

# BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

www.BREDL.org ~ PO Box 88 Glendale Springs, North Carolina 28629 ~ Phone (336) 982-2691 ~ Fax (336) 982-2954 ~ BREDL@skybest.com

September 19, 2002

Comments of Louis A. Zeller and Janet Marsh Zeller

**Re: Mixed Oxide Fuel Fabrication Facility Environmental Report, Revision 1 & 2,  
NRC Docket No. 070-03098, prepared by Duke COGEMA Stone & Webster under DOE  
contract DE-AC02-99-CH10888**

The Environmental Report (ER) underestimates cancer and non-cancer radiological risks to public health.

The role of ionizing radiation as a cause of cancer is well established, but the effects of low levels of radiation as a contributing factor to cancer deaths is vastly underestimated by Duke COGEMA Stone & Webster, the Nuclear Regulatory Commission and the Department of Energy. Also, the lethal non-cancer effects of radiation are now known to include coronary heart disease. Even at medically acceptable levels (previously thought to be safe), ionizing radiation in the form of X-rays causes at least half of the fatal heart disease and cancer death in the United States. A monograph published in 1999 by Dr. John Gofman details the impacts of ionizing radiation on mortality in the United States:

“The evidence presented in this book strongly indicates that over 50% of the death-rate from cancer today, and over 60% of the death rate from ischemic heart disease today, are xray-induced.”<sup>1</sup>

Dr. Gofman is a doctor of nuclear chemistry and doctor of medicine. Dr. Gofman's early research contributed to atomic weapons development; he is the holder of two patents for the separation of plutonium from irradiated fuel. As a physician, Dr. Gofman's work includes groundbreaking research on lipoproteins and coronary heart disease. His recent findings on the effects of ionizing radiation are based on a prospective study of the mortality rates of entire US population from 1940 to 1990. The study challenges the conventional wisdom regarding the impacts of medical X-rays.

“We are well aware of the belief that medical radiation causes only a very low percentage of cancer mortality. That belief rests on a few estimates whose input-data are highly unreliable and sometimes inherently irrelevant.... In approximately 50 years of biomedical research, we have rarely seen support for an hypothesis, and an indication for a new hypothesis, ‘fall out of the data’ so strongly as they do in this monograph.”<sup>1</sup>

Routine exposures to radiation caused by atomic power plants and related facilities are often compared to the risk from chest X-rays. **The Gofman study requires us to re-examine the assumptions made by regulatory bodies regarding the effects of radiation on the general**

*Consians continuo, sentus demissus*

**public caused by nuclear power stations, fuel factories, and the plutonium fuel factory proposed for SRS.**

### The Environmental Report Downplays Radiation Increases

The ER estimates the overall dose increases expected to be generated by the plutonium fuel facilities at SRS. It compares the additional impact of the new facilities to the existing impact from the entire SRS facility.

“The surplus plutonium disposition facilities would cause the cumulative dose to the public from all Savannah River Site activities to increase by about 2.6%. ... The cumulative dose [to the public]...associated with mixed oxide fuel shipments...is estimated to be 9.98 person-rem.”<sup>2</sup> (ER p.ES-6)

**DCS should not be permitted to assert that an increase in radiation dose of 2.6% is “small” and “acceptable.”** A small percentage increase in a very large number is another large number.

### The Environmental Report Relies On False Assumptions

The ER falsely minimizes these impacts by saying that “the environmental impacts are outweighed by the benefit of enhancing nuclear weapons reductions.”<sup>2</sup> (ER p.ES-7) But in May the US Department of Energy announced it would resume production of new plutonium pits for weapons. Rocky Flats, the former pit production site, was closed down in 1989. On September 13<sup>th</sup> DOE announced plans to build a new pit production facility, perhaps at the Savannah River Site. **The so-called benefit of nuclear weapons reductions is a fiction.**

The ER proceeds from its false premise of weapons reduction and subsequently dismisses the effects of radiation exposure on the people living within a ten mile radius of the plutonium fuel factory (MFFF).

“This analysis shows that no radiological fatalities are likely to result from implementation of the proposed action.”<sup>2</sup> (ER page C-2, Analysis of Environmental Justice)

The ER also concludes incorrectly that since there are no health effects there can be no disproportionate effects based on racial, ethnic, or economic factors.

### Death Rates in Aiken and Barnwell Exceed State Average, Heart Disease Largest Factor

Annual health statistics compiled by the state of South Carolina reveal above average mortality rates in the two counties within the ten mile radius of SRS. The overall statewide death rate in 1998 was 9.1 per 1000 population.<sup>3</sup> Aiken County's death rate was 9.2 per thousand and Barnwell County's was 10.9 per thousand; **the Barnwell death rate is 19.8% higher than the statewide rate.**<sup>3</sup> The two highest mortality rates by a large margin in each county are for heart disease and cancer. The leading cause of death in Aiken and Barnwell counties is heart disease: 243 per 100,000 population. The second highest cause of mortality is cancer: 216 and 209 per

100,000 in Aiken and Barnwell, respectively.<sup>4</sup> In Aiken County annual heart disease death rates are greater than all deaths combined for stroke, chronic lung disease, accidents, diabetes, alzheimers disease, and pneumonia. In the same period Barnwell County heart disease mortality exceeded the combined deaths from stroke, accidents, kidney disease, and pneumonia.

### Conclusion

The heart disease and cancer rates in the communities surrounding SRS may be just the tip of the iceberg; additional contributors to morbidity and mortality must not be permitted. The legacy of a half century of radioactive contamination is certainly contributing to this epidemic. The cumulative impact of past contamination from plutonium facilities at Barnwell is not small and amounts to devastating consequences on the people of this area. Moreover, it cannot be "outweighed by a benefit" which does not exist. We support the No Action Alternative.

### footnotes

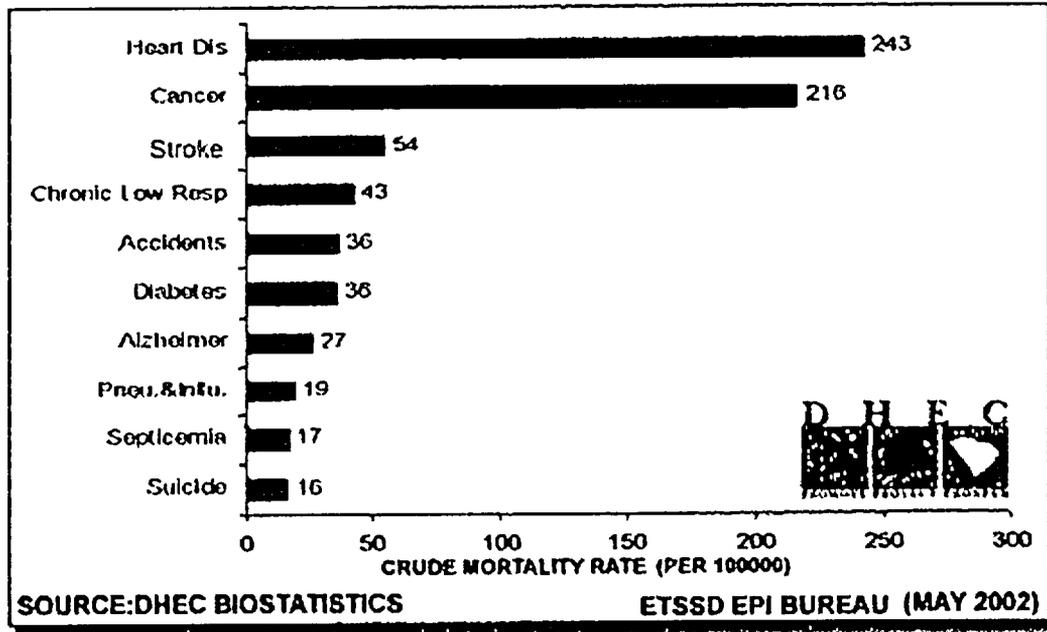
1. *Introduction Radiation from Medical Procedures in the Pathogenesis of Cancer and Ischemic Heart Disease*, John W. Gofman, MD, PhD, 1999

2. *Mixed Oxide Fuel Fabrication Environmental Report, Revision 1 & 2*, Duke COGEMA Stone & Webster, 11 July 2002, (p.ES-6)

3. *South Carolina Vital And Morbidity Statistics 1998*, Volume I, Division of Biostatistics, SC Department of Health and Environmental Control, December 1998

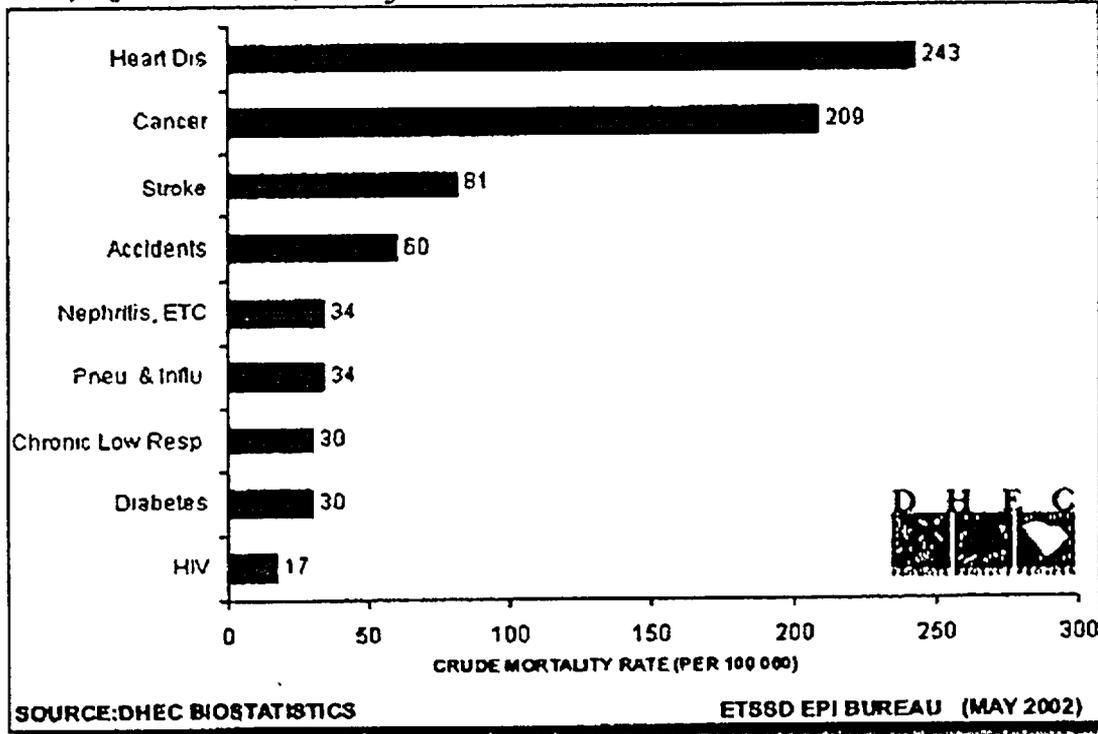
4. Bureau of Epidemiology website, SC Department of Health and Environmental Control  
[http://www.scdhec.net/HS/epi/county\\_reports.htm](http://www.scdhec.net/HS/epi/county_reports.htm)

### YEAR 2000 TEN LEADING CAUSES OF DEATH IN AIKEN COUNTY



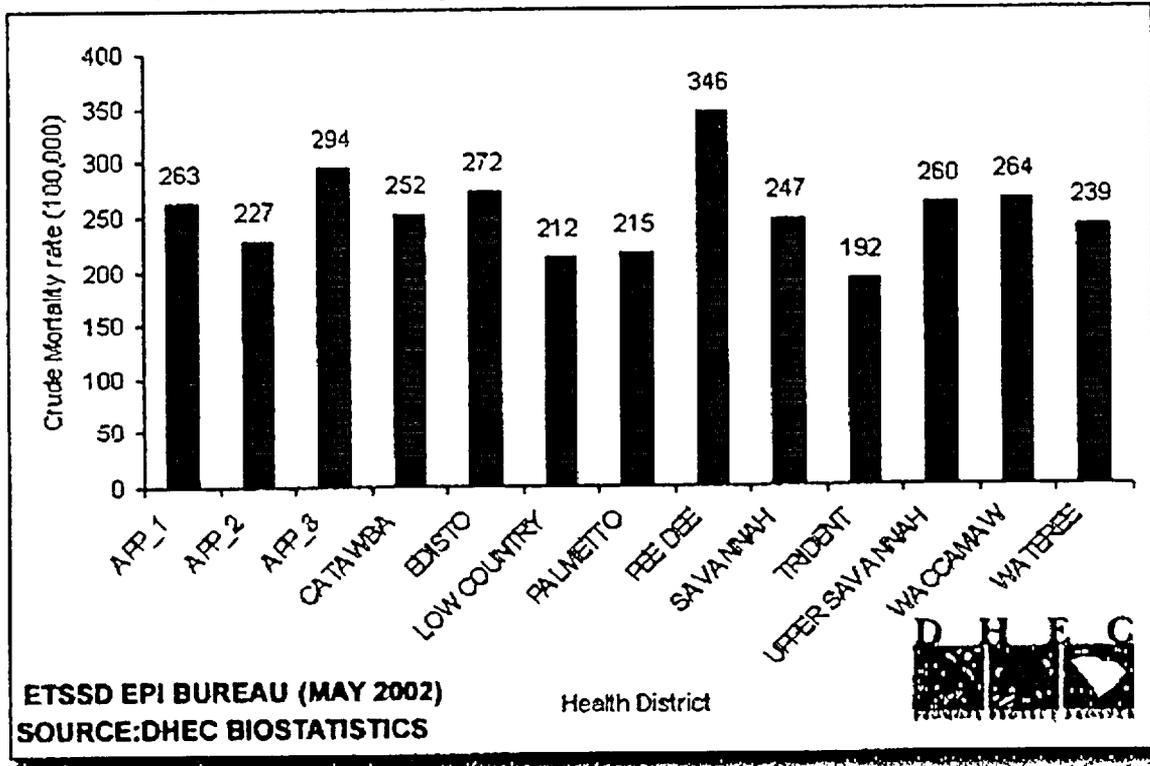
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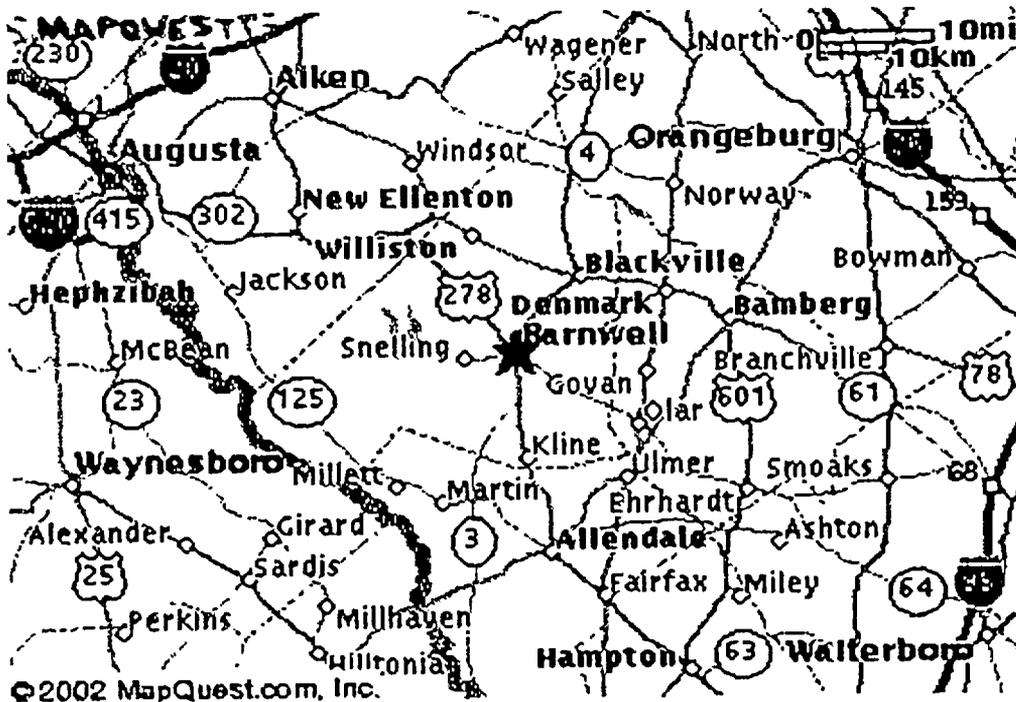


Constans continuo, lentus demissus

### YEAR 2000 HEART DISEASE MORTALITY RATE IN SOUTH CAROLINA HEALTH DISTRICTS



[http://www.scdhec.net/HS/epi/county\\_reports.htm](http://www.scdhec.net/HS/epi/county_reports.htm)



Constans continuo, sentus demissus



# NUCLEAR MONITOR

A Publication of World Information Service on Energy (WISE) and the Nuclear Information & Resource Service (NIRS), incorporating the former WISE News Communiqué

#573—North American Edition

September 13, 2002

## U.S. NUCLEAR REACTORS — AL QAEDA'S ORIGINAL TARGET

Several European newspapers have reported that in an interview with a journalist from *Al-Jazeera*, two top Al Qaeda commanders said that the original plan for the attacks carried out on 11 September 2001 was to target two unnamed nuclear power stations. Apparently fearing that such an attack "might get out of hand", Al Qaeda chose other targets instead.

(573-5434) WISE Amsterdam — On 8 September, the Spanish *El Mundo* and the UK *Sunday Times* ran stories in which Al-Jazeera journalist Yosri Fouda described how he interviewed two Al Qaeda leaders, Khaled Sheikh Mohammed and Ramzi Binalshibh. Both men are on the FBI's most wanted list, and the U.S. has offered a US\$25 million reward for them.

Fouda described how he had to go to great lengths to meet the men, flying first to Islamabad, then to Karachi where he stayed two days in a run-down hotel. Eventually, after meeting various intermediaries, he was blindfolded and taken in the trunk of a car to meet Mohammed and Binalshibh.

The date of the interview is unclear — June according to The Associated

Press, August according to *The Guardian*. Al-Jazeera had decided to wait until Thursday 12 September to broadcast the interview as part of their coverage of the anniversary of the terrorist attacks.

In the interview, Mohammed described himself as the head of the Al Qaeda military committee and said that Binalshibh was the coordinator of the 11 September attacks, which he called "Operation Holy Tuesday".

**Targeting nuclear installations**  
Mohammed said that when Al Qaeda first decided two and a half years ago to launch a suicide attack in U.S. territory, the original plan was to attack a couple of nuclear installations. However, they then decided against it for fear it would

"get out of hand" (or "get out of control", according to the English version).

Mohammed refused to be more specific, saying "you do not need to know more at this stage. Anyway, it was decided to abandon the idea of attacking nuclear targets — for now".

Fouda asked, "What do you mean by 'for now'?"

"'For now' means 'for now'", replied Mohammed, implying that nuclear installations might be considered as Al Qaeda targets in future. He added that there is no lack of people willing to carry out suicide attacks for what he called Al Qaeda's "Department of Martyrs".

If Mohammed's claim is true, it leaves the nuclear industry and regulators in a tough dilemma. If they try to talk down the possible impact of terrorist attacks on nuclear installations, this might remove Al Qaeda's objection to carrying out such an attack up till now for fear it would "get out of hand". Yet if they admit the horrific truth of the possible consequences of an attack, the nuclear industry would put its own future under threat.

Their current strategy seems to be a combination of bluffing and cover-up (see "Protecting nuclear installations

### IN THIS ISSUE:

U.S. nuclear reactors - Al Qaeda's original target	1
Protecting nuclear installations by "Bluff and cover"	2
Japan: whistle blowing turns into tornado	5
Conversion plant projects contracted for U.S. depleted UF <sub>6</sub> stockpile	6
Czech Republic: Temelin-1 off and on - Temelin-2 on and off	7
Thailand: the final count down for Ongkarak	9
In brief	10

by 'bluff and cover?' in this *NIRS/WISE Nuclear Monitor*. They try to talk up a "nuclear renaissance", while at the same time doing their best to play down or hush up studies that show the true scale of the danger to nuclear installations from terrorism.

This seems to apply not just to anti-nuclear groups, but also to the U.S. Nuclear Regulatory Commission (NRC) itself. The "Fact Sheet" for reporters dated 5 September 2002 merely states that the NRC has studies underway to investigate potential vulnerabilities of facilities to deliberate aircraft crashes.

However, according to a "Platts Nuclear News Flash" dated 6 September 2002, the NRC has finished an initial assessment of power reactor vulnerabilities to a deliberate aircraft attack and is developing measures that would mitigate potential damage.

The scope of vulnerability research has been broadened to include other types of installations, but "beyond that, the agency has said little about the studies" according to Platts. An

unnamed NRC official did admit that the pace of NRC activities has been "a little methodical and slow" for some legislators. Nevertheless, the NRC apparently believes it has accomplished a lot.

In reality, a lot of what has been "accomplished" since 11 September 2001 serves only to increase risks: approving Yucca Mountain despite the "Mobile Chernobyl" transports this entails, shipping plutonium across the country, extending the licenses of existing reactors and developing fast-track licensing procedures for new reactors.

Still, when the nuclear lobby accuses anti-nuclear groups of helping terrorists by spreading "scare stories", we can say: maybe we did help terrorists such as Al Qaeda to realize the extent of the dangers involved and step back from attacking nuclear installations - "for now".

Our task now is to stop plans to build new nuclear installations and get existing installations safely closed down, since as we said in last December's *NIRS Nuclear Monitor*, in

### IS IT TRUE?

How true is Khaled Sheikh Mohammed's claim about Al Qaeda's original plan to attack nuclear installations? It certainly rings true. The *Sunday Times* said Mohammed was an uncle of Ramzi Yousef, now serving a life sentence for the first attack on the World Trade Center in 1993. Yousef's group had trained near Three Mile Island and threatened to attack "nuclear targets". Well before 11 September 2001 Yousef apparently also had the idea of hijacking an aircraft and crashing it into the Pentagon.  
Reuters, 10 September 2002;  
*WISE News Communiqué* 554.5915, "US attacks: The Three Mile Island connection"

the nuclear age, security means ending the nuclear age.

Sources: *El Mundo*, 8 September 2002; *The Guardian*, 9 September 2002; AP, 8 September 2002; U.S. NRC Fact Sheet, 5 September 2002; *Platts Nuclear News Flashes*, 6 September 2002

Contact: NIRS or WISE Amsterdam

## PROTECTING NUCLEAR INSTALLATIONS BY "BLUFF AND COVER"

One year after the 9/11 terrorist attacks, industry experts are still trying to reach agreement on improving the physical protection of nuclear installations against terrorist attack. To date, their main strategy seems to be "bluff and cover" - while their P.R. departments keep talking of a nuclear revival, bureaucrats have tried to suppress at least one report on the vulnerability of nuclear installations on the grounds that it might be harmful to national security.

(573.5435) WISE Amsterdam - Unbelievably cynical as it may seem, the U.S. nuclear industry has chosen to celebrate what they claim is a revival of the nuclear industry in a conference to be held from 10-12 September in Washington, D.C. (1)

Entitled "The Nuclear Renaissance", the conference began with an "Executive Forum" for "evaluating the viability of future nuclear developments". The conference blurb quotes the decision to restart Browns

Ferry-1 (2) as evidence that "the nuclear industry has begun to take the first tentative steps towards increasing nuclear capacity in the United States."

It also includes an update of the Department of Energy's "Nuclear Power 2010" program, designed "to facilitate bringing a new plant into operation by 2010" (3). This program is "rapidly ramping up" and "leading operators are reportedly considering construction of new facilities"

Behind the upbeat marketing-speak of the nuclear industry, what this means is: building new nuclear reactors remains too much of a financial risk, but instead of accepting this, the U.S. government is contributing taxpayers' money to study how to "reform" the licensing process to reduce the financial risk.

The "new" risks posed by terrorist threats - which mean that every nuclear plant must be considered as a terrorist target - are not even

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## AMERICA'S SELF-IMPOSED NUCLEAR THREAT

# Nuclear Power and Terrorism

by Harvey Wasserman

As US bombs and missiles began to rain on Afghanistan, the certainty of terror retaliation inside the US has turned our 103 nuclear powerplants into potential weapons of apocalyptic destruction, just waiting to be used against us.

One or both planes that crashed into the World Trade Center on September 11 could have easily obliterated the two atomic reactors now operating at Indian Point, about 40 miles up the Hudson River.

Indian Point Unit One was shut long ago by public outcry. But Units 2 and 3 have operated since the 1970s. Reactor containment domes were built to withstand a jetliner crash but today's jumbo jets are far larger than the planes that were flying in the 1970s.

Had one of those hijacked jets hit one of the operating reactors at Indian Point, the ensuing cloud of radiation would have dwarfed the ones at Hiroshima and Nagasaki, Three Mile Island and Chernobyl.

The intense radioactive heat within today's operating reactors is the hottest anywhere on the planet. Because Indian Point has operated so long, its accumulated radioactive burden far exceeds that of Chernobyl.

The safety systems are extremely complex and virtually indefensible. One or more could be wiped out with a small aircraft, ground-based weapons, truck bombs or even chemical/biological assaults aimed at the work force.

A terrorist assault at Indian Point could yield three infernal fireballs of molten radioactive lava burning through the earth and into the aquifer and the river. Striking water, they would blast gigantic billows of horribly radioactive

steam into the atmosphere. Thousands of square miles would be saturated with the most lethal clouds ever created, depositing relentless genetic poisons that would kill forever.

Infants and small children would quickly die en masse. Pregnant women would spontaneously abort or give birth to horribly deformed offspring. Ghastly sores, rashes, ulcerations and burns would afflict the skin of millions. Heart attacks, stroke and multiple organ failure would kill thousands on the spot. Emphysema, hair loss, nausea, inability to eat or drink or swallow, diarrhea and incontinence, sterility and impotence, asthma and blindness would afflict hundreds of thousands, if not millions.

### **America's 103 nuclear reactors are ticking time bombs that must be shut down.**

Then comes the wave of cancers, leukemias, lymphomas, tumors and hellish diseases for which new names will have to be invented.

Evacuation would be impossible, but thousands would die trying. Attempts to quench the fires would be futile. More than 800,000 Soviet draftees forced through Chernobyl's seething remains in a futile attempt to clean it up are still dying from their exposure. At Indian Point, the molten cores would burn uncontrolled for days, weeks and years. Who would volunteer for such an American task force?

The immediate damage from an Indian Point attack (or a domestic accident) would render all five boroughs of New York City an



A "terrorist's-eye" view of the Indian Point reactor.

apocalyptic wasteland.

As at Three Mile Island, where thousands of farm and wild animals died in heaps, natural ecosystems would be permanently and irrevocably destroyed. Spiritually, psychologically, financially and ecologically, our nation would never recover.

This is what we missed by a mere 40 miles on September 11. Now that we are at war, this is what could be happening as you read this.

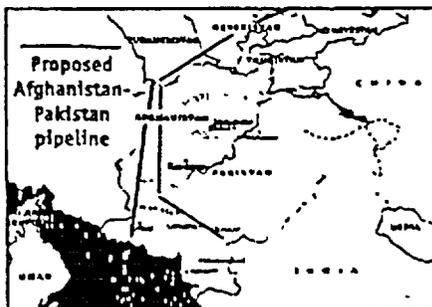
There are 103 of these potential Bombs of the Apocalypse operating in the US. They generate a mere 8 percent of our total energy. Since its deregulation crisis, California cut its electric consumption by some 15 percent. Within a year, the US could cheaply replace virtually all the reactors with increased efficiency.

Yet, as the terror escalates, Congress is fast-tracking the extension of the Price-Anderson Act, a form of legal immunity that protects reactor operators from liability in case of a meltdown or terrorist attack.

Do we take this war seriously? Are we committed to the survival of our nation?

If so, the ticking reactor bombs that could obliterate the very core of our life and of all future generations must be shut down.

Harvey Wasserman is author of *The Last Energy War* and co-author of *Killing Our Own: The Disaster of America's Experience with Atomic Radiation*.



## Afghanistan: It's About Oil

In 1998, Dick Cheney (then CEO of Halliburton, a major US oil-services company) commented: "I cannot think of a time when we have had a region emerge as suddenly to become as strategically significant as the Caspian." Cheney was looking ahead to the day when some 50 billion barrels

of oil and natural gas lying beneath the dry earth of Kazakhstan would begin flowing into US-controlled terminals in the Caspian Sea.

Unfortunately, the most direct and cost-efficient pipeline route would cross through Iran, America's nemesis. (While Washington was loath to bargain with Iran, one private US consortium was prepared to deal: It was a British Virgin Islands firm headed by none other than former US Secretary of State Alexander Haig.)

"From the US standpoint," Brown University anthropologist William O. Beeman observed, "the only way to deny Iran everything is for the anti-Iranian Taliban to win in Afghanistan and to agree to the pipeline through their territory." That is exactly what happened - thanks to the CIA.

The first proponent of the Afghan oil route was the Bridas Group, an Argentine company. Competition quickened with the entry of Unocal's John Imle who proposed a US-controlled pipeline paralleling Bridas' route. In 1998, Unocal signed a deal

with the Taliban to build an 890-mile natural gas pipeline from Turkmenistan to Pakistan, but the plan was thwarted by continuing civil war. Unocal informed the Department of Energy that the gas pipeline would not proceed until "an internationally recognized government was in place in Afghanistan."

By 2050, the US expects to import more than 80 percent of its petroleum from this region and much of that oil would be extracted from beneath the deserts of Afghanistan and Pakistan. The struggle for control of this last great deposit of oil has been called "the Great Game."

In 1998, Unocal Vice President John J. Maresca told a US House Subcommittee that an oil route to the Arabian Sea would prove a "new 'Silk Road' [linking]... the Central Asia supply with the demand." This would also stymie the dreams of Iran's oil investors. A December 2000 US Energy Information fact sheet noted that, while

*Continued on next page*