as mountain-top-removal to expose coal seams and deepwater drilling for oil we need to pause and view the scenario from a higher elevation. A view that encompasses the entire planet reveals the futility of our approach to energy. We are chasing increasingly intractable energy sources with energy that continues to increase in price and soon we will not be able to justify the quest at prices anywhere near today's levels. The toll in human life and the financial burden of correcting the environmental insult to our planet from searching for and using fossil fuels dictates that we take a different path.

It is a national imperative that we pursue an energy policy that utilizes nature's most concentrated energy source, the nucleus of the atom. The fissioning of one atom of uranium releases more energy than the

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combustion of millions of atoms of carbon. This logically means that the energy produced is cleaner and the waste volume is millions of times less than with fossil fuels. It also means that we could become more energy independent, addressing energy security, economic security, and national security. More and more nations around the world have figured this out. When will we?

Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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April 13, 2010

Letter to the Editor  
*The Augusta Chronicle* - Augusta GA

We should all thank and congratulate Savannah River Nuclear Solutions (SRNS) for sponsoring science, technology, engineering and math (STEM) interactive demonstrations in the local school systems. As reported in the Chronicle on Monday, April 12 the SRS operations contractor is sending 56 volunteers out to 23 schools in Georgia and South Carolina to promote STEM. Those of us in Citizens for Nuclear Technology Awareness (CNTA) have an abiding commitment to promoting STEM in the schools and in the public. When professionals in these fields share their knowledge and their passion for their field they become very effective advocates for influencing students to pursue STEM related careers. Our nation needs for these fields to be front and center among the choices that young people make if we are to compete globally in the 21st century. Thank you SRNS!

Clint Wolfe  
Citizens for Nuclear Technology Awareness

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March 31, 2010

Guest Editorial  
*The Charleston Courier* - Charleston SC

### **Concentrated Nuclear Energy**

I wrote an editorial recently heralding the virtues of nuclear energy and a reader commenting on the article said that we have 5,000 megawatts (MW) of wind energy off the South Carolina coast. She said that was the equivalent of 10 nuclear power plants with no waste. Actually, that's only 4-5 nuclear power plants and there is considerable waste, but it is true that there is certainly a lot of energy in wind. Unfortunately, we would need wind turbines stacked three deep along the entire South Carolina coast to equal just one nuclear power plant. One of the most memorable after-dinner talks I ever heard was about 40 years ago by a professor of meteorology at Penn State University. He said there was more energy in one category five-hurricane than in all the thermonuclear weapons that had been exploded to that date by all countries of the world. That's a lot of weapons tested at the Nevada Test Site (next to Yucca Mountain), the South Pacific, the Soviet Union, etc. The problem is harnessing this energy that is so widely dispersed in the environment in an economically efficient manner.

Likewise, a lot of energy from the sun is striking the earth every second of the day. Also, there is more gold in the oceans than has ever been mined. To assume that, because these statements are true, we can recover these assets economically, is a false assumption.

A cubic mile of seawater would be required to supply a couple of ounces of gold.

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The difficulty in harnessing energy from wind and sun is due to the dispersion of these assets in nature. They are so widely dispersed that 1000-MW wind farms require about 200 square miles of space (and only operate at less than 30% of capacity) and 1000-MW solar plants require about 50 square miles of land (and operate at less than 20% of capacity). Utilities must burn natural gas to make up for the 70-80% inefficiency of these technologies.

We are fortunate that nature does provide us with concentrated forms of many of our critical assets. Elements that exist in the earth's crust at relatively low levels are occasionally found in concentrated mineable forms, such as, gold, silver, and a variety of metal ore bodies. Likewise, nature provided concentrated energy sources in the form of coal, oil and natural gas. These sources which took millions of years to create are being combusted as fuel and the waste products released to the environment in the geological equivalent of the "blinking of an eye."

The need to reduce these waste products from burning fossil fuels has led to a bonanza of government subsidies for businesses making very expensive energy from so called, "renewable," sources. One of the most efficient materials for converting solar energy to electricity involves the use of cadmium-telluride photovoltaic panels. The technology has been hailed as a solution to global warming. There are a couple of flies in this ointment. One is that cadmium-telluride is very toxic, a complicating but manageable characteristic. The second is that although there is a significant amount of tellurium in the earth's crust, it is not generally found in mineable concentrations or ores. Tellurium is almost exclusively recovered as a by-product of copper mining, so to increase its production by even a factor of two, let alone a hundred, would seem improbable. It is hard to imagine that these particular photovoltaic panels could ever provide more than a fraction of a percent of the world's electricity demand because the material required to construct the panels occurs in quantities so widely dispersed that they are too insignificant to mine.

Nature's most concentrated form of energy is nuclear energy, a fact that understandably means there is minimum waste generated per unit of energy.. The fissioning of one atom of uranium releases more energy than the combustion of millions of atoms of carbon. One nuclear fuel pellet, barely larger than a pencil eraser, can provide all the electricity one person needs for nearly one year. A lifetime of nuclear fuel pellets for one person can be placed within a coffee cup, and that comparative does not include further reductions in the volume and radioactivity of the used fuel due to recycling.

Waste is often cited as an Achilles heel for nuclear power when, in fact, its impact is quite benign. First of all, there is very little volume of solid waste, as noted above, and no greenhouse gas emissions. Second, all nuclear waste is contained and monitored with no release to the environment. Nuclear waste is often referred to as being "deadly" or "lethal" but, unlike waste from other fuels, it has never killed anybody.

If we recycle the used nuclear fuel and combine that process with advanced reactor technology we can have a sustainable energy supply and produce an incredibly small quantity of waste that could ultimately be placed in a geologic repository such as Yucca Mountain. Within about 300 years this residue would be no more radioactive than the earth from which it was originally mined. Hopefully, this is where the President's recently announced blue ribbon commission will take us.

Dr. Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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March 17, 2010

Letter to the editor  
*The Aiken Standard* - Aiken SC

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The editorial, "Lowering Power Bills" in the Aiken Standard on Tuesday, March 16 was a breath of fresh air. The loan concept in H.R. 4785 seems a creative way to improve efficiency and conservation, reduce carbon emissions, and lower energy costs. Of course, the devil will be in the details, but so far so good.

Part of the fresh air is that the bill has bipartisan support and is cosponsored by Congressmen James Clyburn (D-SC), John Spratt (D-SC), and U.S. Senator Lindsey Graham(R-SC). It seems energy is a topic about which we have one of our best chances of getting agreement from both sides of the aisle.

The Department of Energy issued a press release the same day containing an opinion editorial in which Secretary Chu addressed the World Economic Forum and advanced the loan concept for improving energy efficiency. This means folks are talking to each other and that alone is a hopeful sign.

Those who promote efficiency and conservation often view advocates of nuclear energy as the competition. Not so! The promotion of energy efficiency and conservation is a mindset to which we all should subscribe. It is just not sufficient to satisfy our need for energy. Coupling this mindset with an aggressive program of new nuclear construction will be the surest path to meeting our energy needs in a clean, efficient, and safe way.

Clint Wolfe  
Citizens for Nuclear Technology Awareness

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March 3, 2010

Letter to the editor  
*The Aiken Standard* - Aiken SC  
*The Augusta Chronicle* - Augusta GA  
*The State* - Columbia SC  
*The Orangeburg Times & Democrat* - Orangeburg SC

We read the headlines that we hoped we would not have to read this morning. Jeff Allison is out as Department of Energy (DOE) site manager of the Savannah River Site (SRS). That's the bad news. The good news for us is that Jeff will remain in the community and at the site as a manager of Special Projects. He, his wife Christine, and their children will be able to stay in the community.

Jeff Allison has left big shoes to fill. The last seven years at SRS have been marked by the achievement of major milestones in waste management, operations, and new missions made possible by the relationships between Jeff and the DOE contractors. In addition to his high marks at the SRS, he has been a frequent credible presence in the community, putting a very human face on the government presence at the site. Instilling confidence in the public that somebody who is real and who really cares about the community is a very large, if unrecognized, part of that job.

We will, of course, pledge our cooperation and support for his eventual replacement. He or she will be starting from a very high perch and we wish that person great success. If the new manager matches Jeff Allison's performance then great success will indeed be achieved.

Thank you Jeff for your service.

Clint Wolfe,  
Executive Director  
Citizens for Nuclear Technology Awareness

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February 9, 2010

Guest Column  
*The State* - Columbia SC

By Clinton R. Wolfe

### **Wolfe: Insist on loan guarantees for nuclear plants**

Imagine that we as a society decide that we want Superbium (a fictitious commodity) to be our primary energy source because it is clean, safe, abundant and affordable. Now suppose there are a few corporations in our country that can incorporate Superbium plants into their business model and produce our much-needed electricity. We say, "Build Superbium plants."

A typical company says: "We would like to, but we can't get the financing because the banks want collateral. The entire capitalization of our company is \$5 billion, and the cost of the Superbium plant is \$10 billion."

So is Superbium too expensive? No. It's actually less expensive than all other options - on a cost-per-kilowatt-hour basis. But any company that builds a Superbium plant may be investing the entire net worth of the company (or more) in one project. Taking that sort of risk in an industry that typically limits exposure to just 1 percent or 2 percent of the company's value can be a career-limiting decision for an energy executive - particularly when the success of the investment depends heavily on the whims of the next government administration, the next round of regulatory complications or the next round of anti-Superbium obstructionist activities.

The answer, of course, is that society must guarantee the loan in order to have its preferred energy production. This doesn't mean that the taxpayers are actually paying off the loan. They are merely co-signing the note.

This is a good strategy for the taxpayer/ratepayers because loan guarantees might lower the financing costs of a large capital project and result in lower electricity rates. Lowering the financing rate by 1 percent results in more than a \$1 billion saving for a 10-year \$10 billion project. Since the payoff for the project is likely to be longer than 10 years, even greater savings may be realized by choosing the most cost-effective method of financing.

Now exchange "Superbium" for "nuclear," and you understand why it's so important that President Obama has requested up to \$54 billion in federal loan guarantees for new nuclear construction. Companies don't need loan guarantees because nuclear is a bad investment; they need it because the cost of building new nuclear plants often rivals the net worth of the owner.

Unlike every other country in the world that is building nuclear electricity-generating capacity, we have no direct government sponsorship of the effort; nor do we have a national energy policy. If we did, the loan guarantee discussion would be moot, because that policy would address how to incorporate the desired technology into our energy mix and how to recover the cost.

Instead, we have a patchwork of energy acts (32 since 1920), congressional legislation and state mandates trying to encourage a particular technology or group of technologies.

Those often heard criticizing nuclear for being "on the government dole" seem oblivious to the fact that their favorites - wind and solar - received 15 times more government subsidies per kilowatt-hour than did nuclear in 2007. In fact, if one removes government support for research and development (which is not paid to the nuclear utility industry anyway), the nuclear utility industry was a net payer to the U.S. Treasury in 2007, thanks to the \$800 million sent to the nuclear waste fund.

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I generally support federal investment in research and development for so-called renewable energies. Some I find troubling based on their likelihood of success, but in general I believe we should keep investing in fundamental knowledge about potential clean energy sources. Fortunately, we already have the knowledge and more than a half century of safe operating experience to make the most affordable, cleanest and safest of them all - nuclear power - the workhorse of our electrical power industry.

It is in our interest not only to agree to loan guarantees for new nuclear capacity, but to insist upon them.

*Dr. Wolfe is executive director of Citizens for Nuclear Technology Awareness in Aiken.*

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December 6, 2009

Guest Editorial  
*The Aiken Standard* - Aiken SC

By Clint Wolfe

### **Don't dismiss Yucca Mountain**

*(Dr. Steven Chu, Nobel Laureate and currently Secretary of the Department of Energy in the Obama administration, was at the Savannah River Site on Nov. 30 to attend a ground breaking for the biomass power facility to be constructed at SRS. The Citizens for Nuclear Technology Awareness has prepared an open letter to Dr. Chu on the subject of Yucca Mountain.)*

Dear Dr. Chu,

We hope your visit to Aiken and to the Savannah River Site (SRS) was a great success. It is an honor to have the Secretary of the Department of Energy (DOE) here. You should not be surprised, however, if many Aikenites would rather talk to you about Yucca Mountain than about SRS. We understand that there are political considerations that cause even the soundest of technical approaches to be modified. It should be noted, however, that after more than 50 studies of the Yucca Mountain repository, the site is consistently deemed appropriate for its intended purpose.

It makes sense to continue to develop the case for the repository because the site has already been the location of more above and below ground nuclear testing than any place on earth, the federal government already owns the land, we have already spent more than \$7 billion on it, we will incur billions more in taxpayer incurred liabilities before a repository is operable, and because it is the law of the land.

You have undoubtedly learned that Aiken has been a very supportive host to DOE missions over nearly six decades. That is largely because the people are very confident that the work is done safely and because of a mutual trust that DOE will do their part and SRS will do theirs. SRS has done their part to immobilize Defense High Level Waste (DHLW) and to temporarily store it awaiting disposition in Yucca Mountain. The DOE part of the bargain was to provide the repository by 1998. Even though the repository was not available on time, we took solace from the fact that the decision was codified in legislation in bipartisan congressional votes and that the material would eventually be shipped to the repository. Recent reports purporting to defund even the license application are troubling to say the least.

With respect to the commercial nuclear industry, on-site storage of commercial used fuel is an acceptable temporary solution to the delay in realizing a final repository. The delay provides more time to consider recycling the fuel before entombment of the resultant lower volume, lower radio-toxicity waste at Yucca. Choosing the right recycling options will not only contribute to energy independence and security by recovering the considerable fuel value remaining in the used fuel, but it is also the environmentally responsible thing to do.

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Temporary storage of the DHLW presents no such advantage. Aiken and the Central Savannah River Area never bargained for being the permanent host to this material. In fact, the bargain was quite the contrary. "We'll prepare it. You take it." Although we have no reason to fear the safety basis for this material in the foreseeable future, we know the geology of the SRS would not qualify it to be a long term repository.

It is our view that funding for Yucca Mountain should be restored while we have yet another review to validate the Yucca Mountain approach or to propose "plan B." To do otherwise sends a signal that we will never deal with the problem. We are not pleased with the current state of affairs, but we want you to know that we stand ready to assist in any way possible to arrive at an appropriate resolution of the issue. We encourage you to appoint a representative from the Aiken area to your blue ribbon panel. There is considerable talent residing here which should be tapped to develop the ultimate strategy in which the CSRA will necessarily be heavily invested.

Clint Wolfe  
Executive Director, CNTA  
Chairman, Public Policy Task Force  
New Carolinas Nuclear Cluster

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September 17, 2009

Opinion/Editorial Article  
*The Aiken Standard* - Aiken SC

As an advocate of increased use of nuclear energy, I have been constantly perplexed by what appears to be an irrational opposition to nuclear power. I know that the preponderance of facts pertaining to nuclear power would dictate rushing to rapid implementation of these plants. In so doing, we could save annually 20,000 - 30,000 lives in the U.S. alone and, according to a recent Princeton study, as many as 380,000 lives world-wide. No one has ever died from the commercial use of nuclear power in this country.

The waste from nuclear power plants is miniscule compared to other forms of electrical generation and is confined and constantly monitored as opposed to the billions of tons of carbon compounds and toxic metal compounds released haphazardly to the environment from fossil fuels.

So what's the problem with the 25 per cent of Americans who don't want more nuclear-generated electricity?

After more than six decades on this earth, I have finally figured it out. The answer is "fear." The strongest basic human instinct is "survival" and the emotion that triggers that basic instinct is "fear."

That is why, although we profess to eschew dirty politics, negative campaign ads are more effective than positive ones because they invoke fear-mongering. Political constituencies get all riled up over issues that instill fear. Ad counselors will tell you that fear sells better than sex and a whole lot better than reason.

So it really isn't a fair fight. We advocates spout facts, statistics, and rational arguments that we think should convince any reasonable person, but the opposition isn't based on facts. The opposition is based on fear, so, just as it takes a long time for people to give up on superstitions and myths, it takes a long time for reason to replace fear.

Otherwise responsible people will engage in fear-mongering to support their positions. At a recent public meeting, the head of the state's Sierra Club said she had noticed a correlation between nuclear facilities and leukemia clusters in South Carolina. Our state has seven nuclear power plants, a nuclear fuel fabrication

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facility, and the largest source of radioactive material in the U.S. at the Savannah River Site (SRS). If these facilities were conducive to leukemia clusters, we should expect South Carolina to have a high incidence of leukemia. Actually, South Carolina has a very low incidence of leukemia and Aiken County, home to much of SRS, has very low cancer rates compared to the rest of the state. I didn't have to work hard to find this out. The information is readily available on the websites of the Centers for Disease Control and the Department of Health and Environmental Control, so anyone interested in the truth has the information readily available. So this person championing a very worthwhile goal of protecting the environment gets an "F" in epidemiology. Doesn't matter - the damage is done. A person perceived to be credible in his or her field repeats falsehoods and they are accepted as fact. Sort of reminds me of the Salem Witch Trials.

Another person at the meeting representing an Atlanta-based, anti-nuclear organization sobbed as she lamented the thousands of workers at SRS whose lives had been cut short because of the radiation doses that they received in their jobs. Actually there is not a single such case ever documented. Annual doses to workers at SRS are far too low to be correlated with any health effects. Federal nuclear facilities have a 5000 mrem (a measure of radiation) annual exposure limit for individual radiation workers. This limit is almost never approached in reality as administrative controls are set at 2000 mrem by the Department of Energy for their facilities. SRS limits exposures to radiation workers to 500 mrem, and managers of such workers usually have actual controls that are as low as 10 per cent of the administrative value. The average annual dose at SRS per radiation worker is about 60-70 mrem. It is highly probable the sobbing lady had a higher annual radiation dose than a typical SRS worker. This is likely because the average American now receives more than 600 mrem per year radiation exposure from background sources. These sources include medical diagnostics which have caused the average dose to nearly double in recent years. Should we fear these doses? No! Medical science does not detect evidence for an impact on cancer etiology from chronic annual exposures below about 20,000 mrem. There are places on earth where people live with background radiation levels this high with no discernible health effects.

So, now that we know that fear is what motivates the anti-nuclear crowd, how do we convince them to love nuclear? How about, "If you don't love nuclear, your grandchildren will die prematurely from fossil fuel emissions and they will hate you for denying them clean energy at a time when the rest of the world has it?"

Bear with me now - I'm kind of new to this fear-mongering approach.

How about, "you will be plagued by black cats and broken mirrors?" No?

I can see that I'm going to have to work on my technique if I'm going to be effective. It was a whole lot easier just to tell the truth.

Dr. Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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September 7, 2009

Letter to the Editor  
*The Aiken Standard* - Aiken SC

Your front page story by Mike Gellatly on Friday Sept.4 implies in the headline and in the opening paragraph something peculiar to SRS and other weapons complex sites is causing an increased current cancer risk among their construction workers. John Q. Public could not be faulted for jumping to an erroneous conclusion regarding the safety of such sites. After the misleading beginning, the rest of the story is merely confirmation of a long recognized fact that workers exposed to significant quantities of asbestos were at risk

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of developing mesothelioma, a type of lung and throat cancer. This increased risk had nothing to do with the nature of the work performed in the weapons complex.

The significant association is not weapons sites, but construction practices that used large quantities of asbestos. These practices were common prior to 1980 and were prevalent in construction of residential and commercial real estate, shipyards, manufacturing, and yes, government facilities. This study focused on DOE facilities because DOE funded the project.

The risks of asbestos exposure identified 30 years ago are now mitigated by safe work practices and the use of alternate materials. The outstanding safety record achieved at SRS and at other DOE facilities makes them among the safest and healthiest places to work in the world, contrary to the implication of the headline and early portion of the Gellatly article.

Clint Wolfe,  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 10, 2009

Guest Column  
By Clint Wolfe  
*The State* - Columbia SC

### **SRS turning swords into plowshares**

This month marks the second anniversary of the beginning of construction of the mixed oxide fuel plant at the Savannah River Site. It seems everyone knows the role that SRS played in winning the Cold War by producing prodigious quantities of plutonium and tritium, but not everyone knows the role that SRS continues to play in our nation's nuclear posture.

To be sure, tritium reservoirs continue to be serviced at SRS in support of our much-reduced nuclear stockpile, but the role of SRS in the disposition of nuclear materials is a true "swords to plowshares" example.

The story begins back when Russia and the United States agreed to dismantle defined numbers of weapons systems. Matching commitments were made to dispose of weapons-grade materials. The two countries entered into agreements to convert nuclear weapons, based on highly enriched uranium, into low-enriched uranium to be used for nuclear reactor fuel. The United States agreed to buy the uranium from the Russians and also converted many tons of weapons-grade uranium from our arsenal to low-enriched uranium. Some of the blend down was accomplished at the SRS.

Much of the uranium in U.S. reactors today was once in nuclear weapons. In fact, 50 percent of all nuclear energy produced in this country is powered by uranium that used to be in Soviet weapons pointed at our cities and our allies.

In addition to uranium-based weapons, there were and are plutonium-based weapons. These also were targeted for reductions, and the two countries needed an approach to deal with all sorts of plutonium-bearing materials, including dismantled warheads.

It was my privilege to chair the technical advisory panel to the Department of Energy's Plutonium Focus Area. Our task was to advise on technology to enable the disposition of the excess plutonium. Each country, of course, wanted to have some confidence that the other was doing something verifiable, and so mutual discussions were common.

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The United States often emphasized elaborate technology schemes (our panel had significant national laboratory representation) to immobilize the plutonium in a proliferation-resistant state. These included grouts, synthetic rock, glass, and co-disposal with spent nuclear fuel. The Russians were astounded. They couldn't believe that we were willing to take this material, which we had spent billions of dollars producing, and throw it away. Not only throw it away, but spend a lot of additional money to get rid of it. The Russians saw the material for what it was: a tremendous energy resource.

The United States eventually came to the same conclusion and opted for converting 34 metric tons of weapons-grade plutonium into MOX fuel to provide electrical energy for the U.S. economy. So instead of having thousands of nuclear weapons, we will use the plutonium to power our hospitals, schools and factories. That is what the MOX project symbolizes to me - a path taken to turn away from unthinkable destruction toward a hopeful future of clean energy, while rendering the original material useless for future weapons.

The contractor building the MOX facility, Shaw AREVA MOX Services LLC, will join a distinguished list of companies whose collaboration with the Department of Energy at SRS have helped to make the world a safer place. The facility is on time and on budget, and we wish the contractor and the Energy Department continued success as they safely prepare it for its historical mission.

Who says there are no good news stories anymore?

Dr. Wolfe is executive director of Citizens for Nuclear Technology Awareness, based in Aiken.

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June 29, 2009

Letter to Public Officials and Interested Parties

By Dr. Susan Wood

**The Yucca Mountain Geological Repository for Radioactive Wastes**

Dear Sir/Madam: Citizens for Nuclear Technology Awareness (CNTA) is a grassroots, citizen organization that is devoted to bringing facts and logic to the national debate regarding nuclear issues. Our members support the nuclear related missions of the federal government and include individuals and corporations who are or have been involved in federal and commercial nuclear programs.

The purpose of this letter is to forward the attached paper which discusses the issues regarding the Yucca Mountain Geological Repository for the disposal of spent nuclear fuel and high-level waste. As we know you are aware, in March 2009 the Administration proposed and the Congress subsequently supported budgetary actions that reduced funding for the nation's nuclear waste repository. We recommend action on your part to restore funding to complete this project.

Dr. Susan Wood  
Board Chair  
Citizens for Nuclear Technology Awareness  
1204 Whiskey Road, Suite B  
Aiken, SC 29803

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December 12, 2008

Guest Column

By Clint Wolfe

*The Greenville News* - Greenville SC

### **New nuclear plants essential to clean energy**

There are few things more vital for resolving South Carolina's energy needs than the question of whether, in the wake of the economic bailout to stave off a financial collapse, the federal government will go ahead with its plan to provide loan guarantees to build nuclear power plants. Without the economic and environmental benefits of nuclear-generated electricity, it's unlikely we will have enough clean energy for South Carolina's economic growth, to kick our dangerous and costly foreign-oil habit, and to curb global warming emissions.

Because nuclear plants cost more to build than gas turbines but save money over the long term in lower fuel costs, Congress authorized loan guarantees as part of the 2005 Energy Policy Act. With government-backed loans, Wall Street investors are more likely to supply the capital for nuclear plant projects. But no loans have been made because the congressional appropriations process has placed an arbitrary cap on loan guarantees that falls far short of the amount needed to cover project costs.

A lack of funding now could hobble nuclear plant construction, since credit will not flow to the nuclear industry until banks have confidence in the government's willingness to stand behind their investments.

Electric utilities know they need more nuclear power to help meet the projected growth in electricity demand. They have filed applications to the Department of Energy for loan guarantees totaling \$122 billion to help finance 80 percent of the cost to construct new nuclear plants. The estimated construction cost of the projects -- which would add 28,800 megawatts of carbon-free power to the electricity grid -- is \$188 billion. But DOE is offering \$18.5 billion -- which would be enough to build no more than two plants.

What's important to recognize is that loan guarantees are not a hand out. If nuclear plant construction is managed properly, loan guarantees would cost taxpayers nothing.

Loan guarantees are used for many worthwhile purposes -- to support student loans, affordable housing, construction of the nation's transportation infrastructure, shipbuilding, steelmaking, and rural electrification. In the energy sector, Congress has authorized loan guarantees for solar and wind energy projects and clean-coal technology, in addition to nuclear plants. Experience shows that the loan guarantee program returns more to the federal treasury in dollars than it costs taxpayers, and brings significantly more in its social and economic value to society.

Because our nation's economy relies on the availability of clean electricity generation, some members of Congress have proposed the creation of a federal bank to provide loan guarantees and other types of financing support to ensure that clean energy projects obtain the necessary capital. Such a bank would be patterned on the Export-Import Bank and the Overseas Private Investment Corporation. This idea should be pursued.

Independent studies have determined that new nuclear plants will be economically competitive with fossil fuels when the first of the plants begins commercial operation in 2016. Even now, the cost of producing nuclear-generated electricity is marginally cheaper than coal and less than one-fourth the cost of obtaining power at a plant that is fueled with natural gas. And nuclear power's advantage is certain to grow once Congress sets limits on carbon emissions.

The loan guarantee program cannot solve all of the nation's energy problems. That requires a broad mix of clean energy generation -- solar, wind, clean coal technology, hydro, geothermal, and nuclear power, along

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with energy conservation. But nuclear power is the only alternative to fossil fuel for providing emission free baseload energy.

Clint Wolfe became executive director of the Aiken-based Citizens for Nuclear Technology Awareness in January 2008. For more information, go to [www.c-n-t-a.com](http://www.c-n-t-a.com).

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December 4, 2008

Opinion Article in  
*The Augusta Chronicle* - Augusta GA  
**Reprocessing spent nuclear fuel is imperative**

The Nov. 25 column by Robert Alvarez is full of assertions that require clarification and/or rebuttal.

First of all, reprocessing of used nuclear fuel is an issue because about 95 percent of the energy value in the original fuel remains in the "spent" fuel, so it begs the question of "shouldn't that valuable resource be recovered?" Secondly, the concept of fast reactors, coupled with thermal reactors and reprocessing, results in minimum waste and sustainable nuclear fuel supplies for hundreds of years.

Alvarez said "reprocessing does not significantly reduce the amount of radioactive waste ...". It is a fact that reprocessing of used nuclear fuel greatly reduces the amount of high level waste that must be placed in a geologic repository and it reduces its radiotoxicity by orders of magnitude.

He implies that the cold war flow sheets for reprocessing would create a huge waste problem if used again, but no one recommends using those methods in the future.

He says separated plutonium presents a proliferation risk, but plutonium has been kept safe in this country for 60 years and in any event, the methods likely to be chosen for reprocessing will not separate plutonium in its pure state, making it unattractive as weapons material.

He says reprocessing is too expensive. Many of the studies that led to that assertion were conducted without regard to the cost of new repository space. The licensed capacity of Yucca Mountain would be filled by the current inventory of used fuel, so even if the licensing limit is raised, there will still be a need for a new repository in the future. The current one is estimated to cost nearly \$100 billion and counting. If we commit to reprocessing in a major way we could satisfy repository needs for hundreds of years without building new ones. The social costs of the alternatives and the variable price of uranium (now several times higher than in 1996) were also missing from those studies. Perhaps more telling is that there are companies ready now to pursue reprocessing on a commercial scale.

The real issue is that future energy needs must be satisfied with a major contribution from nuclear power. This is not a debatable issue in the rest of the world as China, India, Japan, the rest of the far east, Europe, the mid-east, Africa, and even South America plan for huge new investments in nuclear energy.

The issues for us are: If we participate, where will we get the uranium? Will we be held hostage by foreign uranium producers? (hint - think foreign oil addiction). Who will make the rules for international safeguards if we aren't participating in the nuclear energy renaissance, and how will we sustain a standard of living that depends on energy without using the safest, cleanest, most reliable form of energy?

Mr. Alvarez said we would be better off investing in renewable energy and conservation. It is easy to agree that we should all use energy wisely and if we find applications for alternative energies that make sense, we should do that too. But there is a direct relationship between energy used per capita and standard of living, and those who are practicing 100% conservation live in abject poverty.

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So-called "renewable" energies cannot displace fossil fuel for baseload energy generation, so if we are to have emission-free energy security, it will be based on nuclear energy.

Reprocessing is the right thing to do from a national security, energy security, and environmental perspective. The world has moved way beyond us in this arena and we must get in the game if we want to do the right thing for ourselves and future generations.

Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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December 1, 2008

Public Service Commission - Columbia SC  
**Comments on V.C. Summer units**

Good Morning,

My name is Clint Wolfe, Executive Director of Citizens for Nuclear Technology Awareness (CNTA).

Thank you for the opportunity to express on behalf of hundreds of our members, and the overwhelming majority of citizens in South Carolina, our enthusiastic support for the construction of these two units at the site of the V.C. Summer nuclear power station.

I have knowledge of the depth of analysis that went into the cost benefit analyses that led to the decision to build nuclear instead of attempting riskier alternatives. In the end nuclear is a clear choice.

Over 50% of our electricity in South Carolina is generated from nuclear power and as a result we enjoy among the lowest rates per kilowatt-hour in the country. Nuclear is clean, emission free, safe, and reliable (about 90% availability on a scheduled basis). Nuclear is not subject to the serious drawbacks of alternative approaches to providing electricity.

Other states have commissioned professional studies to evaluate the efficacy of producing 20% of their energy by 2020 with sources such as wind and solar. They are concluding that the cost is likely to be three times the costs per kilowatt-hour generated from nuclear (Florida is a recent example). Analyses of increased wind and solar components in the energy mix also bring with them unintended consequences. Specifically, as the percent of electricity supplied by, say, wind rises, the use of natural gas also rises because of the uneven delivery of power from wind; and peaking power is largely provided by natural gas.

It is imperative that urgently needed new generating capacity avoid to the extent possible the generation of greenhouse gases. The chemistry of our planet's atmosphere and oceans is being altered by fossil fuel combustion.

Although our organization supports public investment in alternative energies for particular applications, generating base-load electrical power is not one of them. We already have the answer to that need, and that answer is nuclear power.

We urge you to expedite the processes necessary to build these plants and not to let others slow us on this race against time.

Thank you for the opportunity to address you on this very important matter.

*Produced by Citizens for Nuclear Technology Awareness.*

Clinton R. Wolfe, Ph.D.  
Executive Director  
Citizens for Nuclear Technology Awareness

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November 25, 2008

Letter to the Editor  
*Orangeburg Times & Democrat* - Orangeburg SC  
**Loan Guarantees**

The energy policy act of 2005 authorized loan guarantees of approximately \$18 B for alternative energies such as solar and wind and about \$18 B for nuclear. On the face of it, one would say that the taxpayer is willing to invest an equal amount in nuclear as in wind and solar. Wrong! There is a very high probability that the taxpayer will have to pay off the loan for the riskier alternative energy initiatives and a very low probability that we will have to pay anything for the nuclear guarantees. The latter are made for proven technology implemented by solid, successful companies. At the moment we have a safe, affordable, clean energy alternative to the use of fossil fuels, and that solution is nuclear power but we have only authorized enough loan guarantees to cover two or three plants.

Since the risk is low, why would we put a cap on the loan guarantees for nuclear power plant construction? Removing the cap on the loan guarantees for new nuclear construction will generate needed financing and provide a steady economic stimulus for years to come. There is much discussion in Congress right now about the desire to spend billions (trillions?) on infrastructure projects to boost the economy. It may be the right thing to do, but it will burden future generations with mountainous debt. Lifting the loan guarantee cap on new nuclear energy projects could accomplish the same thing and not cost us anything.

Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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October 15, 2008

Letter to the Editor  
*News & Observer* - Raleigh NC

Hugh Haskell's opinion piece on nuclear power suggests he is averse to factual information on the subject. He lists five apocalyptic horsemen - cost, proliferation, risk, waste, and water consumption.

Cost? Utilities throughout the U.S. and the world are planning to build nuclear plants to make money, not to lose money. The higher capital cost of nuclear plants is made up by much lower operating and fuel costs. Current lifetime busbar cost of electricity from a nuclear plant is \$75 per megawatt hour. That is lower than *any* alternative.

Proliferation? This is indeed a concern that must be addressed by international agreements with teeth. Rogue nations with covert programs and evil intentions must be stopped. But, it is wrong to think that curtailing nuclear production of electricity will have an influence on proliferation. The Global Nuclear Energy Partnership, when implemented, will make theft of nuclear materials much, much, harder, not easier.

Risk? Today's reactors are very safe, and tomorrow's will be much safer. Estimates are that atmospheric emissions from coal plants cause about 30,000 premature deaths annually. Worldwide, thousands die

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annually from mining accidents and natural gas fires and explosions. Nuclear power's record? Zero. The probability of a "catastrophic" nuclear accident is incredibly low - lower than the probability of being killed before dinner by a meteorite.

Waste? All of the used nuclear fuel produced in the U.S. every year could easily be stored in a couple of box cars, and its radioactivity is contained. A coal plant releases all of its waste to the environment, including over 100 times as much radioactivity as a nuclear plant. Eventually, the used fuel will be recycled because 95% of its energy value is still there. Meanwhile it is being stored quite safely.

Water Consumption? This is no show-stopper. It does indeed take a lot of water to make the steam to drive the turbines, to make the electricity that we depend on. But, nearly 98% of that water is cooled and put back into the lake or river it came from.

Malvyn McKibben  
Executive Director Emeritus  
Citizens for Nuclear Technology Awareness

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October 13, 2008

Reubuttal, to the Editor  
*Las Vegas Review-Journal* - Las Vegas NV  
**The Latent Risk Myth**

Have you ever heard someone say that exposure to some low level of radiation will lead to some number of cancer deaths? You have if you have attended Nuclear Regulatory Commission hearings on new site applications for nuclear power plants or have attended a conference of interveners. It is a favorite scare tactic. Most recently, you may have even read that the Attorney General of the State of Nevada invoked such misleading claims in legal actions against the EPA radiation standard for Yucca mountain. The argument goes something like this: "According to the Department of Energy's Office of Science, we know that an acute dose of 1000 rem (a measure of biological risk associated with radiation exposure) has an extremely high probability of killing the unfortunate one exposed; therefore, if we expose 1000 people to a dose of one rem we have the same level of certainty that one of the 1000 will die from this acute dose."

This kind of logic actually has a statistical name called "Linear Non Threshold" or "LNT" methodology. It is sort of like saying "if one person consumes 1000 aspirin tablets at once and it proves to be fatal, then if we give one tablet to an individual every day for 1000 days we should also expect him to die. Now you probably think that sounds ridiculous, and if you do then you are right, but that doesn't keep antinuclear activists from predicting latent cancer cases based on the same rationale.

More than 500 years ago, a medieval pharmacist named Paracelsus, was posed the question, "What is a poison?" His response was, "It depends on the dose". Humans must have salt in their diets to maintain appropriate body chemistry, but too much salt can kill you. The same can be said for a number of metals, e.g., selenium, arsenic, chromium, manganese, cobalt, iron and a number of vitamins and even water. This observation by Paracelsus leads logically to the concept of a dose response curve which shows toxicity increasing only after some threshold value of the agent has been exceeded.

The use of LNT methodology provides a basis for radiation exposure control which has served the nuclear industry well. It is rationalized by some as providing "a worst case scenario" when we don't know enough about the actual effect of low level radiation exposure to make accurate estimates of health effects. The reason we don't know enough is that the effects are so miniscule that they can't be accurately measured and we don't even know whether the effects are detrimental or beneficial. How can we attribute something sinister to low level exposures of millirems (one millirem equals one one-thousandth of a rem) of radiation

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when natural background levels of radiation vary widely around the earth from just less than 100 millirems to more than 25,000 millirems per year with no apparent human health effects? So there is no legitimate rationale for predicting health effects from chronic low level exposures to radiation.

The fact that antinuclear activists trot out the latent cancer arguments when fighting the nuclear renaissance is not only bad science, but it is counterproductive to their own cause since coal fired power plants, which we would hope nuclear plants would replace, emit 100 times more radiation than do nuclear plants of the same size.

It is time to eliminate the fear mongering and superstition and get on with a responsible, urgent implementation of nuclear power if we are serious about saving our planet from the ravages of carbon based energy production.

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September 28, 2008

Op-Ed Article  
*The Augusta Chronicle*

### **Chicken Little may be right after all**

For decades, those who have overdramatized the dire consequences of a particular situation have been ridiculed as being "Chicken Littles." Proclamations that the sky is falling have always been met with derision and disdain for the messenger of the foreboding news. However, in-depth analyses of our energy situation often result in "you can't get there from here" as all of the options are examined. This time Chicken Little may be right.

I like to think of myself as an optimist who believes the United States can do anything it commits to do. Therein lies the rub - commitment. Who among us believes that the U.S. could pull off another Manhattan Project or Man on the Moon program? It isn't that we don't have the talent, but rather we don't have the commitment or the leadership to help supply that commitment. The dilemma we face is as follows.

The global economy is rooted in oil. The worldwide supply of oil is peaking. Maximum oil production is at hand and future production will decline. Because we are basically chasing harder-to-access oil with energy derived from easier-to-access oil, we eventually get to the point where we are expending an amount of energy equivalent to the amount we are recovering, and at that point we stop oil production. If we merely pursue the status quo, then long before this time occurs, there will be worldwide economic chaos that will make today's economic troubles seem like the good old days.

Because we focus on higher gas prices, many don't realize that about one-third of every barrel of oil goes into production of petrochemicals. It is from this class of materials that we derive many of our common goods such as pharmaceuticals, plastics, tires, clothing, plumbing materials, and asphalt. One could make a convincing argument that if we do increase domestic oil exploration and production, then we should optimize refinery operations for petrochemicals rather than gasoline.

How then can we prove Chicken Little wrong? If it isn't too late, we can start by establishing a no-nonsense energy policy that appropriately incentivizes the development of a different energy basis for our economy. This policy should recognize the potential contributions of different forms of energy production, energy efficiency initiatives, and conservation and encourage (mandate?) their implementation. Although we should be open to all reasonable options, the only alternative energy source that could do the heavy lifting required to wean us from oil is nuclear power. Whether it is charging batteries for electric cars or making hydrogen for transportation, huge new electricity demands will be upon us as we graduate from oil and that will require a massive investment in nuclear power.

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Do we have the will and the leadership to make that investment?

Uh-oh! Gotta go. Something big and blue just fell in my backyard.

Clint Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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September 15, 2008

Remarks at Media Conference, Columbia SC  
related to Rep. Gresham Barrett's (R-SC) initiatives  
supporting nuclear development

Good afternoon ladies and gentlemen, Congressman Barrett, members of the media. I am Clint Wolfe, Executive Director of Citizens for Nuclear Technology Awareness, headquartered in Aiken, SC, home of the DOE's Savannah River Site, a unique resource in our quest for energy independence.

It is indeed a pleasure for me to speak for the overwhelming majority of people in South Carolina who have rejected the superstitions and myths perpetrated by those who have fought to keep us in the dark. Instead, the majority of people want clean, abundant, reliable, emission free, safe energy and they want it when they need it. Nuclear power is the only alternative form of energy that fits that bill for the generation of baseload electricity.

The debate over energy choices needs to recognize that every day of delay in implementing an urgently needed energy policy is contributing further damage to our planet. We need to focus on a plan with bipartisan support for nuclear power, which we are fortunate to have among our delegations in SC and GA. This makes it particularly appropriate that SC be the hub of the Nuclear Renaissance. Not only do we already generate more than 50% of our electricity from nuclear and therefore enjoy among the lowest rates per KWhr in the country, but our educational resources are aligned to propel workforce development to the fore of the renaissance.

Our technical colleges stand ready to produce the certified technicians and craftsmen necessary for a resurgent industry. USC and SCSU have reversed the previous trend of declining programs in nuclear engineering and, instead have started new programs.

The Savannah River Site presents the opportunity to have safe, secure facilities and an experienced, talented workforce to advance new technology investments to fruition.

In short, SC has all the necessary ingredients to lead the way, but we need a national commitment in a "man on the moon" sense to make it happen in time to avoid calamity. We pledge our support to help put nuclear power first and foremost in a national energy plan, and to support all legislative efforts to provide the national commitment to nuclear energy.

Thank you very much.

Clinton R. Wolfe, Ph.D.  
Executive Director  
Citizens for Nuclear Technology Awareness

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*Produced by Citizens for Nuclear Technology Awareness.*

August 20, 2008

Op-Ed Article  
*USA Today*

### **The Energy Doctor**

A funny thing happened at the doctor's office the other day. A patient was complaining to the doctor that he didn't have enough energy. The doctor said, "are you taking anything for energy now"? He said yes he was, but that what he was taking was causing 30,000 deaths annually in the U.S. alone, contributing to air pollution, global warming, and the death of our oceans and he wanted to try something else. He had heard about renewable energies and thought he would like to try one of those.

"Well," the doctor said, "we have several alternatives to what you are currently taking, but none of them are renewable." He went on to explain that energy cannot be renewed. The second law of thermodynamics precludes that. However, we do have several remedies that some people mistakenly refer to as renewable, which are more appropriately called sustainable or in some cases, inexhaustible energies. "Yeah, OK tell me more," said the patient. "Well, we could give you a shot of wind or solar which should give you some partial relief like when the sun is shining or the wind is blowing." "What do I do for energy the rest of the time?" responded the patient. "Well, you could try to not use energy during those times."

"That's it? That's all you can do to help me"? The doctor then pointed out that the patient would have to continue taking what he was currently taking for the foreseeable future while researchers search for those breakthroughs which would enable alternatives to replace his current prescription. "But that's a death sentence for thousands of people and most likely for the entire planet", the patient countered.

"Your only other alternative would be large doses of nuclear energy." The patient recoiled and immediately started a barrage of objections, too dangerous, too much waste, don't know what to do with waste, too expensive, radiation, etc. The doctor repelled each objection with crisp statements of fact. "Too dangerous? There has never been a fatality due the generation of nuclear power in this country. Too much waste? No greenhouse gas production. All the high level waste produced annually by all 104 reactors in the U.S. would fit into a normal sized house. Don't know what to do with waste? Not a technical issue. Recycle and/or repository. Too expensive? Nuclear has the lowest operating cost of all baseload energy candidates. Radiation? Nuclear plants emit 100 times less radiation than coal fired plants. Levels are inconsequential."

The flustered patient said, "if nuclear is this good, why aren't we already prescribing it for our energy woes"? "Beats the hell out of me," said the energy doctor.

Dr. Clint Wolfe  
Citizens for Nuclear Technology Awareness

July 16, 2008

Op-Ed Article  
*The Aiken Standard*

### **Do facts matter?**

One of the traits of Americans is that we love a spirited debate where we skewer the opposing view and denigrate the credentials of those who don't see things our way. We have a real donnybrook going now because our dire energy situation has led to a loud cry for drilling anywhere we can find domestic oil.

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Psychologically it is comforting to argue this point and by becoming self sufficient with oil extracted from the Arctic National Wildlife Reserve (ANWR) or the Outer Continental Shelf (OCS) we could then thumb our noses at the Mideast.

Being a nuclear power advocate, I have followed these debates closely to gauge the impact on the overall energy picture. Usually, I am making a case for nuclear power versus coal based electricity and we don't worry about oil based electrical generation because very little oil is used for this purpose. Most of the oil we consume is for transportation. If we didn't have oil, we would be running automobiles on batteries or hydrogen, both of which require electrical energy either to recharge the batteries or to electrolyze water to produce hydrogen. If the latter scenario were real then we would require enormous new baseload electrical generation capacity. Enter nuclear power.

When we run into anti-nuclear sentiment we try to evaluate the basis of that sentiment and provide factual information which we hope people will use to develop more informed opinions as opposed to emotionally based ones. So I tried to do that with the "let's drill our way out of this" argument.

First, I was shocked to find so many experts saying this was not, as I had believed, a quick solution. Seems it would be 10-15 years before oil began to flow were we to decide to exploit the ANWR and the OCS and secondly, the impact on oil prices would be negligible.

Thirdly, the average estimate of the ANWR reserves is a little over 7 billion barrels of oil or about the equivalent of one year of U.S. consumption. Similarly, the OCS estimated reserves would provide about 11 years of our current consumption. These estimates assume that we could instantaneously extract the oil for our immediate use. Obviously, it would take many years to gear up and then decades to actually pump the oil. This is not to say that we shouldn't exploit domestic reserves, just that it is not sufficient to solve the problem. Some have even suggested we should dump some portion of the Strategic Petroleum Reserve (SPR) on the market to provide a psychological effect that would cause the price of oil to plummet. The SPR has about 33 days worth of supply. This is not likely to have a lasting impact on oil prices and we would have to replace it with \$150 a barrel oil.

Additionally, the assumption we have all probably used from time to time is that we are at the mercy of the Mideast for our source of oil and we blame them for high prices. This is partially true, but not so much as we might think. According to infoplease.com in 2006 we imported 58% of the oil we consumed. Canada provided 11% of what we consumed, Mexico 11%, Saudi Arabia 9%, Venezuela 8%, Nigeria 7%, Iraq 4%, and 25 other countries 8%. These countries are all pumping at, or near, capacity. Worldwide, we are discovering about one barrel of oil for every 9 barrels that we consume. You don't need to be a mathematician to figure out that we are rapidly depleting world oil resources. Even if we were to significantly reverse the downward domestic oil production trend of the last 35 years we would have to solve the refining bottleneck as our refineries are operating at, or near, 100% of capacity.

So what is the answer? There will not be a single silver bullet. The oil based economy is not sustainable and shows ominous signs of worldwide economic calamity. We urgently need a bold new energy policy that is not centered on fossil fuels. It will probably entail a transition period with a number of approaches including drilling for new oil, conservation, expanded rail systems, increased use of public transportation, and improved fuel efficiency. It is also likely to entail rapid development of electric and hydrogen powered automobiles. The latter options require significant increases in our electrical energy output over and above that which already has been projected for increases in our electrical energy needs. Wind and solar power may be able to make niche contributions to the energy picture, but increases in energy on this scale can only be provided by nuclear power if we are to avoid the environmental catastrophe of producing that much new energy from carbon based sources. Let's get on with it before it is too late.

Cline Wolfe,  
Executive Director  
Citizens for Nuclear Technology Awareness

*Produced by Citizens for Nuclear Technology Awareness.*

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June 20, 2008

Article Submitted to

*The State*

**The Latent Risk Myth**

Have you ever heard someone say that exposure to some low level of radiation will lead to some number of cancer deaths? You have if you have attended Nuclear Regulatory Commission hearings on new site applications for nuclear power plants or have attended a conference of interveners. It is a favorite scare tactic. Their argument goes something like this: "According to the Department of Energy's Office of Science, we know that an acute dose of 1000 rem (a measure of biological risk associated with radiation exposure) has an extremely high probability of killing the unfortunate one exposed; therefore, if we expose 1000 people to a dose of one rem we have the same level of certainty that one of the 1000 will die from this acute dose." This kind of logic actually has a statistical name called "Linear Non Threshold" or "LNT" methodology. It is sort of like saying "if one person consumes 1000 aspirin tablets at once and it proves to be fatal, then if we give one tablet to a thousand people we should expect one fatality among the 1000 participants, and furthermore if we give an aspirin to 10,000 people we should expect 10 deaths, and so on." Now you probably think that sounds ridiculous and if you do then you are right, but that doesn't keep nuclear activists from predicting latent cancer cases based on the same rationale.

More than 500 years ago, a medieval pharmacist named Paracelsus, was posed the question, "What is a poison?" His response was, "It depends on the dose". Humans must have salt in their diets to maintain appropriate body chemistry, but too much salt can kill you. The same can be said for a number of metals, e.g., selenium, arsenic, chromium, manganese, cobalt, iron and a number of vitamins and even water. This observation by Paracelsus leads logically to the concept of a dose response curve which shows toxicity increasing only after some threshold value of the agent has been exceeded.

The use of LNT methodology is rationalized by some as providing "a worst case scenario" when we don't know enough about the actual effect of low level radiation exposure to make accurate estimates of health effects. The reason we don't know enough is that the effects are so miniscule that they can't be accurately measured and we don't even know whether the effects are detrimental or beneficial. How can we attribute something sinister to low level exposures of millirems (one millirem equals one one-thousandth of a rem) of radiation when natural background levels of radiation vary widely around the earth from just less than 100 millirems to more than 25,000 millirems per year with no apparent human health effects?

The fact that anti nuclear activists trot out the latent cancer arguments when fighting the nuclear renaissance is not only bad science, but it is counterproductive to their own cause since coal fired power plants, which we would hope nuclear plants would replace, emit 100 times more radiation than do nuclear plants of the same size.

It is time to eliminate the fear mongering and superstition and get on with a responsible, urgent implementation of nuclear power if we are serious about saving our planet from the ravages of carbon based energy production.

Dr. Clinton Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

*Produced by Citizens for Nuclear Technology Awareness.*

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June 1, 2008

Letter to the Editor  
*The Aiken Standard*

**U.S./Russian Cooperation Good News**

Heaven knows there has been precious little to cheer about in recent times as higher and higher gas prices prevail while international tensions persist and we struggle as a nation to deal with health care, education, and energy in general.

Against that backdrop I was invited to a dinner the other night in honor of joint work performed between the U.S. and Russia which should make us all feel good. Agreements between the U.S. and Russia call for the U.S. to allow inspection of our former plutonium production reactors at SRS and Hanford and for Russia to allow the inspection of their shutdown and plutonium producing reactors at three different sites in Russia. These inspections have been going on for about ten years now with the U.S. players being guided jointly by officials from the Department of Energy (DOE) and the Defense Threat Reduction Agency (DTRA) with major contributions, of course, from the contractors at SRS as well as Hanford. Although the teams change players occasionally, for the most part there is continuity that allows time for relationships to build and to develop respect for the members of the other team. Thus, the dinner to which I was invited as representing the interested citizenry of the area demonstrated that the watchdog approach to the enforcement of this nonproliferation agreement had fostered considerable respect among the two groups as well as genuine friendships.

What these two teams are doing is serious business, but their success illustrates that well meaning people searching for common ground can be a mighty force. They deserve our deepest gratitude. Hmmm, I wonder if we could apply this approach to any of the other issues confronting us?

Dr. Clinton Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 4, 2008

Opinion Article for  
*Spartanburg Herald-Journal*

**Nuclear Concerns: Real and Imagined**

I attended two public hearings recently concerning the environmental impacts on two proposed nuclear power plant sites. One was in Georgia and one was in Gaffney, S.C. All in all I listened to more than five hours of statements both pro and con relative to the proposed new plants. Those opposed seemed to have both real (based on experience) and imagined (not based on experience) concerns.

Real concerns were typified by one resident who believed that a proposed transmission line from the plant would cut across property on which he intended to build a home. Other real concerns were related to the impact of the water usage. This is a real concern for any steam based power producer. Still other concerns centered on cost. In these times of escalating commodity and construction costs it is difficult to pin down a good estimate of final costs 10 years hence. It would be so for any method of power production. These are real concerns, but they are not showstoppers and can be resolved.

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Imagined concerns were the most troubling to me because it was obvious some citizens have very genuine concerns which are fed by people and organizations disseminating false information. For example, there was a grandmother concerned that the health of her grandchildren would be endangered by tritium in the drinking water. Utilities must comply with environmental law and standards. They are required to monitor groundwater and theoretical release points to ensure they are not releasing tritium into the environment. These concerns are fanned by persons with official sounding titles representing professions that should have credibility, such as physicians. They insist on perpetrating a hoax that there are cancer clusters around nuclear power plants. There has never been a credible study that showed any causal relationship between nuclear plants and cancers of any type.

Other concerns ranged from the "dangers" of transporting large volumes of "deadly or lethal" nuclear waste to building a "nuclear bomb." Nuclear waste never killed anybody. There have been hundreds of thousands of shipments of radioactive materials worldwide over the last 60 years without incident. Opponents of nuclear power would have you believe we are awash in high level nuclear waste. Not true! The annual production of high level waste by all of the nuclear plants in the country would not even fill one railroad car. Compare that to the incredible amounts of coal ash, slag, and millions of tons of carbon dioxide put into our air by burning fossil fuels. Lastly, there was the inevitable claim that the utility was building a nuclear bomb right in our backyard. It simply is not possible. The fuel used in commercial nuclear reactors cannot be used as a nuclear weapon.

If we are to save our planet from the ravages of real concerns, such as global warming, air pollution and the increasing acidity of our oceans (due to carbon dioxide absorption) we must aggressively pursue the implementation of new nonpolluting nuclear power plants, as they represent the only real alternative to fossil fuels for baseload electrical energy production.

Dr. Clinton Wolfe  
Citizens for Nuclear Technology Awareness

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May 21, 2008

Letter to Vern Anderson  
Editor of the Editorial Page  
*The Salt Lake Tribune* Newspaper

I am dismayed to observe the fuss that has been made over the possibility of low level waste from Italy being disposed of in Utah. It will make a miniscule addition to the same type of waste already being disposed of at the Utah site by a conscientious, law abiding, safety minded company. All along the proposed route from Italy somebody protests the "dangers" of transporting the cargo.

We know about radioactive waste here in Aiken, South Carolina, home of the Department of Energy's Savannah River Site, and because of good stewardship, our local citizens are comfortable with the management of the nuclear materials there.

Our neighboring community, Graniteville, experienced a train derailment, which spewed a deadly cargo of chlorine gas over the community. Nine people died, 250 were injured, some seriously, and claims for damages to property and businesses ran into the hundreds of millions of dollars. Many lost their jobs because equipment in some businesses could not recover from the exposure to the corrosive gas.

Just imagine that the train that derailed in Graniteville was carrying nuclear waste. No one would have died. No one would have been injured. No property damage would have occurred. No jobs would have been lost. No one would have lingering injuries. No lives would have been altered forever.

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No fatalities or serious injuries have ever been caused by the hundreds of thousands of nuclear material shipments around the world, yet many blanch at the thought of radioactive materials on our highways and our rail systems. Radiation doses to the public and any hypothetical health effects from such shipments are too infinitesimally small to credibly estimate.

The next time you are on the interstate dodging tankers carrying chlorine or gasoline, or ammonia, or concentrated nitric or sulfuric acid, snuggle up to the truck with the yellow sign with the magenta trefoil that says "radioactive material." It is a whole lot safer than the others.

Dr. Clinton Wolfe  
Executive Director  
Citizens for Nuclear Technology Awareness

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May 20, 2008

Letter to The Editor  
*Scientific American*

**Re: Rethinking Nuclear Fuel Recycling**

In his article in your May issue F.J. von Hippel made two arguments that demand at least a reexamination if not outright rebuttal. First, he makes the point that recycling is expensive, perhaps \$50B to process the 62,000 tons of fuel currently in interim storage, but destined for Yucca Mountain. This inventory would almost fill the repository. No credit is given to recycling for avoiding the cost of multiple Yucca Mountains which will be necessary to handle the used fuel if we build the number of nuclear power plants that we need. Those costs make recycling cost effective.

Secondly, he makes the point that plutonium separated during recycling might fall into the wrong hands. This is not a given as we have made plutonium in this country for 60 years and kept it safe. Additionally, not all recycle schemes produce pure plutonium.

The Department of Energy's GNEP concept may need some work, but it is a step in the right direction. A recycling plant co-located with a power reactor and a fast burner makes a lot of sense. The material would never leave the site except when the final waste products are shipped out to either Yucca or to the Waste Isolation Pilot Plant (a facility in New Mexico currently receiving defense transuranic waste) where they would occupy much less volume than the used fuel. These two repositories could handle our nuclear high level wastes for hundreds of years if we recycle.

Lastly, if we want to help make the international nuclear rules, we need to be in the game.

Clinton R. Wolfe, Ph.D.  
Executive Director  
Citizens for Nuclear Technology Awareness

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March 23, 2008

Guest Editorial  
*The Augusta Chronicle*

**The Nuclear Power Renaissance**

There is no doubt that a renaissance of nuclear power is underway in the U.S. and around the world. The U.S. Nuclear Regulatory Commission, which licenses and regulates commercial nuclear activities, has received expressions of interest for building 32 new reactors. They have received four license applications for combined construction and operation, and several utilities have submitted Early Site Permits, including

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Southern Nuclear (Georgia Power) and Duke Power. Many other countries are building new reactors or plan to do so, including Canada, Brazil, England, France, Bulgaria, Ukraine, Finland, Russia, China, Japan, South Korea, and many others.

The reason is clear. People have become aware that for several decades, nuclear power has had an incredibly good record of safety, environmental protection, and low costs, and everyone wants a way to produce electricity that does not pollute. A wise person once said, "Facts are stubborn things". Here are some pertinent facts.

**Safety** - No one has died from the radiation from power reactors, spent fuel, or radioactive waste except for the Chernobyl accident which could not happen any where else, yet the only competitors of nuclear power, coal and natural gas, each cause several thousand deaths each year, worldwide, from coal mining accidents and gas explosions and fires. In addition, The Center for Disease Control and Prevention has estimated that 30,000 people die prematurely each year in the U.S. from the emissions of coal-powered plants. Nuclear is safer by a huge margin, and the next generation of nuclear plants, already designed and being built, will be even safer.

**Environment** - The outstanding environmental record of nuclear power plants is becoming legendary. They have no emissions that make acid rain, smog, global warming, ozone depletion, or heavy metal pollution. For these reasons, many professional environmentalists and ecologists support nuclear power. A partial list includes: Dr. Patrick Moore, founder and past President of Greenpeace, Stewart Brand, founder of the Whole Earth Catalogue, James Lovelock, considered the founder of the environmental movement, Anglican Bishop Hugh Montefiore, Friends of the Earth, and Jonathan Lash, President of the World Resources Institute. And, Environmentalists for Nuclear Power, a worldwide organization, has several thousand members.

Global warming is indeed occurring, and the principal human contributor is carbon dioxide released into the atmosphere from the burning of trees, coal, oil, and gas. Fortunately, we can do something about that without reducing our standard of living by going to nuclear production of electricity and using hydrogen for transportation. It is likely that the cheapest way to make hydrogen will be in nuclear plants.

**Cost** - The operating cost for making electricity in nuclear plants is lower than any of its competitors; in 2006, nuclear plant operating cost in the U.S. averaged 1.72 cents per kilowatt-hour, coal 2.37, natural gas 6.75 and oil 9.63. Since then, the cost advantage of nuclear over coal has grown in part because coal plants are spending money to reduce their emissions. If construction costs are included, nuclear is already competitive, and is expected to gain an advantage as the price of new nuclear plants comes down, and the cost and time to get licenses is reduced.

**Public support** - Americans have become aware of these advantages, and are supportive of nuclear power. Several national polls show that 68 to 70% of adult Americans support building more to meet our growing need for electricity. Support among people living near existing nuclear plants is 87%, and among college graduates with a technical degree, 85%.

In spite of this, a small minority of anti-nuclear zealots are mobilized to oppose all things nuclear. For example, they claim that even a tiny amount of radiation is dangerous. If that were true we would all be dead from the 370 millirem annual "background" radiation that we all receive, without harm, from natural sources plus medical and dental x-rays. There is no evidence that our background radiation is harmful.

The anti-nuclear community also exaggerates the problem of used nuclear fuel. When nuclear fuel is removed from a reactor, it is stored in cooling ponds at the reactor site until its radioactivity had decayed enough to be stored dry at the site in large shielded casks on concrete pads. These operations are quite safe, and well protected from terrorist attack.

Ultimately, used fuel will be recycled. That will do several important things - recover the remaining 95% of the energy value that is still there, greatly reduce the radioactivity in the final waste, and allow all of the

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waste for the next 100 years, or longer, to be disposed of in Yucca Mountain. The cost of disposing of the waste will be greatly reduced. Yucca Mountain geologic repository will be opened eventually, but there is no urgency to do so.

Anti-nukes incorrectly claim, based on a couple of epidemiological studies, that people living near nuclear plants have an increased risk of developing leukemia. The incidence of leukemia varies widely with location. When a location with high incidence happens to be near a nuclear plant the anti-nukes say "Ahah! The nuclear plant did it!" This ignores the hundred of independent and scholarly studies that have concluded the opposite.

The nuclear renaissance is real. It is already occurring. And, folks who want cheap electricity and a clean environment are happy about that.

Dr. Susan Wood, Board Chair  
Mal McKibben, Consultant  
Citizens for Nuclear Technology Awareness

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February 7, 2008

Letter to the Editor  
*The State Newspaper*

Your guest editorial Tuesday, February 5 entitled "Nuclear misplaced among renewables" took issue with the inclusion of nuclear energy in the definition of "renewable" energy for purposes of the "Plan for State Energy Policy" in the "South Carolina Energy Efficiency Act." Two of the purposes of that plan are (1) "ensure access to energy supplies at the lowest practical environmental and economic cost" and (2) "ensure long-term access to adequate reliable energy supplies." Nuclear energy is the only source that can meet these criteria.

The editorial says that uranium is a finite resource that we import from outside South Carolina at significant cost. The fact is that the cost of producing energy per kilowatt hour is less with nuclear energy than with any other energy source and there is enough uranium in the world to last several hundred years.

The claim that solar, wind and geothermal energy are nearly free of environmental impacts also demands clarification. It takes approximately 50 square miles of solar panels to generate 1000 MW of energy, which is generated in a nuclear power plant on less than 1/3 of a square mile of land. Approximately 200 square miles are required for wind generation of 1000 MW, and thousands of square miles of biomass are required to produce 1000 MW of electricity. In addition, the production of solar panels involves the use of extremely toxic materials that must be discarded in a carefully regulated manner.

The claim is made that no one considers nuclear to be a renewable source. That is not true. The pursuit of breeder reactors promised nearly inexhaustible energy and, as far back as 1983, the noted Professor B. L. Cohen at the University of Pittsburgh published an article in the *American Journal of Physics* entitled "Breeder reactors: A renewable energy source." The prestigious American Nuclear Society (ANS) published a position statement in 2005 entitled "Fast Reactor Technology: A Path to Long-Term Energy Sustainability." In 2005 the ANS supported President Bush's contention that nuclear belongs among the renewable sources of energy.

South Carolina is to be commended for including nuclear power in its definition of renewable energy sources. Other renewables can meet only a very small percentage of energy needs. Our organization supports the use of all forms of renewable energy in the niche markets for which they are best suited, and we support incentives for the development of renewable energy sources; however, we object to spending taxpayer money in a disproportionate manner compared to nuclear when the latter is clearly the only alternative for displacing fossil fuels for the generation of baseload electrical power.

*Produced by Citizens for Nuclear Technology Awareness.*

Clinton R. Wolfe, Ph.D.  
Executive Director  
Citizens for Nuclear Technology Awareness

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February 1, 2008

Letter to the Editor  
*USA Today*

There are many ways to deal with spent nuclear fuel that are technically acceptable. Sending it to Yucca Mountain is a very workable solution except that some Nevadans do not want it. Never mind that the Nevada Test Site (home of Yucca Mountain) has experienced more nuclear testing than any place on earth. In the meantime, the American taxpayer is paying fines to the utilities because Yucca is not available.

Used fuel is a valuable resource because it retains 95% of the energy value in the original fuel and is reprocessed to recover that energy in England, China, Russia, France, and Japan. So a second way to deal with it is to reprocess, which requires some investment, but is less expensive than spending \$500M annually and still not getting Yucca operational. The waste from reprocessing has a much shorter half life than spent fuel, occupies much less volume, and enables a facility such as Yucca to accommodate many more years of power generation than the original design basis assumed.

Also, waste from reprocessing could be containerized like that being sent to the Waste Isolation Pilot Plant (WIPP) and disposed of in that facility. The New Mexicans have been very supportive of their WIPP. This facility has operated successfully for several years and has been an economic boon to the Carlsbad area.

It is easy to find technical, but not political, solutions. Hopefully, we can generate the support required to move this issue off dead center and down the track of resolution. Our future depends upon it.

Clinton R. Wolfe, Ph.D.  
Executive Director  
Citizens for Nuclear Technology Awareness

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September 21, 2007

Letter to Warren Bolton  
*The State*

There has been a great deal of controversy - and misinformation -- about government loan guarantees for new nuclear power plants. Unfortunately, this has thrown a gigantic roadblock in the way of efforts to move ahead with construction of nuclear reactors that are vitally needed.

The Energy Policy Act, which Congress approved in 2005, is supposed to provide guarantees for loans to fund new nuclear plants and other "innovative" clean-energy technologies, with the goal of reducing greenhouse-gas emissions. What is at issue is whether the funding will be approved.

The loan guarantee program is designed to be self-financing, with banks responsible for underwriting the cost to the government of providing the credit support. There would be no cost to the taxpayer.

The loan guarantees will allow new nuclear plants into the market quicker than would otherwise be the case. The guarantees will enable companies to lower financing costs for construction, thereby reducing their cost

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of capital. Thus, consumers' cost of electricity would be substantially less. Over its full commercial life, the life-cycle price of power from a new nuclear plant could be reduced from 8-11 cents per kilowatt hour to 6-7.5 cents per kilowatt hour, cutting the cost of electricity by about one-third.

Companies are preparing to invest in a new generation of nuclear power plants, which will cost \$4 or \$5 billion each. This amount is very large relative to the size of the companies making the investments. So without loan guarantees for new plants, some companies may be unable to secure the financing necessary.

Contrary to claims of some critics, the size of loan guarantees would not be indeterminate. They are limited by amounts Congress provides from one year to the next. The money must be available before any loan can be guaranteed and total guarantees cannot exceed fund balances.

Nuclear plants must compete for loan guarantees with other innovative technologies such as those for capturing and sequestering carbon dioxide emissions from coal plants, coal to liquids projects, advanced designs for fuel-efficient vehicles, and technology to produce ethanol from switch grass and other cellulosic sources.

Meanwhile, the climate for nuclear power construction is improving. Sixteen companies are gearing up to file license applications with the Nuclear Regulatory Commission to build as many as 35 new nuclear plants and do it in the near term. We will need at least this many nuclear plants by 2030 if we have any hope of addressing global warming and enhancing our nation's energy security.

We urge our congress to approve these loan guarantees promptly.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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September 5, 2007

Op-Ed Item  
*The Spartanburg Herald*  
Spartanburg SC

Some newspapers, elected officials, and anti-nuclear activists in South Carolina are determined to close the Chem Nuclear low-level waste repository in Barnwell County. Sadly those efforts have relied on misinformation and baseless fear. It is time to step-back and examine factual benefits and costs.

First, the facility has provided essential services to the nation for 36 years, disposing of low-level waste from universities, hospitals, and utilities. It has been monitored and regulated by the South Carolina Department of Health and Environmental Control (DHEC).

There have been two major independent appraisals of their practices, one by the Nuclear Regulatory Commission and another by "Blue Ribbon" committee appointed by DHEC. Here are some highlights of those appraisals.

- There has never been an environmental release above regulatory limits.
- Many hundreds of samples taken from onsite and offsite wells have never found a concentration of radioactivity that could exceed DHEC or EPA drinking water standards in any public drinking water.
- Monitoring airborne radioactivity has always shown that it is simply too low to be of significance. In fact, it is so low that it cannot even be detected.
- The safety record on the Chem-Nuclear site has been outstanding, with very low worker radiation doses, and no lost-time accidents for the past 13 years.

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- The NRC report specifically said "... the facility will have no appreciable effects on air quality", and "The potential for contamination of local streams ... is highly unlikely", and "... any potential accident postulated ... will not result in significant damage to the environment."
- The blue ribbon committee concluded that "... the Barnwell Facility poses a minimal risk to either the public or the environment at the present time as well as into the long-term future." Their only recommendation was to remove some unnecessary "conservatism in ... calculations, such as not taking into account the decay rate of tritium" in transit underground.
- In the late 1970s, tritium (a radioactive isotope of hydrogen) was detected in shallow groundwater beneath the site. Considerable effort was expended to prevent future tritium migration by improved placement designs. More recent samples taken at the point of compliance, where groundwater leaves the Chem-Nuclear site and enters the Savannah River Site (SRS) in Mary's Branch, showed that the concentration of tritium is so low that if a hypothetical (non-existent) person at that location drank two liters (about a quart) of that water every day for a year he (or she) would get an insignificant radiation dose of 5.7 millirem. Mathematical modeling based on trench samples indicated the maximum possible future (hypothetical) dose at the compliance point could be no higher than 13 millirem.

That's about what a person gets from a couple of chest x-rays. The DHEC limit at that point is 25 millirem. For comparison, the average person in the U.S. receive about 370 millirem from all sources. This 25-millirem limit is somewhat silly since there is no public access to the water until it eventually enters the Savannah River. The radioactivity in the Chem-Nuclear discharge is diluted by a factor of about three as it enters Mary's Branch, and is diluted further, probably by a factor of six to ten, when Mary's Branch enters Lower Three Runs creek. That water then enters the Savannah River. In the river, it is further diluted by a factor of thousands. The bottom line here is that there is certainly nothing for anyone downstream to worry about, as the NRC report had already pointed out.

It is obvious that these facts contradict some of the opinions expressed recently in editorials, statements by some elected officials, and anti-nuclear activists.

The Barnwell facility is highly regulated by well-qualified experts. An onsite DHEC inspector closely monitors all activities and inspects and approves every incoming waste shipment. If a shipment does not meet requirements, it goes back where it came from. DHEC examines all survey data collected by Chem-Nuclear and independently analyzes samples to confirm the Chem-Nuclear data.

Over the years, the site has implemented a number of improvements. The design of the trenches where waste is buried, the use of polyethylene high integrity containers, concrete disposal vaults, and engineered trench closures have greatly reduced the potential for significant amounts of radioactivity to reach the groundwater. The trenches were sloped to the side and along its length with a monitored collection sump should any water be present. The engineered cap that covers the trench for closure has five layers, including a geosynthetic clay layer and a high-density polyethylene layer. The cap is very well designed to eliminate surface water intrusion after closure.

The economic value of the facility has been questioned. Barnwell County gets almost 3 million dollars, which is about 16% of their county budget. The site has 51 employees who take home about \$4 million in salary and benefits, which is well above Barnwell's average. Barnwell County benefits even more because many of the site's procurement dollars are spent there, and there are Barnwell businesses that perform work for the site. In addition, this year the state will receive over \$11 million that goes directly in the state's education budget.

Nearly all articles and editorials used the word "dump" to describe the facility. That clearly indicates a bias because "dump" is a pejorative word, deliberately used create a negative impression .

Fears that South Carolina could become the nation's "dump" for low-level waste are without merit. In 2005, Chem-Nuclear received only 2/10 of 1% of the total low-level waste that was disposed of in the United States.

In summary, the Chem-Nuclear low-level waste repository meets a vital national need for safe disposal of low-level wastes from hospitals, universities, commercial businesses, and nuclear power plants, and in doing so it provides valuable economic benefits to the area. There is simply no reason to shut this facility down or restrict its operation.

Dr. Susan Wood, Chairperson  
 Mal McKibben, Executive Director  
 Citizens for Nuclear Technology Awareness

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August 27, 2007

Letter to the Editor  
*The Aiken Standard*,  
 Aiken SC  
*The State*,  
 Columbia SC  
*The Island Packet*,  
 Hilton Head Island SC

An article was printed August 20 in the *Aiken Standard*, implying some dire threat from tritium found in groundwater beneath the Chem-Nuclear low-level waste disposal site. It was very misleading. The article was based on a long and very misleading article by Sammy Fretwell in *The State* newspaper August 19.

What was not stated was that the article contained nothing new even though that was implied. The situation that caused the tritium to be in ground water under the site happened thirty years ago and was corrected. All information regarding tritium has been well known to SCDHEC and anyone interested for all of that time. No new leaks are believed to have occurred.

That contaminated water does not flow toward local wells or drinking water supplies. As it flows, quite slowly, through the site it is greatly diluted. It flows out the east side of the site into Mary's Branch. At that point, it does not exceed drinking water standards. In fact, if someone could drink a liter of water every day at that point (they can't) the radiation exposure would be only 20% of the safe limit. There is no public access until it eventually enters the Savannah River where the tritium concentration is far below drinking water standards.

There is no threat here and nothing new.

Mal McKibben Executive Director , CNTA

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August 6, 2007

Letter to the Editor  
*The New York Times*  
 New York, New York

Your 8/3/07 article titled "Building Starts on Plant to Convert Plutonium" on the construction of the Mixed Oxide (MOX) Fuel Fabrication Facility was appreciated.

*Produced by Citizens for Nuclear Technology Awareness.*

This has a long history. The first President Bush recognized that a thoughtful decision would be needed on how to dispose of tons of weapons-grade plutonium if his START initiatives were successful. National Security Advisor Brent Scowcroft asked the National Academy of Sciences (NAS) to identify best options. Two NAS committees wrote reports concluding that fissioning (burning) the plutonium by using it as fuel in commercial reactors would be a good way to do it. DOE then created committees to assess options, and they chose the MOX option.

Most opposition has come from people and organizations with long histories of opposing nearly everything nuclear. Most legitimate organizations that are concerned about the proliferation of nuclear weapons support it as a genuine "swords into plowshares" program.

J. Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 4, 2007

Letter to the Editor  
*The Augusta Chronicle*  
Augusta, Georgia

### **Don't buy those nuclear scare tactics**

A recent news report ("Cancer rate near Vogtle questioned," June 21) and a letter to the editor ("Report highlights nuclear dangers," June 25) have attacked Georgia Power's plans to build two more reactors at Plant Vogtle, near Waynesboro. The charges leveled in both attacks, by long-time anti-nuclear zealots, are at best misleading.

One report said cancer rates around Burke County have increased since Plant Vogtle began operation, implying that Plant Vogtle was the cause. Hundreds of studies around the world, and dozens around Savannah River Site, have shown that nuclear plants do not contribute to illnesses, especially cancer. To suggest otherwise is highly irresponsible.

The other said that low levels of radiation, specifically from plants such as Plant Vogtle, are harmful to health. This is a subject that has been studied intensely for more than 50 years. We know very well that radiation doses above 10,000 millirem can have harmful effects. We all get about 370 millirem of radiation annually from background environment, and that causes us no harm at all. If you lived directly outside the fence at Plant Vogtle, you might get an additional 1 to 5 millirem a year, which would be insignificant.

The anti-nuclear zealots try to frighten people with their scares du jour, but facts are facts. There is no threat here.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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July 5, 2007

Letter to the Editor  
*The Idaho Statesman*  
Boise, Idaho

The letter in the July 4 issue on nuclear power by Audra Green and Doug Paddock appears to be deliberately misleading.

*Produced by Citizens for Nuclear Technology Awareness.*

Nuclear uses "vast amounts of water"? They give the example of Georgia's Plant Vogtle "which uses 64 million gallons of water." That's what is taken out of the river. Most of that is put back in after it is cooled. The net loss to the river is only the amount that goes into the atmosphere as vapor.

The only ways to supply the base-load electricity for the nation's growth and quality of life are nuclear, coal, and natural gas. Of these, nuclear is the cleanest, safest, and cheapest. Wind, solar, and geothermal will be used, but those can only supply niche markets. Their letter also says, incorrectly, that ".....nuclear energy produces vast amounts of hazardous and highly radioactive material". Coal plants release their waste - heavy metals, carbon dioxide, and more radioactivity than nuclear directly to the environment. Nuclear contains theirs. Nuclear waste has never injured or killed anyone, but coal plant releases cause about 10,000 premature deaths per year according to the Centers for Disease Control, and another 5,000 to 8,000 people die every year worldwide from coal mining accidents and also from natural gas fires and explosions.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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March 26, 2007

*The State* Newspaper  
Columbia, South Carolina

#### **Guest Editorial: Chem-Nuclear**

In 2000, South Carolina enacted Act 357 prohibiting Chem-Nuclear's low-level waste repository in Barnwell from receiving waste from states other than New Jersey and Connecticut after July 1, 2008. At that time, the state joined with those two states to form the Atlantic Compact for low-level radioactive waste disposal.

Recently, however, a bill was submitted that would allow the repository to continue receiving low-level waste from other states for 15 more years. This proposal has generated letters, editorials, and speeches in opposition. Sadly, nearly all of this opposition has been based on groundless fears, and presented with great emotion and exaggeration. For just one example, nearly all used the word "dump" to describe the facility. That clearly indicates a bias because "dump" is a pejorative word, deliberately used create a negative impression.

We write to contribute factual and objective information to the public discussion. Our organization, Citizens for Nuclear Technology Awareness (CNTA), is the nation's largest independent, citizen-based nuclear education group.

To begin, we should examine the site's performance over the past 36 years. We don't have to guess about it because there is a massive amount of data, not just from Chem-Nuclear documents, but also from their regulator, South Carolina's Department of Health and Environmental Control (DHEC), and from two very large independent and expert appraisals, one by the Nuclear Regulatory Commission (NRC) and another by a prestigious "Blue Ribbon" committee appointed by DHEC. Here are some highlights.

- There has never been an environmental release above regulatory limits.
- Many hundreds of samples taken from offsite wells have never found a concentration of radioactivity that could exceed DHEC or EPA drinking water standards in any public drinking water.
- Monitoring airborne radioactivity has always shown that it is simply too low to be of significance. In fact, it is so low that it cannot even be detected.
- The safety record on the Chem-Nuclear site has been outstanding, with very low worker radiation doses, and no lost-time accidents for the past 13 years.

*Produced by Citizens for Nuclear Technology Awareness.*

- The NRC report specifically said "... the facility will have no appreciable effects on air quality." and "The potential for contamination of local streams ... is highly unlikely." and "... any potential accident postulated ... will not result in significant damage to the environment."
- The blue ribbon committee concluded that "... the Barnwell Facility poses a minimal risk to either the public or the environment at the present time as well as into the long-term future." Their only recommendation was to remove some unnecessary "conservatism in ... calculations, such as not taking into account the decay rate of tritium" in transit underground.

In the late 1970s, tritium (a radioactive isotope of hydrogen) was detected in shallow groundwater beneath the site. Considerable effort has been expended to prevent future tritium migration by improved placement designs. More recent samples taken at the point of compliance, where groundwater leaves the Chem-Nuclear site and enters the Savannah River Site (SRS) in Mary's Branch, showed that the concentration of tritium is so low that if a hypothetical (non-existent) person at location drank two liters (about a quart) of that water every day for a year he (or she) would get an insignificant radiation dose of 5.7 millirem. Mathematical modeling based on trench samples indicated the maximum possible future (hypothetical) dose at the compliance point could be no higher than 13 millirem. That's about what a person gets from a couple of chest x-rays. The DHEC limit at that point is 25 millirem. For comparison, the average person in the U.S. received about 370 millirem from all sources. This 25-millirem limit is somewhat silly since there is no public access to the water until it eventually enters the Savannah River. The radioactivity in the Chem-Nuclear discharge is diluted by a factor of about three as it enters Mary's Branch, and is diluted further, probably by a factor of six to ten, when Mary's Branch enters Lower Three Runs Creek. That water flows into the SRS then enters the Savannah River. In the river, it is further diluted by a factor of thousands. The bottom line here is that there is certainly nothing for anyone downstream to worry about, as the NRC report had already pointed out.

It is obvious that these facts contradict some of the opinions expressed recently in editorials, statements by some elected officials, and by some anti-nuclear activists.

The Barnwell facility is highly regulated by well-qualified experts. An onsite DHEC inspector closely monitors all activities and inspects and approves every incoming waste shipment. If a shipment does not meet requirements, it goes back where it came from. DHEC examines all survey data collected by Chem-Nuclear and independently analyzes samples to confirm the Chem-Nuclear data.

Over the years, the site has implemented a number of improvements. The design of the trenches where waste is buried, the use of polyethylene high integrity containers, concrete disposal vaults, and engineered trench closures have greatly reduced the potential for significant amounts of radioactivity to reach the groundwater. The trenches are sloped to the side and along their length with a monitored collection sump should any water be present. The engineered cap that covers the trench for closure has five layers, including a geosynthetic clay layer and a high-density polyethylene layer. The cap is very well designed to eliminate surface water intrusion after closure.

Some have questioned the economic value of the facility. Barnwell County doesn't agree with that; the almost 3 million dollars per year they get from the facility is about 16% of their county budget. The site's 51 employees don't agree with that either. As a group they take home about \$4 million in salary and benefits, which is well above Barnwell's average. Barnwell County benefits even more because many of the site's procurement dollars are spent there, and there are Barnwell businesses that perform work for the site. In addition, this year the state will receive over \$11 million that goes directly in the state's education budget. I doubt if the State Board of Education considers that an insignificant amount.

Fears that South Carolina could become the nation's "dump" for low-level waste are without merit. In 2005, Chem-Nuclear received only 2/10 of 1% of the total low-level waste that was disposed of in the United States.

In summary, the Chem-Nuclear low-level waste repository meets a vital national need for safe disposal of low-level wastes from hospitals, universities, commercial businesses, and nuclear power plants, and in doing so; it provides valuable economic benefits to the area. There is simply no reason to shut this facility down or restrict its operation.

Dr. Susan Wood, Chairperson  
James Malvyn McKibben, Executive Director  
Citizens for Nuclear Technology Awareness

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March 23, 2007

Letter to the Editor  
*The Aiken Standard*  
Aiken, South Carolina

A couple of days ago the Blue Ridge Environmental Defense League (BREDL) held a press conference and released a report claiming that non-radioactive emission (toluene, oxides of nitrogen, hydrogen sulfide, etc.) were being released from SRS and endangering the health of people who live around the site. They based this on air samples taken in communities around the site.

Their report does not stand up to a scientific examination. It tries to look like a bona-fide scientific report, but it is not. As the old adage goes: "You can't tell a book by its cover."

The total number of samples taken was only five, far too few to be statistically significant. No data is given on the quality control of the analytical methods used. The chemicals that were reported to be found in the samples are very common industrial chemicals that would be detected in any community almost anywhere in the country. And there is no reason to believe that chemicals found in air samples from New Ellenton, Jackson, or Hattiesville actually came from SRS.

The air emissions from the stacks at SRS are very carefully measured and reported to SC Department of Health and Environmental Control (DHEC) and in an annual environmental report. These emissions are far below EPA limits. The claim in the report that the cumulative effect of these chemicals is not considered is simply wrong.

If the site emissions were high enough to endanger the health of residents around the site then DHEC records of county-by-county incidents of cancer and mortality would show that. They do not. For example, of the 46 counties in South Carolina, Aiken County is 38th in cancer frequency.

For BREDL to raise the specter of negative health effects based on their findings, and to imply that SRS is the primary or sole culprit, is at best a careless interpretation of their meager data ... or at worst, a dishonest use of it.

Literally, dozens of organizations have conducted studies of the health of area residents and SRS employees. The overwhelming results have been that SRS has no adverse effects on health. The most recent of these was a very long and detailed study by the Centers for Disease Control.

So dozens of unassailable scientific reports have found no health effects but the BREDL thinks all of those are wrong. BREDL is an organization of anti-nuclear zealots, and they have no credentials in nuclear science or environmental science. Their pronouncements, including this report, cannot be taken seriously.

Mal McKibben  
Executive Director  
CNTA

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*Produced by Citizens for Nuclear Technology Awareness.*

March 1, 2007

Letter to the Editor  
*The Augusta Chronicle*  
 Augusta, Georgia

Sir:

Mr. Henry Gurr wrote in yesterday's, 2/28 *Augusta Chronicle* that he attended the February 15 public scoping meeting on the Global Nuclear Energy Partnership and was troubled that no one addressed what he thought were the "negative aspects" of the program.

He wrote: "There are plenty of alternate sources of energy, such as solar and wind...". No bona-fide study of energy options for the future has come to that conclusion; not even nearly. The forecast need for electricity, worldwide, is expected to double by 2030. The most optimistic estimates for wind and solar are that they can produce only a small percentage of that. Where wind power and solar power make sense they should, and will be, used. But they both suffer from the disadvantage that the wind doesn't blow all the time, and the sun doesn't shine all the time.

He also wrote: "Why do they say nothing about this terrorist-nuclear weapons (proliferation) problem?" A major advantage of GNEP is that it just about eliminates proliferation concerns. The recycling of used fuel from commercial power reactors and the fabrication of recycled fuel would occur in only a handful of nations that already have extensive nuclear programs. The facilities to do those things would be designed for security and would have security forces on-guard continuously. They will be armed fortresses. The International Atomic Energy Agency (IAEA) would have persons onsite at all times keeping continuous account of fissile materials. Opportunities for theft of either enriched uranium or plutonium would be nearly eliminated.

Finally he noted: "Most speakers ... hoped to gain ... more jobs, higher pay, higher living standards and generally better local economy." Gee! Most of us think those are pretty good things.

Mal McKibben  
 Executive Director  
 CNTA

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February 15, 2007

Guest Editorial  
*The Greenville News*  
 Greenville, South Carolina

**Congress needs to help NRC approve nuke applications**

*The federal budget impasse threatens to delay new reactor construction here and nationwide.*

By J. Malvyn McKibben

Because we dare not gamble with something as fundamental as electrical supply, the biggest problem we face with nuclear power is not having enough of it. The government has provided incentives to kick-start the renewal of nuclear power plant construction but that will be in jeopardy if the Nuclear Regulatory Commission (NRC) can't quickly process the applications for licenses. At this time, NRC does not have sufficient staff to do that and the budget for the necessary additional money is uncertain.

*Produced by Citizens for Nuclear Technology Awareness.*

With the cost of natural gas and coal soaring, we're now paying the price for a decade of underinvestment in new nuclear capacity. Electrical reserve margins are shrinking fast and here in South Carolina we will need more electricity for our growing population and economy.

Clearly, the decision of our utilities to renew the operating licenses of the seven nuclear power plants in South Carolina was the correct energy choice for our state. Now all of the reactors at the Catawba, Oconee, Robinson and Summer plants will be able to continue operating for an additional 20 years, generating electricity while protecting the environment. This combination will put South Carolina in the driver's seat for an expanding economy in the years ahead.

The numbers demonstrate that the nuclear plants are operating well and that high performance levels can be sustained.

For the fifth year in a row, through 2005, the plants recorded average capacity factors - a measure of reliability - in the 90-percent range. By comparison, gas-fired generating plants in this country are operating at an average of 35 percent of capacity.

Nationally, all indicators show that nuclear plants are being operated safely and reliably. In 2005, the nuclear industry achieved the fewest number of automatic (accidental) shutdowns since the Institute of Nuclear Power Operations began collecting this data in the early 1980's. Nuclear power has become a model of industrial safety in America, with a near-record low industrial accident rate of 0.24 accidents per 200,000 worker hours. Radiation exposure has declined significantly over the years. Refueling that once required a few months is now done in a few weeks.

It's an impressive accomplishment and this has allowed the nuclear industry to accelerate plans for construction of new nuclear plants. Utilities are gearing up to build as many as 31 new plants, including two or three in South Carolina to meet a projected 45 percent increase in electrical demand by 2030. The companies are investing over \$2 billion in design and engineering work and development of license applications. And if current schedules hold, utilities are expected to break ground on three or more nuclear plants by the end of next year.

In order to maintain the current schedule for nuclear plant construction, however, there must be adequate financial support for the Nuclear Regulatory Commission (NRC) to conduct efficient reviews of nuclear plant licenses. Congress passed the Energy Policy Act with loan guarantees and limited production tax incentives for the first new reactors. Now it must provide funds for NRC to staff up to meet the license applications that are on the way.

The current budget impasse for fiscal 2007 and 2008 threatens to delay the licensing and construction of new plants. Failure to provide funding will mean 12-24 month delays at the very least, and possibly deferral of nuclear plant construction, because utilities will build coal and gas plants instead as the only alternative to meeting growing electrical demand. That would be regrettable from both economic and environmental perspectives if the window into new nuclear plant construction were to close and deny access to clean power generation for years to come. Soon, if the deadlock is not broken, we may be paying huge premium for costly environmental controls.

Nuclear power has proven its value and importance. We cannot let it be sidelined by a lack of congressional funding for the regulator.

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January 27, 2007

Letter to the Editor  
*The State Newspaper*  
Columbia, South Carolina

*Produced by Citizens for Nuclear Technology Awareness.*

### **Nuclear power is safest, cleanest and cheapest energy source**

I am surprised that a minority of people continue to oppose beneficial nuclear technologies. Ms. Susan Corbett's letter January 3 is an example. She thinks nuclear plants are dirty, dangerous and expensive.

Dirty? Hardly! It is far cleaner than any alternative way of making the *large* amounts of electricity that are needed. That's just one of the reasons why over 70% of the electrical power generated in France is produced in nuclear plants and why there is a world-wide surge in construction of new nuclear power plants. Objective environmentalists in this country and elsewhere are supporting nuclear power precisely because it is clean. It does not contribute to acid rain, smog, heavy metal contamination of soil and water, or global warming.

Dangerous? No! Thousands die worldwide every year in coal mining accidents and natural gas fires and explosions, while the record at nuclear plants is zero. Chernobyl is irrelevant because no one in the western world has built, or will build, that cheap and unsafe reactor type. And, the accident at Three Mile Island, which did not hurt anyone, can't happen again in the new reactors with their additional safety features.

Expensive? No! It is already cheaper than coal, oil, or gas and that advantage will grow because coal burners will have to spend money to reduce their emissions and the price of natural gas will continue to rise while nuclear plants are in a steep price decline. Many utilities in the U.S. and worldwide are lining up to build new nuclear plants without subsidy. They are not doing this to lose money.

Currently, 68% of adult Americans support building more nuclear plants. 75% of people living within 10 miles of a nuclear power plant support building more, as do over 80% of people with technical college degrees. That is about as close to unanimous as you can get in America.

Nuclear is safer, cheaper, and far more environmentally friendly. The facts speak for themselves.

James Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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November 21, 2006

Letter to the Editor  
*The Aiken Standard*  
Aiken, South Carolina

Mr. Douglas Law had a thoughtful and well-written letter in the November 17th Aiken Standard in which he opined that the world would be a better place if the U.S. simply eliminated its nuclear weapons.

It would, indeed, be a wonderful thing if that were true, if the world we live in would respond with peaceful intentions to our unilateral disarmament. But, many events in the last 100 years make it clear that is not the world we live in.

President Truman did not authorize building the "super" (hydrogen) bomb until convinced of the Soviet Union's nuclear weapons goals and their open hostility toward the U. S. Nearly everyone agrees that the U.S. Military strength was a major reason for winning the Cold War, preserving freedom.

Hundreds of thousands of Japanese and American lives were spared by Japan's early cessation of World War II.

I do not know of any international security experts who believe that the leaders of North Korea or Iran would abandon their nuclear adventurism if the West laid down their arms.

*Produced by Citizens for Nuclear Technology Awareness.*

It has always been as true then as it is today that "good" nations must defend freedom and morality by force of arms, if necessary against those whose quest for power without regard for those values.

That is sad, but it is true. So let us pray for, and work for, that perfect world. But, in the meanwhile let us be prepared to defend our values.

Mal McKibben  
Executive Director  
CNTA

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October 25, 2006

Letter to the Editor  
*The New York Times*  
New York, New York

### **Contaminated Food**

The Food and Drug Administration investigators have identified the farm from which the *e-coli*-contaminated spinach came to cause illness and death across the country. But, they still have not determined the exact source. They think it may have come from irrigation water that, somehow, was contaminated with cattle waste.

Strangely, I have not seen any articles pointing out this type of food contamination and many others can be easily eliminated for a few cents per pound by irradiation with x-rays, beta radiation, or gamma radiation.

Irradiation technology is already very widely used, is harmless, and does not affect food nutrition or flavor. It does, however, extend food "shelf life" and eliminates pathogens. An interesting fact is that one fourth to half of all the food produced in the U.S. is not eaten because of infestation and spoilage. What a waste!

Irradiation of food is endorsed by health and food organizations throughout the world, including, in the U.S., FDA, AMA, CDC, NASA, and many, many more.

The Center of Disease Control reports that each year contaminated food causes 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths. The solution to this tragic epidemic is at hand, and has been for 40 years. Why not use it?

Dr. Susan Wood  
Chairperson, Board of Directors  
Citizens for Nuclear Technology Awareness

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October 22, 2006

### **The history of SRS is the history of the nuclear age**

By J. Malvyn McKibben, Special Columnist  
*The Augusta Chronicle*

In the past few years, many newcomers have moved into the area.

They might not be aware of the 55-year love affair between the area and Savannah River Site. It is a story worth telling.

*Produced by Citizens for Nuclear Technology Awareness.*

President Truman wrote to the president of E.I. DuPont, Crawford Greenewalt, in 1950, asking the Du Pont Company to design, build, and operate a site for the production of plutonium and tritium (a heavy isotope of hydrogen) to be used in making "super" bombs, subsequently called hydrogen or thermonuclear bombs.

Truman had become convinced that Russia's successful test of an atomic bomb, its continuing nuclear weapons research, and its aggressive expansion constituted a threat to the free world that could not be ignored, so he decided to pursue the development of the super bomb.

Du Pont agreed to lead this effort, as it had at Hanford, Wash., during the Manhattan Project, as a public service and without profit. Actually, Du Pont received \$1 for the life of the contract.

Both the government and Du Pont viewed this mission as having wartime urgency.

After buying the land and moving communities, including graveyards, construction began Feb. 1, 1951, on five reactors; two huge separations areas to process used fuel and targets; a heavy water production area; a fuel fabrication area; a research and development laboratory; and an administration area. Then there was the infrastructure - roads, bridges, power plants, steam plants, cafeterias, and offices - to be built.

The design and construction task facing Du Pont was daunting. No facilities like these had ever been built, and they required huge quantities of scarce materials and precise fabrications that pushed the limits of known technology.

For example, the project completely consumed the stainless steel the free world could produce for several years.

Yet, in spite of these difficulties, the site was completed quickly, and everything worked. In about four years, what had been 300 square miles of Southern farmland with five small communities with about 1,500 families had been converted into a massive site for the production of nuclear weapons materials. The peak construction force had been about 38,000.

The heavy water plant started in October 1952, the first reactor in December 1951, and the Purex separation plant (the first in the world) began operations in November 1954.

A few years later, *Reader's Digest* wrote an article stating that the Savannah River Plant, as it was called then, was the largest construction project in the history of mankind.

Like it or not, the Cold War was on. Most observers later concluded that the U.S. nuclear arsenal was a major contributor to the victory over the Soviet Union in the Cold War.

Without a doubt, the site employees felt their efforts were instrumental in the victory.

DuPont decided not to renew its contract in 1989 because it said there were other companies capable of operating the site. Westinghouse Savannah River Co. was awarded the contract to operate the site. To signal the change, the U.S. Department of Energy changed the name from Savannah River Plant to Savannah River Site.

With the Soviet Union in collapse from 1989 to 1991, the paramount question became: "What are we going to do at SRS now?" Most of the original reasons for building the site no longer existed. The reactors were shut down, the fuel fabrication facility was shut down, and the heavy water manufacturing plant was shut down and demolished. Now what?

Westinghouse and DOE went to work to identify national missions to take advantage of the large site, its facilities, and its well-trained personnel.

*Produced by Citizens for Nuclear Technology Awareness.*

Three mission goals were identified:

- Clean up the waste and contamination at the site;
- Continue to support the maintenance of the nation's nuclear weapons stockpile, mainly by recycling the tritium from old weapons, and by helping DOE create a plan for making new tritium as needed;
- Help DOE safely manage, consolidate, and stabilize nuclear materials that were scattered throughout the nation in many forms.

Out of these goals came several ongoing missions - a large decontamination and decommissioning program; the \$2 billion Defense Waste Processing Facility that is turning 36 million gallons of high-level waste into a durable glass waste for permanent geologic disposal, and the K-Area Complex for safe storage of nuclear material.

There also is the Pit Disassembly and Storage Facility and the Mixed Oxide Fuel Fabrication Facility, along with the Plutonium Vitrification Facility for disposal of plutonium that is not compatible with the MOX process.

Meanwhile, recognizing that many of these missions have a limited life, DOE, along with site contractors, area groups and elected officials, began searching for long-range missions that would support national objectives using the unique expertise and facilities at the site.

Among these potential missions are a plutonium consolidation facility, a private Energy Park for commercial nuclear activities, and a teaching and research reactor facility.

What newcomers to the area need to know is that the site always has had the nation's best record among nuclear facilities for safety and environmental protection.

The good news is that the current operating contractors and DOE are firmly committed to continuing its records of excellence.

We pray that the love affair continues.

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October 19, 2006

Letter to the Editor  
*The Augusta Chronicle, The Aiken Standard, and The State*

To the Editor:

**River ecology lab monitoring SRS must be spared**

Considering the government's budget woes, it is easy to understand why the U.S. Department of Energy is searching for ways to reduce costs, but when they drastically cut funds for the University of Georgia's Savannah River Ecology Laboratory, I can't help but wonder if those budget-cutters are aware of the value of the program they are eliminating.

The SREL is the premier ecological research center on the planet and has monitored the Savannah River Site's environment since 1951. Their baseline and continuing studies are irreplaceable and have enormous value.

*Produced by Citizens for Nuclear Technology Awareness.*

When anti-nuclear people say that SRS is badly polluted, it is easy to prove them wrong by referring to hundreds of SREL scientific papers. Most of the 300-square-mile site is unaffected by human activity, and is a unique location for studying nature without human intervention.

The SREL is a gem, and an irreplaceable source of objective scientific scholarship on ecology and the environment. It must not be allowed to die.

We ask the DOE and our elected representatives to do whatever is necessary to fully fund the SREL now and for the future.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness  
1204 Whiskey Rd, Ste B  
Aiken, SC 29803-4318

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September 14, 2006

Letter to the Editor  
*Atlanta Progressive News*  
Atlanta, Georgia

### **Sept 5, 2006 Article on Nuclear Threat**

Betty Clermont's lengthy article opposing Georgia Power's plan to add a possible new nuclear reactor (actually, it is two) was filled throughout with factual errors and irrelevant information.

Nuclear Dangers? For four decades, the nuclear power industry has demonstrated to anyone susceptible to facts that nuclear power is far safer than alternatives. Worldwide each year thousands die in coal mining accidents and natural gas explosions and fires. Nuclear power? Zero. The "accidents, leaks, and fires" the article referred to had no adverse health effects. None. The statement that "studies ... show in every community where these facilities are sited there are higher incidents (sic) of cancer, leukemia, birth defects" is nonsense. Hundreds of independent, scholarly studies have shown the opposite. Want a list? The worst calumny in the article was the claim that nuclear plants "release radioactive contaminants, such as tritium, along with hazardous chemicals and heavy metals during operation". Nuclear plants release only a fraction as much radioactivity to the environment as coal plants, and release no hazardous heavy metals, smog-producing chemicals, acid-rain producing chemicals, or chemicals such as carbon dioxide that contribute to global warming. None.

Rate Hike? Time will tell, of course, but as of today the operating cost of nuclear plants is below coal or gas plants, and forecasted capital costs should put the overall cost at least equal to, and probably below, coal and natural gas.

Squandered Resources: Providing funds for electricity that is needed to grow businesses and to improve the quality of lives for Georgians does not sound like squandering to me.

Nuclear Proliferation: No person wants nuclear weapons to spread to countries that do not already have them, especially irresponsible nations. The President's Global Nuclear Energy Partnership will nearly eliminate that threat when fully implemented. Of course, nothing other than international pressure can prevent a rogue nation like Iran from developing nuclear weapons if they wish to, and nuclear production of electricity has nothing to do with that.

Dependence of Foreign Governments? We are already importing liquefied natural gas, and plan to import more to make electricity. Nuclear could greatly reduce that dependence.

*Produced by Citizens for Nuclear Technology Awareness.*

J. Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 18, 2006

Letter to The Editor  
*The State* Newspaper  
Columbia, South Carolina

The August 13 letter from Mary Kelly opposing the MOX plant at SRS was consistent with her decades-long opposition of everything at SRS. She cites her attendance at public meetings. The disposal of surplus weapons-grade plutonium by burning it as MOX fuel has been endorsed by two committees of the National Academy of Sciences and many others. It is the right thing to do. The anti-nuclear community thinks it would be better to simply bury it at Yucca Mountain in high-level waste canisters, even though they oppose opening Yucca Mountain. Burying it would create weapon-grade plutonium mines for the future, which has nuclear weapons proliferation implications.

She claimed Russia is "not keeping up its end of the bargain". Within the past month Russia signed an agreement with the U.S. to dispose of its 34 metric tons of plutonium in a "fast reactor" rather than in low-enriched thermal reactors as we are planning to do. The point is they are disposing of it.

Ms. Kelly's concluding statement that this and other activities at SRS are endangering us is, quite simply, nonsense. The 54-year record of safety at SRS is exemplary, and well documented.

Finally, she seems to think creating hundreds of high-paying jobs for South Carolinians is a bad thing to do. We do not.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 18, 2006

Letter to the Editor  
*The State* Newspaper  
Columbia, South Carolina

It amazes me that anti-nuclear zealots continue to oppose anything "nuclear" no matter how much benefit they have and no matter how good their record is. Mrs. Barczak's letter August 17 is a conspicuous example.

She expressed opposition to about six nuclear activities without explanation, and made several statements that are plainly wrong.

SRS highly polluted? Not by a long shot. Ask the University of Georgia environmental scientists who have been monitoring the site for the past 50 years.

The disposal of surplus weapons grade plutonium via the MOX project has been blessed by the National Academy of Sciences and many others. It is a non-proliferation program to dispose of 68 thousand kilograms of plutonium in Russia and the U.S. Ms. Barczak somehow thinks it may spread nuclear weapons. Quite the opposite is true.

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Strangest of all is her concern about expansion of nuclear power which has demonstrated that it is cheaper, safer, and greener than alternatives. She recommends reliance on wind and solar which clearly cannot supply the amount of electricity the nation needs even though they can supply niche markets.

The root of the problem is an irrational fear of anything nuclear, a modern superstition.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 18, 2006

Letter to the Editor  
*The Aiken Standard* - Phillip Lord  
Aiken, South Carolina

Victor Reilly suggests that instead of building a MOX plant, surplus weapons-grade plutonium be simply buried at Yucca Mountain within canisters of high-level waste. Ironically, this is the party line of the anti-nuclear community even though they are doing everything they can to keep Yucca Mountain from opening. That option was exhaustively studied before finally being rejected by DOE because it would cost more than the MOX option. Also, both the U.S. and Russia opposed it because it did not actually destroy the weapons-grade plutonium. Future generations could safely recover the buried plutonium to proliferate nuclear weapons. Not a good idea and not a good precedent for Russia and China.

We agree with Mr. Reilly that SRS will need a certified long-term plutonium storage facility. That is why the K-Area Material Storage (KAMS) facility was built. It meets all requirements for plutonium storage.

Yes, the estimated cost of MOX has increased, possibly because the designers found it more difficult than they had anticipated to convert the French design into an NRC licensable design. But even at the higher cost, it is the disposal method of choice.

J. Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 21, 2006

Letter to the Editor  
*The Atlanta Journal-Constitution*

To the Editor:

**Re: "Make utility pay own nuclear tab". June 18**

Your opinion piece on Georgia Power's nuclear plans raised several questions that should be answered.

It questioned the wisdom of building new nuclear plants. In the U.S. more than nine consortia of utilities have expressed interest to NRC to build 20 new nuclear reactors. Worldwide there are hundreds. The motives are primarily profit, safety, and environmental responsibility. Unwise? I don't think so, and neither do they.

Your article questioned the "critical issue of safety". For safety, nuclear shines. It is far safer than any other way of making the large amounts of electricity that are needed. EPA estimates that in the U.S. tens of

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thousands of people die prematurely from the pollutants from coal plants. Thousands die annually, worldwide, from coal mining accidents and from natural gas explosions and fires.

You questioned public confidence. The latest surveys show that building more nuclear plants is supported by 68% of adults, 75% of college graduates, 85% of technically educated college graduates and people who live within 20 miles of a nuclear plant. Those are close to unanimous.

It was inappropriate to raise the specter of Three Mile Island, because many improvements and operating requirements have been made that nearly eliminate the meltdown concern. Besides, Three Mile Island proved that the containment system worked. No one was hurt, not even a grasshopper or earthworm.

J. Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness (CNTA)  
1204 Whiskey Rd, Ste F  
Aiken, SC 29803

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April 28, 2006

Letter to the Editor  
*The Augusta Chronicle*

To the Editor:

**More see the need for nuclear power**

It is not surprising that thoughtful leaders of the environmental movement have come to understand the need for nuclear energy ("Ex-critic backs nuclear power," April 20). In fact, several international leaders in the environmental movement are now urging more nuclear power.

It was the vision of cheaper electricity and rampant air pollution from coal burning that drove the developers of nuclear power plants in the 1950s. Back then, global climate change was unknown; today, it provides an even greater impetus for us to expand the use of nuclear energy to replace fossil fuels.

Now is the time to start building the next generation of nuclear plants. The confluence of new economic and safe designs, the need for more electricity, and the growing understanding that nuclear is indeed an environmentally preferred energy source makes it inevitable.

Mal McKibben  
Executive Director  
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April 25, 2006

Letter to the Editor  
*Chemical & Engineering News*

Your article by Michael Heylin in the Hindsight April 10, addresses a major concern for the community of civilized nations; how can we assure that irresponsible, and perhaps irrational national leaders don't use nuclear weapons against the rest of us.

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The Non-Proliferation Treaty (NPT) has been a nice "feel good" device for many of the world's nations, but it has been adequately demonstrated that nations with nefarious intentions can either not sign it, or sign it and ignore it. You mentioned a few of those.

A farcical aspect of the NPT is, and always has been, that signators will work toward eventual elimination of nuclear weapons. The raw materials for nuclear weapons can be mined from the ground all over the world. A few competent physicists and chemists can take those widely available materials and convert them into weapons. Many books and internet articles can assist them. So the notion that the nuclear genie can be returned to the lamp is dangerous fantasy.

So, what's to do? President Bush's Global Nuclear Energy Partnership is a giant step in the right direction. When (and if) fully implemented a few nuclear nations would provide fuel services for everyone else. They would recycle spent fuel and provide new or recycled fuel as needed. The fuel facilities would be designed and staffed for maximum security, and IAEA would have on-site presence to make sure fissile material would be carefully safeguarded and accounted for. Opportunities for the theft of illicit weapons fabrication would be near zero.

Other steps will be required, but this would be a good start.

J. Malvyn McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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April 24, 2006

Letter to the Editor  
*The Washington Post*

The excellent opinion piece by Dr. Patrick Moore (4/16) supporting expansion of nuclear power drew quick response from traditional anti-nuclear folks (4/21 letters).

Fortunately, their objections are old, and irrelevant to the current real world. Their anti-nuclear bias blinds them to objective analysis.

New spent fuel recycling technology is being developed in Japan, France, and the U.S. The best will be demonstrated. Uranium, plutonium and minor heavy elements will be recycled into fuel to burn it up. Long-lived fission products will be separated and either used or stored separate from the high-level waste that will be made into glass and disposed of in the Yucca Mountain repository, which will serve our needs for hundreds of years.

Plenty of real data exist to prove that nuclear power is safer, cheaper, and cleaner than any alternative ways of making large amounts of electricity. Chernobyl experience is not relevant.

Many bona fide environmentalists are recognizing, like Patrick Moore, that nuclear power is best for earth's environment.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness  
1204 Whiskey Road  
Aiken, SC 29803

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January 26, 2006

*Produced by Citizens for Nuclear Technology Awareness.*

Letter to the Editor  
*The Washington Post*

Dear Sir,

We were delighted to read in the January 26 Post that the Bush Administration and DOE are considering a global plan to centralize the recycle and manufacture of nuclear fuels.

If implemented, it will essentially eliminate the (shrill and exaggerated) concerns about terrorist threats and proliferation. Perhaps even more importantly, it will greatly reduce the volume, and thus cost of disposing of the final waste, and it may eliminate radiological risks from leaks from the repository because the long-lived isotopes will have been removed and transmuted.

Mal McKibben  
 Executive Director  
 CNTA  
 1204 Whiskey Rd, Ste F  
 Aiken, SC 29803

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December 2, 2005

Letter to the Editor  
*The Atlanta Journal-Constitution*

Senator Frist had it right (Nov. 14) and Representative McKinney had it wrong (Nov. 24). Furthermore, Rep. McKinney's editorial with its Chernobyl photo seems deliberately misleading.

No country outside Russia operates a Chernobyl-type reactor, with no containment dome, and no country would operate a reactor with safety systems switched off as Chernobyl did. Comparing Chernobyl with current or planned American reactors is like comparing a Model T with a NASCAR winner.

Last-ditch efforts by anti-nuclear zealots to stymie new nuclear stations try to convince the public that minor incidents at nuclear plants (like cooling water leaks) are dangerous and frightful. The public is not buying it. National surveys reveal 70% of Americans support building more nuclear power plants. They also show that 87% of people living within 10 miles of a nuclear plant favor more nuclear plants. These people know from their own experience that there is no safer or cleaner way to provide the much needed energy.

Mal McKibben  
 Executive Director  
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 1204 Whiskey Rd, Suite F  
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September 29, 2005

Aiken County Council  
 736 Richland Avenue W  
 Aiken, SC 29801

Sirs:

Citizens for Nuclear Technology Awareness (CNTA) has concerns about the Council's recent lawsuit against DOE. For over fifty years, elected officials around the Savannah River Site have fully supported our nation's missions performed there. This has given SRS a big advantage when new missions are being competed. In

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the past, when issues arose regarding SRS they were dealt with by amicable discussions. Your lawsuit is the first departure from this long and very successful practice. For the reasons discussed below in this letter, CNTA asks the Aiken County Council to withdraw the lawsuit.

The two key components of the suit are (1) a requirement that DOE accelerate the MOX project completion to meet the original goal by January 2009, and (2) prohibition of shipments of plutonium to SRS until the project is back on that original schedule.

There have been two reasons for the MOX schedule slippage. The first is the congressionally mandated requirement that the U.S. program proceed in lock-step with the identical Russian program. The Russians raised a liability issue, resolved only recently, that caused a significant delay.

Currently, the delay is being caused by the failure of the House to appropriate the funds that were in the President's budget and were passed by the Senate and the House. Specifically, Rep. David Hobson (R, Ohio), who chairs the appropriations sub-committee of the House Energy Committee, has held up this appropriation and is threatening to "zero it out." Senator Lindsey Graham is leading an effort by our congressional delegation and DOE to reverse Hobson's threat.

Your lawsuit was issued without consulting with Senator Lindsey Graham or any of our Congressmen, who are working very hard to resolve these issues. We believe if you had done that, or even if you had discussed it with CNTA or other knowledgeable parties, you would have concluded that issuing the lawsuit would be counter-productive, with no chance of success. Former Governor Hodges filed a very similar suit that was unsuccessful. DOE cannot be held legally responsible for delays that were clearly attributed to acts (and non-acts) of Congress.

The issue of plutonium shipments to SRS is even more complicated. There are two issues, (1) the suitability of SRS facilities for receipt, inspection, and temporary storage of the plutonium, and (2) how to dispose of the plutonium that is not scheduled to be made into mixed oxide (MOX) fuel.

DOE-SR had planned to receive the plutonium shipments into an F-Area facility where the shipping containers would be opened and the contents inspected and analyzed. After repackaging, the plan was to send the plutonium to a facility in K-Area for storage until it was processed. The General Accounting Office and the Defense Nuclear Facility Safety Board both reviewed the plans and reported that these two facilities did not fully meet existing requirements. In response, DOE-SR is upgrading K-Area to perform all activities there, in full compliance with regulations and best practices.

DOE and WSRC are developing and designing a facility (also in K-Area) to put the plutonium that is not going to MOX into a glass waste form. This process is called vitrification. The molten plutonium glass would be poured into small stainless steel cans, and welded shut. Those would be put into a rack inside an empty DWPF canister. At DWPF the canister would be filled with high-level waste glass and stored onsite until it can be sent to Yucca Mountain for permanent disposal.

So, it is clear that DOE fully intends to process and dispose of all the plutonium that is being shipped here. There are no secret plans to permanently store any plutonium at SRS. All of the plutonium will be processed and disposed of. That means jobs, and SRS is better qualified to do those jobs than anyone in the world.

One councilman said several times that the lawsuit protects the health and safety of area citizens. That is not correct. Nothing in the lawsuit addresses a safety question. SRS has made, processed, packaged, stored and shipped tons of plutonium for fifty years, without any significant incident or accident. They know how to do that!

In summary, we believe the lawsuit is not only unnecessary and un-win-able, but detrimental to continuing efforts to bring new missions to the site. CNTA requests an opportunity to discuss this issue at a future

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Council meeting. I am certain that other organizations striving to bring new missions to SRS would also want to participate. Please let us know when this discussion can take place.

Sincerely,

Mal McKibben  
Executive Director  
CNTA  
1204 Whiskey Rd, Ste F  
Aiken, SC 29803

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August 31, 2005

Letter to the Editor - Richard Anderson  
*Planet Jackson Hole*  
Jackson Hole, Wyoming

Sir:

The public meeting last Saturday, August 27, by "Keep Yellowstone Nuclear Free" opposing DOE's proposed production of plutonium-238 (Pu-238) at the Idaho National Laboratory, prompted me to write.

All of the Pu-238 made in the western world was made at the Savannah River Site in South Carolina by irradiating neptunium-237. The irradiated neptunium targets were dissolved and processed to make purified oxides of Np and Pu. The Pu-238 oxide was compacted then clad to make heat sources. SRS began making and processing this Pu-238 in 1959 and did it for 40 years. During all that time there was no significant incident or accident that released any Pu-238 outside of the facility. No more can be made there because the SRS reactors were shut down. So DOE decided to make it at INL where they have an operating reactor.

So, the shrill cries of alarm that Pu-238 production at INL might contaminate people or biota offsite strike me as irresponsible fear mongering. The 40-years of safe operation at SRS are ample evidence that it can be done quite safely.

First, the processing facilities will have multiple engineered barriers to prevent the Pu-238 from getting out. They work. Second, if the impossible happened and some went up the stack it is ludicrous to think it would travel air-borne for miles. It is very dense, and would fall quickly to the ground within yards, not miles. This was proved, twice, at Rocky Flats decades ago when they had fires in plutonium production lines. None got offsite.

The laws of physics are immutable. What the fear-mongers are saying is analogous to saying that when the apple falls from the tree it will go up, not down. Would I live downwind of such a facility? You bet! I have for 40 years.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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August 23, 2005

Letter to the Editor  
*Gainesville Times*  
 Gainesville, Georgia

A letter August 20 by Adele Kushner claimed, "nuclear power is neither clean, cheap nor safe." The references cited show that she has been reading the voluminous fiction put out by professional anti-nuke zealots.

Nuclear power is far cleaner than plants fueled by coal or natural gas. That is why noted ecologist James Lovelock, Patrick Moore, co-founder of Greenpeace, and Stewart Brand, founder of The Whole Earth Catalogue support nuclear power. Nuclear power plants emit no heavy metals, (e.g., mercury), or chemicals that produce acid rain, smog or global warming.

Not safer? The 103 operating reactors in the U.S. have had outstanding safety records and have never caused radiation injury or death. But many people are routinely killed in natural gas explosions and coal mine accidents.

Nuclear power is not only greener and safer than fossil fuel plants, it is also a cheaper source of electricity. The average operating cost of the 103 U.S. nuclear plants is 1.82 cents per kilowatt-hour, compared to 2.13 for coal and 3.69 for natural gas. The capital cost to build the next plants will be far less than in the past, and new licensing procedures by NRC should shorten construction time to about four years, which will greatly reduce its cost.

These are the reasons that 440 nuclear power plants are now operating around the world and 125 more are on order or under construction.

Susan Wood, Chair - Board of Directors  
 Mal McKibben, Executive Director  
 Citizens for Nuclear Technology Awareness

August 22, 2005

Guest Editorial  
*Charleston News and Courier*

### **South Carolina may lead nuclear power resurgence**

It is no longer news that nuclear power is experiencing a resurgence in the U.S. and in the rest of the world. It now appears that South Carolina has the opportunity to take a lead role.

A recent study by NuStart, a consortium of twelve utilities (including Duke) and reactor vendors, identified SRS and five commercial sites as suitable sites for this demonstration. A previous study had concluded SRS would be the best of the DOE sites for a commercial nuclear power plant.

President George Bush created several programs in his first term to breathe new life into U.S. nuclear power. One of those programs was Nuclear Power 2010 (NP-2010), which provides financial incentives for building one or more new, improved nuclear power plants by 2010. This program would demonstrate new reactor designs can be built cheaper than in the past, and that new licensing procedures will shorten the time required to get the plants running. If these demonstrations are successful, it will open the door for nuclear power in the U.S.

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A study by NuStart, a consortium of utilities, identified six sites that would be best suited for construction of one of these plants. SRS was one of the six sites selected. NuStart requested proposals from South Carolina and the other sites. On August 15, the Economic Development Partnership for Aiken and Edgefield Counties and the South Carolina Department of Commerce sent their proposal to NuStart. After studying all of the proposals NuStart will recommend two sites in September for plants to be built.

If the southeast needs more electricity, and it does, then some will ask "why nuclear?" The latest independent nationwide survey showed that about 70% favor building new nuclear plants. Among technically educated college graduates it is over 85%. Even long-time environmental opponents of nuclear power now endorse it. There are good reasons for this overwhelming support. One reason is that nuclear power is the only clean and green way of making large amounts of electricity. It does not contribute to heavy metal pollution (e.g. mercury), smog, acid rain, or global warming.

Another reason is safety. The safety record of nuclear power is much better than that from coal and natural gas plants. None of the 103 nuclear reactors operating in the U.S. has ever had a radiation injury or death. For comparison, deaths due to natural gas explosions and in coal mining accidents are unfortunately commonplace. The new Westinghouse and GE reactors being considered for NP-2010 would decrease even further the chance of a melt-down, which is already infinitesimally small in current American reactors.

The third reason for choosing nuclear is cost. The average operating costs of the 103 U.S. nuclear plants is 1.82¢/kw-hr, compared to \$2.13 for coal and \$3.69 for gas. With the new licensing procedures and advanced reactor designs the total costs, including the capital cost, will be at least competitive.

But, why locate the plant at SRS? The answer is that SRS offers significant advantages. It has a highly rated security system, which includes high tech methods and layers of gates, guns, and guards. SRS can supply all needed infrastructure such as roads, bridges, steam, water and electricity. The area has low construction cost compared to most areas of the country. At SRS, the reactor would be relatively isolated, located about 5 miles from the nearest offsite population. SRS can provide needed support such as trained personnel, technical support from the Savannah River National Laboratory, an outstanding Emergency Coordination Center, and access to the Barnwell low-level waste repository. And importantly the support of area citizens and elected officials in South Carolina and Georgia is unmatched anywhere in the U.S. South Carolina already gets 55% of our electricity from nuclear plants. Indeed, our District 3 Congressman, Gresham Barrett, is leading the effort to obtain this project. The entire South Carolina Congressional delegation and Representative Charlie Norwood of Georgia sent a letter of support for SRS to NuStart.

The nation, and especially the Southeast, is going to need a lot more electricity. Nuclear is the right way to go, and South Carolina is the right place to kick it off.

Dr. Susan Wood, Chair, CNTA Board of Directors  
Mal McKibben, Executive Director

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July 19, 2005

Guest Editorial  
*The Greenville News*

### **With nuclear power resurgence, SRS should lead the way**

Early in President Bush's first term, he created a program called Nuclear Power 2010 with the goal of constructing one or more new, improved nuclear power plants, the nation's first in more than 30 years. This program will demonstrate that new licensing and construction procedures will bring reactors to operating status much faster and cheaper, and with less financial risk than in the past. If this demonstration is successful, the door will be opened for a resurgence of nuclear power in the United States.

A recent study by NuStart, a consortium of twelve utilities (including Duke) and reactor vendors, identified SRS and five commercial sites as suitable sites for this demonstration. A previous study had concluded SRS would be the best of the DOE sites for a commercial nuclear power plant.

The NP-2010 program will occur in two steps. The first step, already under way, is for companies, or consortia, to submit reports recommending two new improved reactor designs and two sites for construction. NuStart was created for this purpose, and their report will be submitted this year. DOE will then request other consortia or companies to submit proposals to construct and operate the reactor. This reactor will sell electricity and pay taxes.

The two reactors recommended by NuStart are the Westinghouse AP-1000 and an advanced boiling water reactor (ESBWR) by General Electric. Both of these reactors have advanced safety features and improved designs. Construction could begin as early 2010, with operation in 2014 or 2015. The capital cost would be near \$2 billion with an operating staff of 500 to 700.

Why Nuclear? Sixty-seven percent of U. S. citizens favor building new nuclear plants. Among technically educated college graduates, it is 85%.

There are some good reasons for this overwhelming endorsement. One important reason is that nuclear power is the only clean and green way of making large amounts of electricity. It does not contribute to heavy metal pollution (e.g. mercury), smog, acid rain or global warming.

The safety record of nuclear plants is excellent, better than coal and natural gas. None of the 103 nuclear reactors operating in the United States has ever had a radiation injury or death. The Russian reactor at Chernobyl is the only reactor to have had a lethal accident, and no reactors of that unsafe design are in operation outside of Russia. Both Westinghouse and GE claim they now have passive (nonpowered) emergency cooling systems that are designed to prevent fuel meltdowns.

The average operating costs of the 103 nuclear plants in the United States is 1.82 cents per kilowatt-hour, compared to 2.13 for coal and 3.69 for gas. With the new licensing procedures and advanced reactor designs, the total cost, including the capital cost, will be at least competitive. So, for safety, cost, and protecting the environment, nuclear is best.

Why SRS? SRS offers significant advantages over existing commercial sites. It has a highly rated security system, which includes high-tech methods and layers of gates, guns, and guards. SRS can supply all needed infrastructure such as roads, bridges, steam and electricity. This area has low construction costs compared to most areas of the country.

At SRS, the reactor would be relatively isolated, located about 5 miles from the nearest offsite population. SRS can provide all needed support such as waste management services, trained personnel, technical support from the Savannah River National Laboratory and an outstanding Emergency Coordination Center.

*Produced by Citizens for Nuclear Technology Awareness.*

And, finally, the support of area citizens and elected South Carolina and Georgia officials is unmatched anywhere in the United States. Indeed, our 3rd District Rep. Gresham Barrett is leading the effort to obtain this project.

The nation, and especially the Southeast, is going to need a lot more electricity. Nuclear is the right way to go, and SRS is the right place to kick it off.

J. Malvyn (Mal) McKibben

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May 31, 2005

Letter to Editor  
*The Aiken Standard*  
 Aiken, South Carolina

Dear Sir,

Your May 26 article, "Report questions SRS program" correctly reported the basic facts of DOE's Inspector General's audit report about SRS's decontamination and demolition (D&D) program. While some errors in judgment have occurred in this program, such as destroying relatively new buildings that would be useful in the future, in our view the criticism in this IG report was excessive. Their audit report overlooked or ignored several legitimate goals of the D&D program. It brings to mind an old saying that "auditors always find what they are paid to look for."

The auditors didn't recognize that reduction of radiation risk is only one of several goals. SRS is an "enduring site", which means a lot of us are working to bring new missions to the site. It is not helpful for the site to look like a ghost town. So it is appropriate to remove old buildings that have no further use, and most of the original buildings had "Transite" (asbestos) walls that need to be removed for safety reasons.

After the 9/11/01 attack on the twin towers, all DOE sites assessed their vulnerability. At SRS it was decided that facilities at plant boundaries, including those near the river should be moved to locations less accessible to potential terrorists. That was a prudent decision, especially since most of those buildings were very old, and contained asbestos.

Where possible, whole areas were to be removed, which would reduce costs significantly by completely eliminating services such as water, steam, electricity, roads, and sewage.

In Environmental Management's reply it was pointed out that some less-risky demolitions are always done first to train the crews before tackling the more risky jobs. This is also prudent.

Mal McKibben

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March 16, 2005

Letter to The Editor  
*The Greenville News*

Thank you for your insightful editorial supporting Duke Power's proposed expansion of nuclear power. There is simply no doubt that nuclear power must advance if we are to avoid doing serious damage to our environment. The public is becoming aware that nuclear doesn't contribute to mercury contamination, smog, acid rain or global warming.

*Produced by Citizens for Nuclear Technology Awareness.*

The letter writer (3/14) disagreeing with your editorial naively assumed we could solve the problem by using less air-conditioning. Conserving is a good thing to do, but its overall effect on growth of electricity demand will be quite small. The writer refers to the spent fuel as a "lethal liability". Things that kill people are called lethal. Lethal things include table salt, slippery bathtubs, water, and little red wagons. But spent nuclear fuel has never killed anyone. On the other hand about 10,000 people die annually in coal mines and in natural gas explosions throughout the world.

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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February 15, 2005

Letter to The Editor  
*The Aiken Standard*

The *Sunday Aiken Standard* has a letter from a local citizen opposing the building of the Modern Pit Facility, which would recycle aging pits into new ones.

The letter says, "The Bush Administration has a love affair with nuclear weapons." Actually, this administration has made major reductions in the number of deployed nuclear weapons. No previous administration, Democratic or Republican, had done that.

The letter questions the need for 2000 nuclear weapons. A lot of people have questioned that, including President Bush. The number of weapons and the numbers of specific types of weapons come out of the Nuclear Weapons Stockpile Report, which is reviewed and approved by DOE, DOD, The State Department, a blue ribbon (civilian) committee, and finally, the White House.

The letter complains that we try to keep North Korea and Iran from having nuclear weapons while insisting that the U.S. should keep ours. Does the writer seriously think that the world would be a better place if North Korea and Iran had nuclear weapons and we gave up ours?

The writer objects to having a plant large enough to recycle 125 pits per year. That number is just pure mathematics. If we have a stockpile of the size approved, and if we want to be sure that all of them will work if needed, then we need that size plant.

Our nuclear weapons capability was an important contributor to winning the cold war. Wasn't that a good thing? If we don't build the MPF that would simply be a decision to unilaterally disarm. No national leader of either party wants to do that.

Finally, the letter writer wrote that our organization (CNTA) "is delighted with the news" that an MPF may be built at SRS. Yes we are, but we take no position on its size. All of SC's congressmen have said, "if the MPF is going to be built, SRS is by far the best place for it." We agree. And we do not apologize for being pleased at the prospects of economic benefit for our community if that happens.

Comparing us to the citizens of Auschwitz delighting in the economic benefit of their Jewish death camp is a very irresponsible statement.

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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February 7, 2005

Letter to Editor  
*The State* Newspaper  
Columbia, South Carolina

The February 6 article "S.C. touted for nuclear plant" had 17 paragraphs of opinions of professional anti-nukes who, as illustrated in this article, are never objective on nuclear subjects and seldom constrained by the truth. Please allow us to correct some of their misstatements.

"We still haven't figured out what to do with the ... nuclear waste". Nonsense. We have known for decades. Our Defense Waste Processing Facility at SRS demonstrates it every day, as they have since 1994. The French have been doing it quite safely and efficiently for over 20 years. Petty politics is delaying the opening of Yucca Mountain geologic repository, but that will not stop it.

The claim that accidents at Catawba or McGuire nuclear plants could kill "tens of thousands" is absurd, as is the claim that "there have been 100,000 deaths attributable to ... Chernobyl. Thirty-one people died as a direct result of Chernobyl, and the calculated, hypothetical maximum "latent cancer deaths", (LCFs) using thoroughly discredited methods, were 10,000. If the Health Physics Society recommended calculation is used (which assumes no deaths below individual doses of 10 REM) the calculated hypothetical maximum LCFs would be about 500.

Any comparison of safety puts nuclear ahead of its competitors. Worldwide, about 10,000 people die annually from coal mining accidents and from natural gas explosions. There have been no radiation deaths from any nuclear plants since Chernobyl.

The statement that "Commercial nuclear generation can't compete in the market place," is untrue as evidenced by the interest of large numbers of utilities in building new ones. Their only goal is to make money. The average operating cost of U.S. nuclear plants is currently 1.82 c/kw-hr compared to 2.13 for coal and 3.69 for natural gas. Importantly, the costs and time to license and build nuclear plants is dropping dramatically. The estimated capital cost of new reactor designs is also dropping sharply.

The claim that proponents don't consider environmental or economic consequences is irresponsible. The economics are discussed above. Environmentally, nuclear is infinitely better than its competitors, because nuclear contributes nothing, repeat, nothing, to acid rain, smog, heavy metal contamination, or global warming. It is the only clean, green way to make large amounts of electricity.

We are disappointed that the outrageous claims of the professional anti-nuclear groups are given so much ink.

Mal McKibben  
Executive Director  
CNTA

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January 31, 2005

Letter to Charles Seabrook, Staff Writer  
*The Atlanta Journal-Constitution*

Mr. Seabrook,

Your January 29 article "Nuclear Waste Could Pile Up" had several incorrect conclusions that I think you should know about.

*Produced by Citizens for Nuclear Technology Awareness.*

The title of the article and the first paragraph imply that dealing with existing and future waste at SRS is a big problem. It isn't. The existing legacy waste is being dealt with safely and efficiently, and a large fraction of that has already been done. Your statement, later in the article that "the government, however, has not said when it (the waste treatment facility for the Pit Disassembly and Conversion Facility and the MOX plant) will be built or at what cost" is untrue. The Waste treatment facility is part of the project and is costed with it.

I can't imagine what was meant by the subtitle, "Processing Facility May Affect Georgia." The only effect to Georgia will be the financial benefit from the billion-dollar construction and the hundreds of highly paid personnel that will run these plants.

The accident scenarios in Environmental Impact Statements (EIS) are done to alert subsequent designers and operators of the plants to potential accidents that could have adverse consequences. The hypothetical accident in the MOX EIS was based on an earthquake. That accident and its consequences will be prevented (made impossible) by normal, good seismic design and construction.

You switched subjects for the last 3 paragraphs to the removal of legacy high-level waste and closure of those tanks. Unfortunately, your only source for this was professional anti-nukes who try to masquerade as environmentalists. Those folks are never objective, and seldom technically competent. To provide you with objective, factual; information on this subject we enclose a copy of a guest editorial that we had published as guest editorials in several newspapers, including, I believe, the Atlanta Journal-Constitution.

If you have questions or comments please give me a call at 1-800-299-2682 or 1-803-649-3456.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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January 28, 2005

Letter to The Editor  
*The Macon Telegraph*

Thanks for printing the AP article by Ken Guggenheim on the expanded Nunn-Lugar proposal to assist Russia's efforts to protect or destroy chemical and nuclear weapons.

The article correctly identified a concern that it might not be possible to be sure all the money provided by the U.S. would be spent on the intended programs, but that probably won't be the bill which is supported by the Administration and many Democrats.

A minor concern we have with the article was its headline which identified the program as an "anti-nuclear program." It really isn't, it is an anti-proliferation program.

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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January 10, 2005

Letter to The Editor  
*The Washington Post*

On January 5, there was a letter to the editor from anti-nuclear activist Kevin Kamps.

The letter claimed that transport of spent nuclear fuel will constitute "dirty bombs on wheels," because of terrorist activity. Although it is appropriate for all of us to be mindful of potential terrorism, it appears that Mr. Kamps has not done his homework.

He cites government tests that show the containers are vulnerable to antitank missiles, high explosives, and shaped charges. What he failed to mention is that those tests demonstrated the adequacy of particular container features and are being used to design state-of-the-art casks that are very secure against terrorist attack. For well over 10 years, studies in the United States and other countries have examined such threats, and the findings have been used in container design.

The U.S. Nuclear Regulatory Commission has a specific, classified program to address this issue. For obvious reasons, the details are not being made public. In May of 2004, staff from the NRC stated to a committee of the National Academy of Sciences that: "NRC believes the current certification process provides cask designs that can withstand all realistic accident scenarios and fully protect public health and safety."

One of the National Laboratories has even developed a container design that can withstand an explosion on an aircraft and fall to the earth without releasing its contents.

Given the work being done, the public should not be concerned about terrorist attacks on radioactive material transport. The robust containers and other protections, including satellite tracking, make such shipments much less vulnerable to terrorist attack than the ordinary industrial chemicals, such as chlorine, being shipped every day.

Should we stop using chemicals? Of course not! Neither should we be unduly concerned about radioactive material transport.

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

January 6, 2005

Letter to the Editor  
*Chemical & Engineering News*  
1155 16<sup>th</sup> Street, N.W. Washington, DC 20036

Dear Sir:

Michael Heylin's Hindsight's article "Nuclear Perils" (*C&EN*, 12/13/04) thoroughly and correctly identified the risks of uncontrolled proliferation of nuclear weaponry. Unfortunately, his solution to the problem lacks pragmatism.

We have always known that, without preventive measures, the day would inevitably come when any nation wanting nuclear weapons would have a choice of building them or buying them. That day may be here.

Everyone agrees that the world's nations must come up with effective ways to assure that nuclear weapons are never used irresponsibly. The problem is, how is that to be done in a world where nations are sovereign

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and some national leaders are aggressive and hostile. Mr. Heylin's view is that the problem will be solved if all the nations that have nuclear weapons would simply get rid of them. That is dangerously naïve. That would work only if all the world's leaders were filled with good will. The nuclear genie will not go back into its bottle because the raw materials (uranium and thorium) occur naturally in ores all over the world, and technologies to make weapons out of them are well known and do-able.

So, what is to be done? Presently the U.S. and other nations with well-controlled nuclear weapons programs maintain overwhelming nuclear superiority. They attempt to prevent nuclear "breakout," first by political persuasion, but ultimately by threat of force. That approach has had some well-known failures, but it also has had some important successes. However, this method is less than ideal.

The effort of the International Atomic Energy Agency (IAEA) to prevent proliferation by enforcing the Nuclear Non-Proliferation Treaty (NPT) was doomed from the start for several reasons. Many nations didn't sign the NPT, and some that did had no intention of abiding by it. Furthermore, the IAEA had neither the budget and staff to do the necessary inspections, nor the power to enforce compliance.

In the longer term, worldwide agreements prohibiting nuclear weapons breakouts will be necessary, but those agreements must include effective inspections and real enforcement. That could be done by a modified NPT treaty and a strengthened IAEA. Until that day comes, it would be very helpful if the nuclear weapon states secured more active support for proliferation control from non-weapons nations than they are now getting.

Susan Wood  
Chairperson  
Citizens for Nuclear Technology Awareness

Dean Sackett  
Vice Chair  
Citizens for Nuclear Technology Awareness

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January 6, 2005

Letter to the Editor  
*Nuclear News Letters*

Thanks are due, again, to Theodore Rockwell (*Nuclear News*, December 2004), for pointing out some of the unreality of our nuclear accident analyses and regulations.

Worst case accident analyses by DOE and NRC especially those in Environmental Impact Analyses (EIS) almost always exceed bounds of reason, and in so doing give ammunition to anti-nukes who can then say, "Those aren't my estimates of deaths, they are yours." To be fair, the official guidance given to DOE and NRC writers of EIS is to pick "reasonably foreseeable" accidents, but for some reason that seldom happens. As Theodore Rockwell correctly concludes probabilities approaching  $10^{-9}$  or lower are not "reasonably foreseeable," they are "zero."

It would be possible to cite dozens of examples, but the most flagrant example I've seen lately was NRC's draft EIS for the Pit Disassembly and Conversion Facility and the Mixed Oxide Fuel Fabrication Facility that was issued for comment March 2003.

Its worse case accident contained a series of impossible events or events so very highly improbable that most folk would call impossible. The hypothetical accident led to offsite deaths. Worse, most of the hypothetical dead were poor and minorities, raising the "environmental justice" flag. Howls of protests arose. NRC has yet to issue the final EIS, which I hope means they are retreating toward reality.

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But, one part that isn't likely to be changed quickly is the thoroughly discredited practice of summing low doses over large populations and concluding via the "Linear No Threshold" rule that the cumulated dose to the population will cause deaths.

Why on earth do we continue this mindless self-flagellation?

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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November 8, 2004

*Chemical & Engineering News*  
Editor-in-Chief  
1155 16<sup>th</sup> Street, N.W.  
Washington, DC 20036

Sir:

Your article on DOE's plans for closing high-level waste tanks (*C&EN*, Nov 1, 2004) may have left the readers with the impression that something dangerous or irresponsible is being done. Neither is true.

An urgent need at the Savannah River Site (SRS) is to protect the public, workers and the environment by ending the storage of liquid radioactive waste in aging carbon steel tanks as soon as feasible.

To recap briefly, there were 51 tanks at SRS holding high-level radioactive waste left from making nuclear weapons material. This waste, depending on its radioactive form, was to be solidified through either the Defense Waste Processing Facility and shipped to a federal repository or (for some decontaminated salt waste) through the Saltstone facility and disposed of on-site as hardened cement in concrete vaults.

The Department of Energy and its contractors always recognized there would be a small amount of waste left in the storage tanks after exhausting practical methods to empty and clean them. In planning final tank closures, DOE decided to remove as much waste as possible and then fill the tank with a carefully evaluated formulation of grout (cement).

Two tanks were closed this way at SRS in 1997. After pumping as much waste out as possible a jet of water washes down the walls. Then the jet moves most of the waste on the tank bottom to one location to be pumped out. Photographs in the tanks that were closed in 1997 and various engineering tests showed this worked rather well. The closure method was acceptable to the Defense Nuclear Facilities Safety Board, South Carolina Department of Health and Environmental Control (SCDHEC), Environmental Protection Agency and, in an advisory capacity, the Nuclear Regulatory Commission. The regulatory agencies, and the state of South Carolina, all agree that the approach is sound and can be done safely.

The anti-nukes have expressed concern about possible contaminated groundwater, contaminated Savannah River water, and widespread adverse health effects. This may be a new high mark for "scare du jour."

Technical experts who have studied the matter know that such things will not happen. Excellent engineering studies and demonstrations showed that the residual radioactivity will be stabilized and contained, and in-place monitoring methods will detect any unlikely problem. Every tank has secondary containment for potential leaks, and most have tertiary containment.

The alternative preferred by the anti-nuke activists of completely disassembling and removing the tanks would create far greater radiation to workers, and much greater risks of leaking radioactivity, and the cost would be an extra 16 billion dollars. Not a very good idea.

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Mal McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

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October 27, 2004

Letter to the Editor  
*The Boston Globe*

The MIT report article of October 24<sup>th</sup> that was referenced is certainly right about the environmental need to expand nuclear power, worldwide. I would like to expand on Mr. Stein's article with two points.

First, the traditional prohibitive capital cost of nuclear plants is rapidly disappearing with new advanced designs which are not only cheaper to build, but are also safer than the already safe designs. They can't have fuel meltdowns, which were the problems at Three Mile Island and Chernobyl.

There are several ways of resolving the frivolous and nuisance lawsuits about Yucca Mountain. A more sensible solution would be for the National Academy of Sciences to revise their recommendation, which was the basis for the appeals court decision.

Sincerely,

J. M. (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

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October 7, 2004

Letter to the Editor  
*Portland Press Herald*  
 Portland, Maine

Sir:

Anti-nuclear activists have never been known for being constrained by the truth, and the September 30<sup>th</sup> letter from Eric Brunner-Williams opposing nuclear power is a good example.

The much-exaggerated problem of spent nuclear fuel will be dealt with, first by consolidating storage in a safe, secure place (Yucca Mountain), and in the longer term by next-generation recycling technology that is being developed.

The fuzzy discussion about social impacts of power failures is an excellent argument FOR nuclear power because nuclear plants are far less susceptible to outages from wind and water than traditional coal and gas plants.

Hyperbole about unsafe nuclear plants is 180 degrees out of phase with the truth. Four decades of experience with hundreds of nuclear plants throughout the world have well established that nuclear production of electricity is far safer and cleaner than any alternative way of making large amounts of electricity. And the next generation of nuclear plants will be much safer and cheaper.

Mal McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

*Produced by Citizens for Nuclear Technology Awareness.*

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June 24, 2004

Guest Editorial

*The Island Packet*

Hilton Head Island, South Carolina

### **New Opportunities**

by Dr. Susan Wood

Friday, May 7, was a red-letter day for the Savannah River Site (SRS), for South Carolina and for Georgia. Secretary of Energy Spencer Abraham signed a "Certificate of Declaration" at a press conference designating the Savannah River Technology Center (SRTC) as The Savannah River National Laboratory (SRNL). With him when he made this important announcement were South Carolina Governor Mark Sanford, Georgia Congressman Max Burns, and South Carolina Congressman Gresham Barrett. Georgia Governor Perdue was unable to attend. South Carolina Senator Lindsey Graham was there on videotape and in spirit.

Area citizens may wonder if this is simply a name change or if it will bring real benefits, and, if so, to whom. It is reasonable to expect that it will open the door to significant expanded research opportunities in a wide variety of scientific and engineering fields, and for a wide variety of purposes. That is good news indeed, and additional benefits are expected as well.

SRNL becomes the nation's twelfth national laboratory. These national laboratories are called on whenever the government needs to do scientific studies or to do research and development toward achieving some new national goal. Secretary Abraham referred to the national laboratories as "the crown jewels of scientific and technical achievement in America." That is not an exaggeration. All national laboratories maintain close collaborations with research universities in their areas, which bodes well for future research at the universities in South Carolina and Georgia, including USC, Clemson, Georgia Tech, and the University of South Carolina.

SRTC (formerly SRL) had a 50-year history of excellence in research and development in a variety of science and engineering disciplines including hydrogen fuel technology, nuclear forensic science, non-proliferation, robotics, environmental remediation, nuclear waste vitrification, spent fuel reprocessing, and decontamination of nuclear facilities. Indeed, Secretary Abraham noted that this declaration of national laboratory status was really an acknowledgment of the technical excellence that already exists in the laboratory.

Obtaining national laboratory status will make it easier to attract the brightest of the nation's scientists and engineers. That will not only benefit the laboratory, it will also benefit area communities on both sides of the river. Experience has shown that these people become quality citizens in their communities, contributing to schools, cultural activities and local governments. In addition, salaries at the national laboratories are high, and those at SRNL are expected to average nearly three times over twice the overall averages in South Carolina or Georgia.

At all of the national laboratories, commercial, tax-paying businesses have spun off, which further strengthens the economies and the tax bases of local communities. One way this happens is that patented inventions from the lab are licensed to local businesses for commercial exploitation. Also, DOE often hires commercial businesses to produce products based on research and development done at the national laboratory. It is reasonable to expect the same things will happen here.

This wonderful announcement by the Secretary did not happen by accident. Many people have contributed to this success, but without question, SC Senator Lindsey Graham deserves the lion's share of the credit. He pressed DOE for this even when he was South Carolina's 3rd District Representative, and he increased his efforts after becoming Senator in 2003. Even so, he would be the first to admit that his effort was greatly

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strengthened by support from Governor Sanford, Governor Perdue, and the congressional delegations from both Georgia and South Carolina. They all spoke with one voice in support of SRS and the national laboratory status. This level of support from citizens and elected officials of both parties in both states is unique in the U.S.

This creation of SRNL opens the door for SRS to play a major role in science and energy inventions and development in the 21st century. This is different from SRS's historic role of producing the essential materials for nuclear weapons, and it's a role that all of our citizens can embrace.

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June 8, 2004

Guest Editorial  
*The State Newspaper*  
Columbia, South Carolina

by Dr. Susan Wood, Chair  
Citizens for Nuclear Technology Awareness

The most urgent need at the Savannah River Site in terms of protecting the public, workers and the environment is to end the storage of liquid radioactive waste in aging steel tanks as soon as feasible. This waste is the most significant risk issue for the Site, and is the key part of the Site's accelerated cleanup effort.

And yet, a safe and logical path forward to achieve that end has been meeting substantial opposition and legal challenges.

To recap briefly, there were 51 tanks at SRS holding liquid radioactive waste left over from making nuclear weapons material. This waste, depending on its radioactive form, was to be solidified through either the Defense Waste Processing Facility and shipped to a federal repository as glass, or through the Saltstone facility and disposed of on-site as hardened cement in concrete vaults.

For many years now, the Department of Energy has recognized that there would be some waste left in the storage tanks after technically and economically practical methods have been used to empty and clean them. In planning final tank closures, DOE decided to have as much waste removed as possible and then fill the tank with the proper chemical and physical formulation of grout (cement), based on a scientific analysis of the residual material. Two tanks were closed in this manner at SRS in 1997.

The closures were acceptable to the Defense Nuclear Facilities Safety Board, South Carolina Department of Health and Environmental Control (SCDHEC), EPA and, in an advisory capacity, the Nuclear Regulatory Commission. The regulatory agencies, and the state of South Carolina, all agree that the approach is sound and can be done safely.

A lawsuit nevertheless challenged this general approach and stalled the cleanup. Apparently the opposition is motivated by a vague notion that the closure method would leave more waste in the state than anticipated. If the challenge ultimately prevails, emptying the tanks will take about 23 years longer than necessary, cost an additional \$16 billion, and expose workers, the environment, and the public to an unnecessary risk of leakage and occupational radiation exposure. This cannot be what any environmentalist wants.

Fortunately, Senator Lindsey Graham proposed an amendment to the fiscal year 2005 Department of Defense Authorization bill that would permit the accelerated cleanup. Now a House-Senate Conference Committee will work out differences between the Senate bill and the House bill which did not contain the Graham Amendment. Nothing could be more important to the state in terms of SRS cleanup than passage of that amendment.

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The technology and application of grouting these tanks have been intensely reviewed by both the Nuclear Regulatory Commission and Savannah River National Laboratory and are well established. Under heavy scrutiny, two tank closures using this method have succeeded. Their risk is reduced and cleanup greatly accelerated.

There is simply no good reason not to support this approach.

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May 27, 2004

Letter to the Editor  
*The Savannah Morning News*  
 Savannah, Georgia

Your May 26 article "G-8 Summit highlights fate of excess nukes" had a number of factual errors, exaggerated fears of things nuclear, and misrepresentations. For example, it refers to "... the Savannah River Site, a nuclear weapons factory ..." SRS does not, and never has, made nuclear weapons.

Another statement attributed to The Bulletin of Atomic Scientists is "... burning MOX creates as much plutonium as it gets rid of." This is untrue and seems to be deliberately misleading. Almost all of the weapons grade plutonium in the unirradiated MOX fuel will be destroyed (i.e., fissioned) in the reactor, making heat to make electricity. The uranium in the fuel will generate some plutonium, but the plutonium in the spent MOX fuel contains higher isotopes of plutonium, making it unattractive for nuclear weapons. Besides, the spent MOX fuel will be highly radioactive which makes it an unlikely target for thievery.

It is almost humorous that they are sponsoring "stark black and white photos" from Mayak, Russia, in an effort to frighten people about the Savannah River Site.

Safety issues with plutonium in MOX fuel are mentioned twice. This is fear mongering at its worst. In the U.S. and Europe many hundreds of tons of plutonium have been made, processed, shipped, stored, made into MOX "burned" as fuel. Not once has any of that plutonium been released or stolen. Not once has that plutonium hurt anyone or anything.

Many of today's anti-nuclear zealots were, like Cheryl Jay, taught by their parents to fear even trivial amounts of radioactivity, in effect creating a modern superstition, a fear based on ignorance.

J. M. (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

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May 25, 2004

Letter to Editor  
*Chemical & Engineering News*  
 Washington, DC

Dear Sir or Madam:

The May 10 issue had a piece by Michael Heylin under "HINDSIGHTS" that contrasted recommendations from the Defense Science Board (DSB) on the future nuclear weapons stockpile with selected parts of a survey done by the Program on International Policy Attitudes (PIPA).

The DSB recommended that the future U.S. stockpile should be modified, with research as necessary, to meet anticipated defense needs. On the other hand, the PIPA survey suggested that, instead of nuclear

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weapons the U.S. should rely on "... international cooperation and arms control agreements ..." and accelerated implementation of "... the Nuclear Nonproliferation Treaty (NPT) ... to work toward the eventual elimination of (all) nuclear weapon stockpiles ..."

The article states as a background fact "the search for security through nuclear weapons could well become the impossible nightmare." It is important to remember that our nuclear weapons were a significant contributor to winning the Cold War with the former Soviet Union. They continue to be an important contributor to maintaining a balance of power amongst nuclear nations and a potential deterrent to others.

Further evidence of the article's left-leaning nature is the statement "As has been demonstrated in Iraq, even a false alarm over nonexistent nuclear weapons can play a critical role in starting a war". Prior to the war Iraq had a program to develop nuclear weapons. That program was not "nonexistent", nor was it a "false alarm".

It is naïve to believe that the cause of international peace and liberty would be best served if the U.S. abandoned its nuclear weapons stockpile, and relied instead on agreements which many nations have not signed. For the foreseeable future, a policy which combines both the pursuit of such agreements with other nations and maintains a stockpile is essential for our National Security.

J. Malvyn (Mal) McKibben  
Executive Director  
CNTA

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April 29, 2004

Letter to the Editors  
*The Augusta Chronicle*, Augusta GA  
*The Aiken Standard*, Aiken SC  
*The Metro Spirit*, Augusta GA

### **To CNTA Members and Friends**

Yesterday afternoon Dr. Fred Davison passed away. For several months he had been battling esophageal cancer, receiving the best possible medical care from M.D. Anderson Hospital of Houston and the Medical College of Georgia.

Fred was one of those very rare people who was deeply admired and loved by everyone who was privileged to know him. He was a leader in the best meaning of that word. He had an enormous intellect, yet empathized with, and befriended, all of every station in life. He was well known for his friendly demeanor and humor. He was a devout Christian, and an active member of Reed Memorial Presbyterian Church in Augusta, where he taught an adult Sunday School Class.

Much has been said and written about the progress made at the University of Georgia during the 19 years that he was its president. Less well known is the important research he did, as a young veterinarian, for the Atomic Energy Commission, working with the late Professor Frank Spedding of Iowa State University. Throughout his life he believed that humanity could greatly benefit from nuclear technologies, including nuclear medicine, food irradiation, and nuclear production of electricity. This led him to accept the Chairmanship of the Board of Directors of Citizens for Nuclear Technology Awareness (CNTA) in 1994. He continued in that role until his death, contributing greatly to CNTA's educational programs and its growth.

All of us at CNTA will miss Fred enormously, and we extend our heart-felt condolence to his wife, Dianne, his three children and nine grandchildren.

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*Produced by Citizens for Nuclear Technology Awareness.*

April 15, 2004

Letter to the Editor  
*The Island Packet*  
 Hilton Head Island, South Carolina

Dear Sir:

Recently the Island Packet ran an article about a report "Danger Lurks Below" published by the "Alliance for Nuclear Accountability". This organization is a national alliance of anti-nuclear groups. Their report attempts to inflame irrational fears of radioactivity by exaggerating risks to human health from groundwater contamination on all of the Department of Energy (DOE) sites, including The Savannah River Site (SRS).

We will not comment on other DOE sites, but groundwater contamination at SRS is very well characterized, adequately monitored, and is mitigated where necessary. Data are reported annually in the SRS Environmental Monitoring Reports and in related (referenced) documents. These reports are factual and objective. They are widely distributed, and may be obtained by anyone by calling (803) 952-6931 or emailing james.heffner@srs.gov. They clearly show that there is no threat to anyone or anything.

Several points need to be made. First, no groundwater contaminants within SRS are detectable in any offsite wells. Also, all onsite drinking water comes from onsite wells, and it contains no contaminants. A priority of the SRS groundwater-monitoring program is to ensure that contamination is not transported offsite. The South Carolina Department of Health and Environmental Control provides conservative regulation of groundwater contamination, and receives all sample analyses.

We hope that your readers will not be misled by the hyperbole coming from professional anti-nukes.

Sincerely,

Mal McKibben

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April 15, 2004

Rob Novitt  
*The Aiken Standard*  
 Aiken, SC 29801

Dear Rob,

The AP article by M. Joseph Hebert in the April 8 issue of the Aiken Standard was obviously based in part on the telephone interview you had with me. Unfortunately, some of my input was garbled in the article. Let me cite a couple of examples.

Tom Clement and the other anti-nukes have taken the position that "all" radioactivity must be removed from the high-level waste tanks, then the tanks themselves cut-up and buried. You mentioned to me that Clement thought we should support that recommendation because it would cost a lot more and therefore would pump more money into our area. My response was "Tom Clement has never spoken for folks like me, and he certainly does not in this case. We are not that cynical". The way the quote was used in the article makes it sound like I supported DOE's withholding the \$350 million to try to force Congress's hand to approve their accelerated waste cleanup proposal, which I do not support.

Some of our conversation included my assessment of DOE's current proposal to stabilize some of the lowest concentrations of cesium-137 waste in concrete (in vaults) onsite and stabilizing the small residue of sludge in the waste tanks by incorporating it in concrete grout. Significant improvements in those two processes

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have been proposed by WSRC that would greatly reduce the amount of radioactivity left on the site. I believe that if the famous Idaho trial were held today this new proposal would be found to comply with the Nuclear Waste Policy Act which allows such residues to be stabilized in place provided efforts are made to reduce the level of radioactivity to as low as reasonably attainable. Somehow this discussion didn't make it into the article.

The very bad thing about the judge's decision in Idaho was that he didn't tell DOE what would be acceptable, so DOE had no way to proceed with the waste removal. That created a huge problem. DOE has concluded that resolving the problem legislatively may be the best solution. The only other option would be to appeal the court case and that could take years, which would create a cascade of problems at SRS such filling up the existing waste tanks and perhaps shutting down the Defense Waste Processing Facility.

DOE is attempting to dispose of the high-level waste quickly and cheaply, and that is a good thing as long as it is done safely. Unfortunately the court decision exacerbated the problem. The technical solution now being proposed through legislation seems to be the best solution, even though it creates the false impression that DOE is trying to circumvent the law.

Sincerely,

J. M. McKibben

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February 24, 2004

Letter to Editor  
*The Augusta Chronicle*

An article in yesterday's Chronicle gave the impression that CNTA was not pleased with the efforts of our elected officials in getting new contracts and missions for SRS. The exact opposite is true; we have been more than pleased with their support and their efforts both in South Carolina and in Georgia, and we are confident of future successes.

What I was attempting to relate in my interview with Mr. Gelinas was that over the past year New Mexico and Idaho have been very successful in getting several new missions whereas SRS has not yet gotten new missions we were seeking (e.g. Modern Pit Facility, national laboratory status for SRTC, a hydrogen laboratory, a teaching and research reactor), and the missions we had previously gotten have been delayed (Mixed Oxide Fuel Fabrication Facility, Pit Disassembly and Conversion Facility). I'm sure there are many reasons for this, but a contributing factor may have been it was simply an accident of timing that South Carolina was experiencing major transitions with a new governor (Mark Sanford), a new U.S. Senator (Lindsey Graham) and two new U.S. Representatives (Joe Wilson and Gresham Barrett).

We have no doubt that we will soon see progress on several of these SRS opportunities, and our state and federal representatives will be responsible for the turnaround. They, and we, will be doing all we can to be sure that decision makers are fully aware of the unparalleled level of support from our citizens, community leaders, and all government officials.

Mal McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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Brad Warthen  
Editorial Page Editor  
*The State*

Mr. Warthen:

*Produced by Citizens for Nuclear Technology Awareness.*

We were surprised and disappointed with your March 18 editorial excoriating the action of the SC House of Representatives for approving a one-year increase in the volume of low-level waste received at the Chem-Nuclear facility in Snelling. Your lead sentence said the House was "selling the state's clean air, water and soil for a pittance." That statement makes me wonder if you understand what goes on at Chem-Nuclear, or what the House action does.

Radioactive emissions to the atmosphere and surface water are miniscule, and are no threat to anyone or anything. Thousands of samples from onsite and offsite monitoring wells are analyzed annually. The emissions and groundwater releases are well within the conservative regulatory limits of SC's Department of Health and Environmental Control (DHEC). They do not despoil "air, water and soil". And, we do not view the six million dollars SC will receive is a "pittance".

The current proposal does not expand the amount of waste to be stored at the site, and it is not "backing away from the facility's phase-out". The site is licensed to receive and dispose of an additional 2.6 million cubic feet of low-level nuclear waste. The current proposal does not change that, nor does it change the Atlantic Compact agreement to limit the sources of waste after 2008.

The intensity of your opposition amounts to hyperbole, exaggerating the problems and minimizing the benefits. Chem-Nuclear operations have been safe and environmentally responsible. Their training and procedures, and DHEC's regulation, assures that they will remain so. They have brought hundreds of millions of dollars to SC's treasury, and a significant amount to Barnwell County. The site has been a good neighbor, supported by the citizens and elected officials of Snelling and Barnwell and by the citizens who put their homes just outside the fence. They deserve to be supported.

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December 22, 2003

Mr. Michael Ryan, Editorial Page Editor  
*The Augusta Chronicle*  
 Augusta, Georgia

Dear Mr. Ryan:

Several news articles and editorials have recently decried DOE's decision not to continue funding Georgia's program to monitor radioactivity in and around the Savannah River downstream from Augusta. Key points have been overlooked in these discussions.

DOE's support of the Georgia monitoring program was defined in a letter from DOE Secretary Bill Richardson to Governor Barnes August 9, 2000. It awarded a 3-year grant to cover "startup costs" for "Georgia's environmental responsibilities". DOE met its obligation. If Georgia wishes to continue the program it is certainly free to do so.

Please note, however, that if the Georgia program stops, five other monitoring programs will continue. These are run by South Carolina's Department of Health and Environment Control (DHEC), the Savannah River Site (DOE's massive program), Georgia Power (Plant Vogtle), the City of Savannah, and the University of Georgia (Savannah River Ecology Laboratory). Indeed, the Savannah River is probably the most thoroughly analyzed river in the world.

Some have tried to frighten the public into believing that their health is at risk if the Georgia program stops. That is nonsense, and very irresponsible.

Sincerely,

J. Malvyn (Mal) McKibben

*Produced by Citizens for Nuclear Technology Awareness.*

Executive Director  
Citizens for Nuclear Technology Awareness

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December 22, 2003

Phillip Lord, News Editor  
*The Aiken Standard*  
Aiken, South Carolina

Dear Mr. Lord:

News articles and editorials in several area newspapers have recently decried DOE's decision not to continue funding Georgia's program to monitor radioactivity in and around the Savannah River downstream from SRS. Key points have been overlooked in these discussions, which the public should be aware of.

DOE's support of the Georgia monitoring program was defined in a letter from DOE Secretary Bill Richardson to Governor Barnes August 9, 2000. It awarded a 3-year grant to cover "startup costs" for "Georgia's environmental responsibilities". DOE met its obligation. If Georgia wishes to continue the program it is certainly free to do so.

Note, however, that if the Georgia program stops, five other monitoring programs will continue. These are run by South Carolina's Department of Health and Environment Control (DHEC), the Savannah River Site (DOE's massive program), Georgia Power (Plant Vogtle), the City of Savannah, and the University of Georgia (Savannah River Ecology Laboratory). Indeed, the Savannah River is probably the most thoroughly analyzed river in the world.

Some have tried to frighten people living along the river into believing that their health is at risk if the Georgia program stops. That is nonsense, and very irresponsible.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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December 19, 2003

Mr. M. Daniel Suwyn, Managing Editor  
*Savannah Morning News*  
Savannah, Georgia

Dear Mr. Suwyn,

Several news articles and editorials have recently decried DOE's decision not to continue funding Georgia's program to monitor radioactivity in and around the Savannah River downstream from Augusta. Key points have been overlooked in these discussions.

DOE's support of the Georgia monitoring program was defined in a letter from DOE Secretary Bill Richardson to Governor Barnes August 9, 2000. It awarded a 3-year grant to cover "startup costs" for "Georgia's environmental responsibilities". DOE met its obligation. If Georgia wishes to continue the program it is certainly free to do so.

It is worth noting, however, that if the Georgia program stops, five other monitoring programs will continue. These are South Carolina's Department of Health and Environment Control (DHEC), the Savannah River

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Site's (DOE's) massive program, Georgia Power (Plant Vogtle), the City of Savannah, and the University of Georgia (Savannah River Ecology Laboratory). Indeed, the Savannah River is probably the most thoroughly analyzed river in the world.

The point, however, is that frightening the public into believing that their health is at risk if the Georgia program stops is wrong and irresponsible.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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September 2, 2003

Mr. Ron Cunningham, Editorial Page Editor  
*The Gainesville Sun*  
Gainesville, Florida

Dear Mr. Cunningham:

The opinion piece "No Need for Nuclear Research," printed August 21, 2003, misses the mark badly and needs to be answered.

The current Administration has increased spending for nuclear weapons research for two valid reasons. First, the entire nuclear weapons establishment was allowed to deteriorate badly under previous Administrations, to the point where Congress stepped in, creating the National Nuclear Security Administration, not to build new weapons, but to assure that our stockpile, whatever its size, worked. Second, considerable money is being spent on high-tech facilities and computers to try to develop the ability to verify weapons performance and reliability without doing weapons tests.

The opinion piece suggests that other nations are interested in developing nuclear weapons because we have them. The unstated corollary is that if we destroyed our nuclear weapons everyone else would too. That is extremely naïve. Our nuclear strength was, at least in part, responsible for winning the Cold War, which most would agree was a good thing.

Two other points. "Uranium mining, milling, and processing" is almost entirely associated with commercial nuclear fuel, not weapons. But, health risks associated with it are a tiny fraction of the health risks from coal and natural gas. The second point is I don't believe there is a radiation health effects expert anywhere in the world who thinks that the radiation from depleted uranium used by the military will cause adverse health effects.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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Ms. Cynthia Tucker  
Editorial Page Editor  
*The Atlanta Journal-Constitution*  
P.O. Box 4689  
Atlanta, GA 30302

*Produced by Citizens for Nuclear Technology Awareness.*

Dear Ms. Tucker:

The August 6<sup>th</sup> opinion article, "Nuclear Nightmare Must Not Be Relived" represents extreme views that fortunately, are not shared by most Americans.

The deaths caused by the atomic bombs that were dropped at Hiroshima and Nagasaki were indeed horrible, but objective appraisals before and after that event concluded that dropping those bombs saved far more lives than they took. More people died from incendiary bombs than atomic bombs, but somehow that doesn't generate the same emotional reaction in some.

To use the specter of people dying from atomic explosions in WWII as a reason to object to the construction of the Modern Pit Facility stretches reason. Do the authors really believe that unilateral disarmament by the U.S. would bring about world peace?

The Cold War was won, at least in part, because of our nuclear deterrent. Isn't winning the Cold War recognized as a good thing? Similarly, future national security and protection of freedom will require U.S. military strength. If we are to maintain a stockpile of nuclear weapons of any size, a facility to recycle pits is necessary.

The reference article was rife with misleading and incorrect statements about SRS and its effect on the environment. The clear fact is that if the Modern Pit Facility is to be built, SRS is by far the best site for it. And, there is no reason to believe that it will not be operated in a safe and environmentally acceptable manner.

The authors imply that tiny amounts of radioactivity, such as from the trace of tritium in the Savannah River, are somehow a human threat. Irrational fear of anything, hobgoblins or radioactivity, is silly superstition.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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Mr. Michael Getler  
Ombudsman  
*The Washington Post*  
1150 15<sup>th</sup> Street NW  
Washington, DC 20071

Dear Mr. Getler:

Antinuke groups are using misrepresentations to attack the government's plan to maintain the reliability of the U. S. nuclear weapon stockpile. The government is proposing to construct a multi-billion facility, the Modern Pit Facility (MPF) to recycle old, and perhaps unreliable, triggers (called "pits") in the nuclear weapons. This new facility may be built at the Savannah River Site.

Here are just a few of the most frequently heard misrepresentations:

"DOE is always asking Congress to fund a Cold War nuclear arsenal, but the Cold War is over. " The need for recycling old pits into new ones has nothing to do with the Cold War or the size of the stockpile of nuclear weapons, which is being reduced. Pits degrade, so they must be recycled to insure their reliability.

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"If we build the MPF it will start a new arms race." Since the MPF isn't adding to the stockpile, there is no reason for any nation to expand their weapons production in response. Besides, whom would the race be with? North Korea?

"Los Alamos National Laboratory can recycle all the pits needed." Los Alamos is for research, and can't recycle either the number of pits needed per year or all of types of pits.

"We don't need to make any more plutonium." There are no plans to make any more plutonium. The MPF won't do that.

"They say the MPF will be safe, but if SRS is interested in safety, why haven't they passed out potassium iodide pills to people in surrounding communities?" The safety record of SRS is superb and beyond question. And, there is no reason to give area citizens potassium iodide because it protects only against radioactive iodine-131, which doesn't exist at SRS.

"The MPF will make bombs. " No. A pit is not a bomb.

"All those elected officials who support the MPF are only interested in the money it will bring in. " This is an unconscionable allegation. The public officials who have written or made statements in support of MPF have said that national security and maintaining world peace was their primary reason for supporting the MPF.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 12, 2003

Beth Padgett  
Editorial Page Editor  
*The Greenville News*  
P.O. Box 1688  
Greenville, SC 29602

Dear Ms. Padgett:

The article "Nuke Triggers Re-Ignite Environmental Concerns" leaves several incorrect impressions. First, the title and the article summary mention "environmental concerns" and "nuclear pollution," but the article gives little-to-no support for those allegations, which we regard as irresponsible. Second, the article relies heavily on the opinions of anti-nuke groups, which can be counted on to provide doom and gloom predictions.

The essential facts about the Modern Pit Facility (MPF) are as follows:

- If the U.S. is going to maintain a nuclear weapons stockpile of any size we must have the ability to recycle old "pits" into new ones, because pits degrade.
- SRS has safely made, processed, and shipped many tons of plutonium.
- SRS has all the needed support infrastructure -- security, plutonium accountability, isolation from the public, technical support, waste handling, and emergency coordination.

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- Safety and responsible environmental stewardship have always been hallmarks of operations at SRS, and that will also be true for MPF.
- Elected officials from around SRS are fully supportive of the MPF, as are nearly all of our citizens.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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May 2, 2003

Douglas Clifton, Editor  
*The Plain Dealer*  
Cleveland, Ohio

Dear Mr. Clifton:

Congratulations to you and Stephen Koff for the April 27 article "`Peaceful` nuclear power fuels spread of weapons". Better than any article I have seen, your article correctly identifies the problem of increasing nuclear weapons proliferation and all of its variables and possible resolutions.

Some of us who have spent our careers in the nuclear business have known for a long time the day would eventually come when any nation desiring nuclear weapons would have a choice of making them or buying them. We are close that that point, if not already there. If the community of nations concludes that this is an unacceptable state of affairs, international agreements, with teeth, will be necessary, perhaps through IAEA, perhaps not.

Interestingly, some early nuclear pioneers believed that the world would be safest if nuclear weapons were widely held, because then no nation would dare use them for fear of subsequent annihilation.

The option preferred by anti-nuclear groups of avoiding nuclear power as a means of controlling the spread of nuclear weapons has never been a reasonable strategy because improving the quality of life for humanity's less fortunate depends on having abundant energy widely available. If we are unwilling to despoil the planet's environment, nuclear power is the only way to do that; unless fusion comes to the rescue.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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January 24, 2003

Brad Warthen  
Editorial Page Editor  
*The State*  
1401 Shop Road  
Columbia, SC 29201

Dear Mr. Warthen:

*Produced by Citizens for Nuclear Technology Awareness.*

After reading your article, "Zap and Serve," on food irradiation, I was impressed with the professionalism of the author, Linda H. Lamb. She did a thorough job of researching the topic and she presented viewpoints of both proponents and critics. Food irradiation is still a very controversial technology and precipitates heated debates reminiscent of those over pasteurizing milk and adding fluoride to drinking water. Even one of Ralph Nader's antinuclear organizations "damns it (food irradiation) with faint praise" ... "it is no substitute for cleaning up filthy slaughterhouse conditions that can cause contamination." Surely the thousands of deaths and illnesses from food-borne diseases is a powerful reason to accept the proven technology of food irradiation.

Sincerely yours,

Thomas F. Parkinson, Ph.D.  
Professor Emeritus  
Citizens for Nuclear Technology Awareness

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January 20, 2003

Phillip Lord  
News Editor  
*Aiken Standard*  
P.O. Box 456  
Aiken, SC 29802

Dear Mr. Lord:

It didn't make a lot of headlines, but a small milestone was reached recently for those who want greater assurance that their food doesn't contain harmful germs or parasites. The Publix grocery chain has joined a growing list of food retailers announcing that they would be marketing frozen meats and poultry that had been purified by radiation.

Those who follow this 50 year-old technology are well aware of its advantages. It destroys such bad things as salmonella and E. coli, without affecting nutrients, and with little or no effect on taste or texture. Radiation also greatly reduces spoilage of fruits and vegetables such as papayas, mangos, Vidalia onions, strawberries, etc. This is obviously important for the consumer, but it is very important to producers, wholesalers, and retailers who suffer costly spoilage during storage and shipment.

According to the Center for Disease Control and Prevention (CDC), contaminated food is responsible for about 5,000 deaths, 325,000 hospitalizations, and 37 million lesser illnesses each year in the U.S. Today, we wouldn't think of buying un-pasteurized milk. Amazingly, it took decades to convince the public that was OK. Perhaps in the future we will be similarly cautious about our meats, poultry and vegetables.

With warm regards,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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January 13, 2003

*Time Magazine*

Letters to Editor  
Time & Life Building

*Produced by Citizens for Nuclear Technology Awareness.*

Rockefeller Center  
1271 Avenue of the Americas  
New York, NY 10020

Dear Sir or Madam:

Last month's issue of *Southern Living* had a full-page ad by *Time* magazine that was disturbing to me. It made two subtle points or implications, both of which are factually misleading and not in our nation's interest.

The first invalid implication was that environmentalists should be concerned about nuclear power. Informed environmentalists support nuclear power, because, compared to other ways of making large amounts of electricity, nuclear is clean and green. It doesn't make acres of uncontrolled waste containing poisonous heavy metals; it doesn't emit acid-formers or smog-formers into the atmosphere; it doesn't discharge megatons of carbon dioxide into the atmosphere that contribute to global warming; and it discharges far less radioactivity than a coal plant of equal generating capacity.

The second invalid (or at least exaggerated) implication was that we now have to be concerned about airplanes crashing into the nuclear plants. Two recent bona fide engineering studies have concluded that this is not a concern, even for 747s. The planes won't penetrate the 4-foot thick reinforced concrete containment dome.

Regards,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

cc: *Southern Living*, Editorial Office

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October 4, 2002

Mr. Michael Ryan, Editorial Page Editor  
*The Augusta Chronicle*  
Augusta, Georgia

Dear Mr. Ryan:

Since September 11, 2001, the so-called "dirty bomb" or "poor-man's nuclear weapon" has been frequently mentioned in discussions of potential weapons of terror. It is no secret that this device (radioactive material in close proximity to a conventional explosive) is easy and inexpensive to build.

But what is overlooked in these discussions is that the dirty bomb would cause few, if any, injuries or deaths. If they occurred, they would result from the explosive, not the radioactive material. However, the psychological impact on the public would be high because radiation and radioactivity are involved, and they are modern scare words.

The fear caused by the threat of this device would be substantially reduced if the public understood the minimal harm from a dirty bomb. Fear is a potent weapon of terrorists and knowledge is the antidote. Without this fear, the bomb's value as a terrorist device would be considerably diminished, and it would less likely be used.

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Your newspaper could help defuse the bomb by presenting easy-to-understand information about the device. In doing so, you would provide a valuable public service to the many communities you serve so well. CNTA would help. Our members include nationally recognized experts on radioactivity and radiation health effects. They could provide scientific advice and identify other experts to assist your staff.

We would be pleased to discuss this proposal with you or your staff.

Sincerely,

Fred C. Davison, Chairman  
Citizens for Nuclear Technology Awareness

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October 4, 2002

Ned Crabb, Letters Editor  
*The Wall Street Journal*  
South Brunswick, New Jersey

Dear Mr. Crabb:

It is disappointing to see the *Wall Street Journal* parroting the illogic of the professional anti-nukes on the exaggerated risks of using plutonium as fuel to make electricity. The editorial attacked both the current U.S./Russian program to dispose of surplus weapons plutonium in mixed oxide (MOX) fuel.

The MOX fuel fabrication plant is to be built on the Savannah River Site in South Carolina. It is convoluted thinking to claim that this program increases the risk of proliferating nuclear weapons. Quite the opposite, this program IS a non-proliferation program, converting weapons plutonium into electricity to benefit society - a genuine "swords into plowshares" program. The MOX fuel, when spent, will not be a desirable target for potential proliferators and can be safely disposed of in the Yucca Mountain geologic repository. The statement that South Carolina's Governor opposes the MOX plant is simply wrong. He fully supports it, as did his predecessors.

The notion that making electricity from plutonium "is a gift to the terrorists" is untenable. Everyone who makes, purifies, and ships plutonium is keenly aware of the need and the requirements for strict security and accountability. There is no reason to believe that any purified plutonium has been stolen. There is no reason to expect that any will ever be stolen. Terrorists have many less risky alternatives.

About 20% of our electricity comes from nuclear plants. What is not generally known is that nearly half of the fission heat produced in these reactors comes from plutonium. It is time for America and America's news industry to get real. Nuclear power is here to stay, and so is plutonium.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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October 2, 2002

James Werrell, Editorial Page Editor  
*The Herald*  
Rock Hill, South Carolina

Editorial Page Editor

*Produced by Citizens for Nuclear Technology Awareness.*

*The Island Packet*  
Hilton Head Island, South Carolina

Dear Sir or Madam:

The editorial published in the *Rock Hill Herald* and repeated in *The Island Packet* illustrates there is still confusion about DOE's intentions regarding plutonium coming to SRS and SRS high-level waste.

Governor Hodges' dispute with DOE over plutonium coming to SRS from Rocky Flats was an attempt to get DOE to make firm commitments to process the material, creating the promised jobs. DOE's plans changed when they decided not to immobilize the plutonium alloys, ash, and salts coming from Rocky Flats. Most of that will be purified and made into mixed oxide (MOX) fuel. DOE and its contractors are studying what to do with the rest of it. Nobody is proposing to just store it.

The DOE decision not to immobilize makes sense because (1) the cost to immobilize is very high for such a small amount of plutonium, and (2) immobilizing weapons-grade plutonium would leave a lot of weapons-grade plutonium in the ground that could be mined by future mischief-makers. Would we really want to leave such plutonium mines in Russia, China, etc.?

The other item has to do with disposal of SRS's salt waste, which is one form of its high-level waste. It contains cesium-137 and some strontium-90 in a salt that is mainly sodium nitrate. To save \$500 million, DOE's Inspector General recommended that this waste be made into a concrete grout and poured into concrete vaults onsite. Several blue-ribbon committees, including a committee of the National Academy of Sciences, had already considered and rejected this option.

It is wrong to assume that DOE will go along with the Inspector General's request. After the Inspector General made his recommendation DOE issued contracts to two companies to do conceptual designs of a process facility that would put all the salt radioactivity into Defense Waste Processing Facility's glass-waste canisters headed for the Yucca Mountain repository.

We don't see any evidence that DOE "is ready to stick it to South Carolina...".

Sincerely,

Bill Mottel  
Hilton Head Island Councilman  
Former Plant Manager, Savannah River Plant  
CNTA Director

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September 5, 2002

Brad Warthen, Editorial Page Editor  
*The State* Newspaper  
Columbia, South Carolina

Dear Mr. Warthen:

The anti-nuclear community opposes the U.S. program to dispose of surplus weapons plutonium by burning it as mixed oxide (MOX) fuel. Their reasons, not always obvious, were summarized very well in an August 31st letter from Tom Clements of Greenpeace. He wrote, "Creation of a MOX infrastructure in the United States and Russia will only result in more handling, processing and transport of plutonium with more possibility of theft and diversion and greater environmental impact."

*Produced by Citizens for Nuclear Technology Awareness.*

Those of us who support the MOX program would switch sides in a moment if we thought either of these things could happen. But, we are confident they will not happen - no plutonium will be stolen to make nuclear weapons, and there will be no adverse environmental impact. We are confident of that because we are aware of the safeguards that are in place to prevent it, and we are aware that hundreds of tons of plutonium have been handled, processed and transported for fifty years in the U.S. and Europe without it happening.

Throughout the world, about 1,600 metric tons of plutonium now exist. It exists as weapons material in at least six countries, in spent commercial fuel in about 35 countries, and as purified oxide (from reprocessed commercial fuel) in five countries. It is far too late to consider eliminating all plutonium from the earth, even if we wanted to. It is not going away. So, the only alternative is to manage it safely and with rigorous safeguards. The good news is that, so far, we have done that very well.

Sincerely,

William C. Reinig  
Vice Chairman  
Citizens for Nuclear Technology Awareness

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September 4, 2002

Randy Frisch, Editorial Page Editor  
*The Salt Lake Tribune*  
Salt Lake City, Utah

Dear Mr. Frisch:

The August 25th article on transportation of spent nuclear fuel did a good job of dredging up just about every nonsensical claim of the professional anti-nuke community and a few of their terrified converts. To achieve "balance" you threw in informed technical opinions of some folks who have actually, and factually, studied the subject.

Tens of thousands of shipments of spent nuclear fuel have occurred worldwide. No container has ever been breached and there is no reason to think one ever will. The tiny radiation dose received by anyone close to a passing truck or train is far too low to be of concern to anyone.

What we are seeing from the anti-nuke community is a last desperate attempt to prevent nuclear power from growing. It is fear mongering at its worst. And, by the way, you don't really obtain "balance" by mixing equal parts of truth and nonsense.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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July 30, 2002

Phillip Lord, News Editor  
*The Aiken Standard*  
Aiken, South Carolina

Dear Mr. Lord:

*Produced by Citizens for Nuclear Technology Awareness.*

In the July 29 Aiken Standard Mr. Joey Mets asked two legitimate questions about the much-discussed plutonium coming to SRS. His questions deserve answers, which I will attempt to provide.

He asked, "... why is providing a set date for processing and removal ... such a big deal?" Then, "Is the government trying to store the plutonium here, unprocessed, forever?"

It is virtually impossible for DOE to "guarantee" certain dates for processing and removal. I'll give three reasons. First, for a bunch of reasons mega-projects (billions of dollars) often have difficulty meeting forecast schedules. Scholarly books have been written on this subject. Second, DOE's funding is determined by Congress's annual budgeting process. DOE is at their mercy. Third, DOE is in the Executive Branch of government, which means they take their orders from whomever is president at the moment, and big projects usually are active through several presidential administrations.

In this case all of the parties (stakeholders) are in serious agreement. The DOE, President Bush, the State of South Carolina, the Congress, the Russian Government, WSRC, and our local citizens all want the surplus weapons-grade plutonium to be processed, irradiated, and sent to our geologic repository as soon as it can reasonably and safely be done.

During the public dispute, it has occasionally been said that the plutonium shipments, and possible storage of plutonium at SRS, represent a danger to our citizens. That is completely false. DOE and SRS certainly know how to package, ship, and store plutonium. We did that to nearly 40 tons of it over the past 50 years, and no one was ever hurt by it.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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July 2, 2002

Suzanne Downing, Editorial Page Editor  
*The Augusta Chronicle*  
Augusta, Georgia

Dear Ms. Downing:

An ad in the Sunday *Augusta Chronicle* reached a new level of irresponsibility and dishonesty. The ad suggested that areas of natural beauty in the southeast would be despoiled if the government went forward with its plans to ship spent nuclear fuel to the geologic repository at Yucca Mountain, Nevada. Then it suggested that these shipments would somehow endanger the lives of our citizens, and that the federal government had admitted, "untold numbers of deaths are inevitable."

These statements are either deliberate lies, or they represent an unbelievable level of ignorance and irrational fear. Irrational fear of anything - hobgoblins or radioactivity - is silly superstition.

Tens of thousands of shipments of radioactive materials have been made in the U.S. No leaks of radioactivity have occurred, and no person has been adversely affected. The same is true in Europe and Asia. There is no reason to believe that this record of unparalleled safety won't continue.

This ad is one part of a well-organized and well-funded campaign by anti-nuclear zealots. What they are trying to do is stop nuclear production of electricity. Their last line of defense is to keep Yucca Mountain from opening.

*Produced by Citizens for Nuclear Technology Awareness.*

These people often masquerade as environmentalists, but honest environmentalists support nuclear power because it is the only clean and green way we have of making large amounts of electricity. It does not contribute to smog, acid rain, heavy metal pollution or global warming.

We trust that our citizens are too knowledgeable to be taken in by such nonsense.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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July 1, 2002

Forum  
*National Geographic Magazine*  
P.O. Box 98199  
Washington, DC 20090-8199

Dear Sir or Madam:

The July article on America's efforts to dispose of its radioactive waste was well-researched, well-written, and well-illustrated, but still exhibited subtle anti-nuclear bias.

An example is the sub-title, "The Lethal Legacy of America's Nuclear Waste." Things that kill people are appropriately called "lethal". Among the things that routinely kill people are table salt, slippery bathtubs, water, and little red wagons, but I am not aware of anyone ever being killed by radioactive waste.

Another example is the report of anti-nukes that there is a public health hazard associated with the shipment of radioactive materials, but without presenting informed opinion to the contrary. Many tens of thousands of shipments of radioactive materials have been made in the U.S. alone, and there has never been a breach of containment, and there is no reason to believe that anyone has ever been harmed by it. Compare that safety record with the transportation of any other hazardous material, such as gasoline, liquid ammonia, nitric acid, etc. Even if the informed view had been presented, there still would have been a problem because "balance" is not obtained by mixing equal parts of truth and nonsense.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 26, 2002

Letter to the Editor  
*The News-Journal*  
Daytona Beach, Florida

Dear Sir or Madam:

We read with interest your editorial of June 25, "Yucca's False Promise: Nukes Repository a Gift to Nuclear Power Industry." Unfortunately, it contained several errors of fact that lead to incorrect conclusions.

*Produced by Citizens for Nuclear Technology Awareness.*

The utilities that provide the nation's electricity do not agree with your statement that the country "... doesn't even need the energy." Utility forecasters predict that demand for electricity will increase by 1.8% to 2.5% per year over the next few decades. That will require over 300 gigawatts (300,000 megawatts) of new capacity by the year 2020.

The editorial stated that Yucca Mountain was a federal gift to the nuclear power industry. Are you unaware that all of the Yucca Mountain costs are being paid for by congressionally mandated tax collected by the utilities?

The editorial concluded that "science is secondary" in the government's decision to store waste at Yucca Mountain. Nothing could be further from the truth. The 20-year study of Yucca Mountain has been guided by, reviewed by, and approved by some of the nation's best scientific minds in all the appropriate scientific disciplines, including university professors, scientists at our national laboratories, and members of the National Academy of Sciences.

It is hardly surprising that NRC's advisory committee "hasn't signed off on the risks." NRC has not even received a license application from DOE yet.

The final sentence in the editorial says that nuclear power "condemns" the environment. Quite the opposite is true. Unlike coal, oil, and to a lesser degree gas, nuclear power does not contribute to acid rain, smog, heavy metal pollution, or global warming. And, on a per kilowatt basis, nuclear plants put less radioactivity into the air than a coal plant. Indeed, nuclear is the only clean and green way we have to make large amounts of electricity.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 26, 2002

Letter to the Editor  
*USA Today*  
McLean, Virginia

Dear Sir or Madam:

Thank you for the balanced report on shipment of plutonium from Rocky Flats, Colorado to the Savannah River Site in South Carolina.

The article states "environmentalists fear a canister leak or security breach could cause the substance to be dispersed." This is the well-coordinated cry of antinuclear zealots, many of whom masquerade as environmentalists. But, thousands of shipments of plutonium have been made over the past 50 years and there has never been a release.

Your report showed, as many other reports have, that those who know the most about how the plutonium is packaged and shipped are the least worried.

With warm regards,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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June 12, 2002

Ms. Cynthia Tucker, Editorial Page Editor  
*The Atlanta Journal-Constitution*  
Atlanta, Georgia

Dear Ms. Tucker:

On June 9, 2002 the *Atlanta Journal-Constitution* ran an article on the potential construction of a facility at the Savannah River Site to manufacture pits for future nuclear weapons. The article contained important misrepresentations of fact and misleading implications. The most important misstatement was that the facility would be making bombs. A pit is a component in a nuclear weapon; it is most definitely not a bomb.

The need for new pit manufacturing capability was questioned. If the nation is going to maintain a nuclear weapons capability into the future such a facility is necessary, regardless of the size of the weapon stockpile. There are two reasons. The pits in existing weapons won't last forever, and any new weapons design will require new pits.

It is incorrect and misleading to say, "The Energy Department acknowledges it will take years and billions of dollars to clean up the pollution left over from years of producing radioactive plutonium and tritium for nuclear weapons." [Emphasis added.] What will take years and billions is the permanent disposition of waste (which is contained and is not a significant pollution threat) and the decontamination and demolition of surplus facilities. Some "pollution" cleanup is going on but is a minor component.

The statement "the plant ... has been called one of the most contaminated spots in the nation" has never been said by any knowledgeable, objective person, because it is not true. In fact, it is outrageous nonsense. The site's environment has been surveyed continuously since before operation began in the early 1950s. This was done not only by contractors, but also by the University of Georgia's Savannah River Ecology Laboratory (SREL) and the Philadelphia Academy of Natural Science. Hundreds of their reports and technical papers paint a different picture. In fact, SREL reports have stated that SRS is one of the most ecologically diverse places in the U.S. It didn't get that way by being polluted.

The possible location of the pit facility at SRS was questioned. The National Environmental Policy Act (NEPA) requires that DOE do a site selection study, but based on support facilities, site experience, and availability of expert personnel, SRS appears to be better positioned than any other DOE site to do this mission. That is a good thing for the nation, and it is certainly a good thing for our economy.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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May 1, 2002

John Drescher, Managing Editor  
*The State* Newspaper  
Columbia, South Carolina

Dear Mr. Drescher:

A myth of our times is that plutonium is an extraordinarily hazardous substance second to none. Perhaps that's why a headline in *The State* (April 19, page B1) included the words "Deadly Plutonium" and the same

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article described plutonium as the "Earth's most carcinogenic substance". Comprehensive medical surveillance of the tens of thousands of plutonium workers in the USA since its discovery in 1940 has shown the real facts are vastly different.

To provide the media an accurate perspective about the hazards of plutonium, the Health Physics Society issued a position paper *What About "Deadly Plutonium"?* This is the largest organization of radiation safety specialists in the world. Its members are scientists, engineers and physicians in 50 nations who evaluate and control potential risks from radiation. I am a past-president of the organization.

The bottom line of the enclosed position paper is that while plutonium is a potentially hazardous material, it is not the dreaded mind-bending poison and carcinogen that your article implied.

The Savannah River Site will be involved in plutonium missions for many years and your paper will continually report on various aspects of these operations. To assure the accuracy of future articles, I suggest that members of your staff have an opportunity to meet with a university expert for an hour or so who could discuss the health effects of plutonium and answer any questions. Let me know if you want us to arrange the meeting. We would do this pro-bono as part of our educational program to provide factual information to the public on nuclear issues.

Sincerely,

William C. Reinig  
Vice Chairman  
Citizens for Nuclear Technology Awareness

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January 24, 2002

Suzanne Downing, Editorial Page Editor  
*The Augusta Chronicle*  
Augusta, Georgia

Dear Ms. Downing:

The citizens of South Carolina and the nation should be very pleased that the Bush Administration has decided to proceed expeditiously with the disposal of surplus weapons-grade plutonium by "burning" it as Mixed Oxide (MOX) fuel. Strangely, the anti-nuclear community continues to oppose this, but the reasons they give for their opposition do not stand up to elementary analysis. Recent examples can be found in letters to editors.

The anti-nukes continue to claim that no MOX fuel has ever been made from weapons-grade plutonium, and they imply that the higher "reactivity" of this fuel compared to "reactor-grade" plutonium in commercial MOX fuel would somehow make it dangerous. This is untrue on both accounts. Tons of MOX fuel were made and irradiated as fuel during development of this fuel type, because weapons-grade plutonium was all that was available. But, it doesn't matter whether the plutonium is 95% Pu-239 (an example of weapons grade) or 65% (reactor grade). The fuel design/fabrication will adjust the fuel composition to accommodate the difference. This is simply normal practice in any fuel design.

They claim that making MOX fuel will produce huge amounts of radioactive waste because of the need to purify the plutonium prior to making the MOX fuel. This program will produce less than twelve additional high-level waste canisters to go to Yucca Mountain, and all of the infrastructure, processes, and facilities to stabilize that waste for disposal are in place and operating.

They claim that transporting the plutonium to and from South Carolina will create a public hazard because of potential accidents that could release plutonium and expose the public. Worldwide, tens of thousands of

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shipments of radioactive materials covering millions of miles have occurred, and no injuries from exposure to radioactivity have ever occurred.

The antinuclear community wants all of the surplus plutonium immobilized in a ceramic form and buried at Yucca Mountain. (Strangely, they also oppose opening the Yucca Mountain repository.) That would deprive the world of a large quantity of pollution-free electricity and would create weapons grade plutonium mines around the globe which future terrorists could get to make mischief.

By proceeding with the MOX option, the Administration is following the advice of the nation's best nuclear experts. Those have included two subcommittees of the National Academy of Sciences, several studies by national laboratories, and a yearlong review by the National Security Council. It also assures a substantial number of good-paying jobs for the CSRA.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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January 23, 2002

Brad Warthen, Editorial Page Editor  
*The State* Newspaper  
Columbia, South Carolina

Dear Mr. Warthen:

The citizens of South Carolina and the nation should be very pleased that the Bush Administration has decided to proceed expeditiously with the disposal of surplus weapons-grade plutonium by "burning" it as Mixed Oxide (MOX) fuel. Strangely, the anti-nuclear community continues to oppose this, but the reasons they give for their opposition do not stand up to elementary analysis. Recent examples can be found in letters to editors.

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They claim that making MOX fuel will produce huge amounts of radioactive waste because of the need to purify the plutonium prior to making the MOX fuel. Not true. This program will produce less than twelve additional high-level waste canisters to go to Yucca Mountain, and all of the infrastructure, processes, and facilities to stabilize that waste for disposal are in place and operating.

They claim that transporting the plutonium to and from South Carolina will create a public hazard because of potential accidents that could release plutonium and expose the public. Worldwide, tens of thousands of shipments of radioactive materials covering millions of miles have occurred, and no injuries from exposure to radioactivity has ever occurred.

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the world of a large quantity of pollution-free electricity and would create weapons grade plutonium mines around the globe which future terrorists could get to make mischief.

By proceeding with the MOX option, the Administration is following the advice of the nation's best nuclear experts. Those have included two subcommittees of the National Academy of Sciences, several studies by national laboratories, and a yearlong review by the National Security Council.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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November 2, 2001

Suzanne Downing  
Editorial Page Editor  
*The Augusta Chronicle*  
725 Broad Street  
Augusta, GA 30901

Dear Ms. Downing:

I suppose it was predictable that the professional anti-nukes would take advantage of the tragic events of September 11 to create a new *scare du jour*, and indeed they have. Within days there was a well-coordinated campaign to frighten the public with exaggerated tales of the danger of planes flying into nuclear power plants. Some facts might be useful.

Commercial pilots will tell you it is unlikely that a terrorist flying a hijacked plane could even hit the containment dome of a reactor. Even experienced pilots would have difficulty doing that. It would be far more difficult than just flying a plane into a tall building.

Unlike the World Trade Center, the containment domes of commercial reactors are made of reinforced concrete three feet thick. Penetrating it would likely require a direct hit at a critical angle. Highly unlikely.

If the plane penetrated the containment dome it would still have to penetrate the reactor vessel itself, which is surrounded by even thicker reinforced concrete. The probability of all these things happening is very small, but if all of them did happen the radioactivity inside the fuel elements would still not be easily volatilized, and it would have to volatilize to do the public any harm. The terrorists know these difficulties, so they aren't likely to try it. They want their terrorist acts to have a high probability of success, not failure.

Is there some risk (probability of occurrence with bad consequences) for this scenario? Of course there is. But the risk is far less than risks that we accept every day, such as walking across streets, driving cars, stepping into and out of wet bathtubs, etc. There are potential terrorist acts out there worth being concerned about, but this isn't one of them.

Sincerely,

J. Malvyn (Mal) McKibben  
Executive Director  
Citizens for Nuclear Technology Awareness

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July 31, 2001

Letter to the Editor  
*The Wall Street Journal*  
 New York, New York

Dear Sir or Madam:

There is indeed a pressing need for graduates in the nuclear field, engineers, physicists, and chemists ("Closing Campus Reactors May Nuke Energy Plans", July 26). The entire nuclear education infrastructure, including available reactors for teaching and research, is in serious decline.

One solution to this problem has not received the attention it deserves. Reactors for teaching and research could be located at selected DOE sites, operated by regional consortia of universities. This is one component of the "Energy Campuses" that Senator Thurmond, (R) SC, proposed recently in letters to Vice President Cheney and Energy Secretary Abraham.

Sincerely,

J. Malvyn (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

May 21, 2001

Letter to the Editor, Mr. Jeff Beattie  
*The Energy Daily*  
 Washington, DC

Dear Mr. Beattie:

We were very disappointed in the article "Raises Reprocessing Issue" in the May 18th issue of the *Energy Daily*. It is far from the balanced commentary readers expect from your publication. A few examples:

"In a move castigated by environmentalists----." The "environmentalists" who denounce this action are the usual anti-nuclear ideologues who make careers of dissent and paralysis of anything nuclear. They adopt the mantle of environmentalist because it provides better access to foundation funding and the media.

Rather than castigate, those dedicated to protecting the environment applaud reprocessing because it provides substantial benefits. The "touted" claim that reprocessing reduces the volume of radioactive waste is a very real expectation based on decades of demonstration in France, England and Japan. In addition, by re-irradiating long-lived waste components, the final waste must be isolated for a few hundred years instead of hundreds of thousands of years. It is ironic and revealing that those who oppose nuclear energy on the basis that disposal of waste is still an unresolved issue, denounce reprocessing that goes a long way in solving the problem.

The President's plan to "re-examine policies for research and development of fuel conditioning methods (such as pyroprocessing)" is not a clarion call to begin building reprocessing plants, but instead to develop the technology options for the next generation of reprocessing methods.

Now that the nation is reopening the debate on the future use of nuclear energy, the *Energy Daily* can provide a service to its readers by providing factual information and balanced viewpoints on this important topic. There are many organizations such as technical societies, universities and citizens groups (like ours) that can assist you. You should make more use of them.

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Sincerely,

J. Malvyn (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

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February 6, 2001

Suzanne Downing  
 Editorial Page Editor  
*The Augusta Chronicle*  
 725 Broad Street  
 Augusta, GA 30901

Dear Ms. Downing:

The two recent letters to the editor berating Representative Burmeister for her tour of Yucca Mountain to see first hand the potential site for the national nuclear waste repository were typical of the normal anti-nuclear rhetoric. Fortunately, Representative Burmeister chose to gather her information first hand versus relying on the letters and flyers produced by similar anti-nuclear activists. They seem to thrive on taking small tippets of fact and extrapolating them to emotional levels with extravagant misinformation in hopes of selling their case and terrorizing the public. These anti-nuclear activists are never objective, and seldom technically competent.

Ms. Solini from San Francisco cites several "environmental disasters waiting to happen," such as "recent history of volcanic activity." Geologic evidence at the Yucca Mountain site indicates that the last, small eruption occurred about 75,000 years ago and that the probability of future volcanic activity is negligible. She cites "more than 30 active earthquake faults." Yes, there are earthquake faults and activity in that region as there are throughout the west and in most mountainous regions. Based on the type of faults and estimated movements from an earthquake, engineers design facilities to withstand the ground motion.

In the second letter, Mr. Wallin from Reno, Nevada, raised the same earthquake/underground issue and raised an issue on groundwater. He would lead you to believe that rainwater will leak through the repository and carry radioisotopes from the nuclear waste to the groundwater. What he fails to tell the reader is that this possibility has been studied by real scientists and engineers, and found to offer no threat. Yucca Mountain gets only an average of seven inches of rain or snow a year. Approximately 95% runs off the surface and only about one third of an inch of water will migrate through the mountain. Due to the type of soils encountered, this passage could take as long as 10,000 years to reach the groundwater table that is 1,000 feet below the surface. The radioisotopes are in stable, immobilized forms. They are not soluble.

It is unfortunate that most of the public does not have time to read the years of scientific studies and associated data on which the final decision on Yucca Mountain will be made. I encourage anyone who has not visited the project to do so through the Internet at [www.ymp.gov](http://www.ymp.gov). Through the pictures and studies shown, I believe that most readers will conclude that Yucca Mountain is the best location for the repository, all factors considered, and will not be swayed by the hyperbole and misinformation provided by the two letter writers.

Sincerely,

J. Malvyn (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

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*Produced by Citizens for Nuclear Technology Awareness.*

February 6, 2001

Suzanne Downing  
 Editorial Page Editor  
*The Augusta Chronicle*  
 725 Broad Street  
 Augusta, GA 30901

Dear Ms. Downing:

Over the last two months *The Chronicle* has printed major news articles and letters in which opposition was expressed to the national program to dispose of surplus plutonium by using it as fuel (mixed uranium plutonium oxide, MOX) in commercial power reactors. All of those articles and letters are parts of a carefully orchestrated plan by a small group of anti-nuclear activists. The article in today's *Chronicle* about an anti-MOX "news conference" is the latest example.

In this article Tom Clements of the Nuclear Control Institute (NCI) objected to a particular safety system in Duke Power's reactor where the MOX fuel will be used. Interestingly, Mr. Clements felt the need to tell the reporter "We are not an anti-nuclear organization", which is not just untrue, it is absurd. NCI has been, and is, a cornerstone member of the alliance of anti-nuclear groups. And, Tom Clements has had a long career as a "hired gun" for several anti-nuclear groups.

These groups oppose anything nuclear, but they usually concoct other reasons - ploys, actually - for their opposition. Those reasons usually fly in the face of facts and common sense. Sometimes their reasons are valid, but insignificant. Amazingly, these groups have significant influence with the national news media, but we hope the media will recognize the need for more balance on nuclear issues. Most Americans recognize these groups for what they are, and continue to support beneficial nuclear technologies including nuclear power, which is by far the most environmentally friendly way to make large amounts of electricity.

The MOX program is well considered, and is proceeding in a safe manner with adequate review. The contractor doing the design and construction is competent and experienced. There is simply no reason for the public to be concerned.

Sincerely,

J. Malvyn (Mal) McKibben  
 Executive Director  
 Citizens for Nuclear Technology Awareness

October 24, 2000

Ms. Jennie Buckner, Editor  
*The Charlotte Observer*  
 Charlotte, North Carolina

Dear Ms. Buckner:

Citizens for Nuclear Technology Awareness is a not-for-profit corporation dedicated to providing factual and objective information on nuclear subjects. We are by far the largest pro-nuclear education group in the U.S. with over 2,000 members. Many of our members are experts on nuclear subjects, but a significant fraction are private citizens and businesspersons from the Augusta/Aiken area.

We are aware of the interest in the Charlotte area in the plan to dispose of surplus weapons plutonium by making MOX fuel and irradiating it in Duke Power reactors. We enjoyed a visit last month with Jennifer

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Talhelm, one of your reporters, to discuss this subject and we read with interest the October 18th article by Bruce Henderson. Below we have several comments on that article, and have attached our position paper on the overall MOX program for your information.

In the October 18th article the gist of the argument from the anti-nuclear group, Nuclear Control Institute, was that the ice-based system used by Duke in their reactors to condense vapors in the event of an accident was not *quite* as effective as the dome design. This is an example of one strategy of the anti-nuclear groups of "picking at nits". If one looks at the entire safety system, rather than just that one little piece of it, the Duke design satisfies the Nuclear Regulatory Commission safety criteria.

Duke Power has for many years demonstrated to the nuclear community and to their neighbors that they are competent and conscientious in their concerns for safe operation. The consortium of Duke COGEMA Stone and Webster (DCS) will be designing, constructing and operating the plant at Savannah River Site to make the MOX fuel. There is ample reason for the public to rest assured that that operation, like the reactor operation, will be done competently and safely.

Sincerely,

J. M. (Mal) McKibben  
Executive Director, CNTA

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March 6, 2000

Madeline Jacobs, Editor-in-Chief  
*Chemical & Engineering News*  
Washington, DC

Dear Ms. Jacobs:

In the February 7, 2000 issue of *Chemical & Engineering News*, there was a "News of the Week" article by Jeff Johnson describing a National Economic Council report that claimed that workers at weapons facilities had gotten cancers as a result of the radiation they received on their job.

Our organization, which we believe is the largest grassroots citizens group in the country that supports beneficial applications of nuclear technologies, takes exception to the conclusions in this report as reported in the media, and we are surprised that a reputable magazine like *Chemical & Engineering News* would even report it because:

- the report is a draft that was leaked to the news, apparently by someone with an anti-nuclear agenda.
- This report is not based on any new technical work. It only "re-examines" previous studies.
- All of these studies, and many others, were examined in the past by bona fide experts and responsible authorities. Their conclusions have consistently been that no adverse health effects occurred at these low doses, nearly all of which were within federal dose limits. Those were technical judgments, not political judgments.
- The leaked report did not include the names of the authors or reviewers. Therefore, there was no way to establish the report's credibility.
- As far as we can determine, none of the organizations that have responsibility for determining or regulating radiation health effects have reviewed this report. These include the DOE Office of Epidemiology, the National Council of Radiation Protection (NCRP), the National Cancer Institute, and the National Academy of Sciences.

We urge you to carefully examine the credibility of such "leaks" and releases from anti-nuclear activists to avoid unnecessarily alarming employees at DOE sites, and their families.

*Produced by Citizens for Nuclear Technology Awareness.*

Sincerely,

J. M. (Mal) McKibben