

RACHEL CARSON COUNCIL, INC.

An Association for the Integrity of the Environment



Rachel Carson
Photograph by Erich Hartmann,
Magnum Photos

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Rachel Carson Council, Inc. Opposes New Reactor Construction at Calvert Cliffs Nuclear Facility

A. Background:

In April 2009, the Maryland Public Service Commission approved the proposed third nuclear reactor project at the Calvert Cliffs site in Southern Maryland. UniStar Nuclear Energy, LLC (UniStar) is a joint venture between Constellation Energy and EdF (Electricite de France). This collaboration occurred with the hope of building this new reactor. Baltimore Gas & Electric Co. (BGE) is a subsidiary of Constellation Energy. UniStar has announced that the third reactor at Calvert Cliffs has been chosen by the U.S. Department of Energy for “final due diligence” for a federal loan guarantee, considered key to financing the reactor. (Heiser, 2009) The loan guarantee program is in the Energy Policy Act of 2005.

B. Rachel Carson Council, Inc. addresses the Public Health and Environmental Impacts:

One of the most serious reasons not to go forward with this project is the unacceptable risk this facility poses to the public health and the environment of the Mid-Atlantic region if an accident should occur. The potential irreversible harm that would follow in the event of a radiation release must be considered.

Rachel Carson addresses this in her book, *Silent Spring*. (Carson, 1962)

(continued)

“For mankind as a whole, a possession infinitely more valuable than individual life is our genetic heritage, our link with past and future. Shaped through long eons of evolution, our genes not only make us what we are, but hold in their minute beings the future—be it one of promise or threat. Yet genetic deterioration through man-made agents is the menace of our time, ‘the last and greatest danger to our civilization.’

Again the parallel between chemicals and radiation is exact and inescapable.

The living cell assaulted by radiation suffers a variety of injuries: its ability to divide normally may be destroyed, it may suffer changes in chromosome structure, or the genes, carriers of hereditary material, may undergo those sudden changes known as mutations, which cause them to produce new characteristics in succeeding generations. If especially susceptible the cell may be killed outright, or finally, after the passage of time measured in years, it may become malignant.” (Carson, 1962)

Since Ms. Carson wrote these words more than 45 years ago, much research has validated her concerns about the damaging effects of radiation. We should heed her warning and limit our exposure to radiation as much as possible.

There is evidence of a possible link between childhood leukemia cases and nuclear power plants.

Professor Rudi Nussbaum, (emeritus) of physics and environmental sciences at Portland State University, has maintained that the “evidence of extreme radiation sensitivity of embryos and fetuses has been largely ignored...as have reports of low-dose health effects from inhaled or ingested radioactive fallout at large distances from the Chernobyl nuclear disaster.” (Burton, 2009)

“Currently...ionizing radiation is the only established environmental risk factor for childhood leukemia....[There is] need for a critical reexamination

of the fundamental assumptions and models underlying current radiation safety standards and regulations.” (Burton, 2009)

“[N]uclear power also remains controversial because of unresolved questions about the safe storage of radioactive waste and the potential for radioactive contamination stemming from accidents or terrorist attacks.” (Burton, 2009)

We must end our reliance on fossil fuels. We should not substitute, however, one harmful technology for another when much less harmful, more secure renewable energy options exist.

C. Implications for the Chesapeake Bay:

Hidden costs of a new reactor are the dangers posed to the environment of the Chesapeake Bay. Accidents happen: Remember the 1979 Three Mile Island accident in Pennsylvania and the 1986 disaster at the Chernobyl facility in Ukraine. (Paley, 2005) Neither people nor computers can be made “fail safe”. What effect would even a small radiation release have on the organisms that live in the Bay?

Nuclear energy uses enormous amounts of water for cooling. What are the repercussions of this? Is this the best way to use this limited resource?

The thermal pollution produced by nuclear power production must be taken into account. There are growing concerns among health care professionals about the dangers posed by the more pathogen-friendly rising temperatures in the Chesapeake Bay. A powerful strain of bacteria called *Vibrio* has been a health threat to people who use the Bay for recreation or their livelihood. The organisms may grow more abundant in warmer water temperatures that would be expected to arise from thermal pollution by the nuclear facility.

D. Opposing the Third Calvert Cliffs Nuclear Reactor:

Arguments in favor of nuclear energy include its low emission of carbon dioxide. These, however, pale to insignificance when one considers the long-term implications of dealing with radioactive waste, which lasts for thousands or even millions of years, in many cases. Nuclear waste cannot be made non-radioactive, non-carcinogenic, non-hazardous, or non-toxic.

There are numerous reasons to oppose the construction of a new nuclear reactor at Calvert Cliffs. Reprocessing "...has turned out to be more proliferation prone and expensive than acknowledged during the days of greater enthusiasm for that technology." (Makhijani, 2009). This could have serious implications for the Chesapeake Bay region.

E. Foreign Ownership of the Third Reactor?

Who will own the proposed third nuclear reactor at Calvert Cliffs? The Atomic Energy Act, first signed into law in 1954, and the Nuclear Regulatory Commission's regulations require that foreign interests may not own 50 percent or more of an American nuclear power generating company. On October 30, 2009, the Maryland Public Service Commission approved the sale of 49.99 percent of the nuclear assets of Constellation Energy to EdF as part of the Calvert Cliffs deal. The NRC has not taken a position about this; the hearing process could take over a year.

F. The Economic Dimensions:

From an economic standpoint, nuclear energy is extremely expensive. The cost of one new reactor has been estimated to be close to \$10 billion dollars. In fact, some states—including Florida—are refusing to have new nuclear power plants built due to actual costs of \$16-17 billion. This high cost of plant construction would lead to large rate increases and threaten

the financial viability of many companies. Cost overruns have occurred at some of these facilities under construction abroad.

Neither Wall Street nor the power industry is willing to finance an expansion of nuclear power without using taxpayers to shield the industry from the economic risks associated with the expensive technology required. The potential financial risk exposure to the federal government and taxpayers from guaranteeing nuclear loans would be staggering. Recent applications for federal loan guarantees for 21 proposed reactors averaged \$9 billion per unit.

The revenues needed to build new nuclear facilities would be better spent on developing safer, cleaner, renewable energy sources. The idea that nuclear power increases the United States' energy independence is not correct. Nuclear power is not a "domestic" energy source. Eighty per cent of U.S. nuclear fuel is imported, as are most of the major nuclear plant components. In addition, the nuclear industry infrastructure has been in decline for over 20 years and is not at the present time capable of supplying the trained engineers or the components necessary to revitalize the industry.

The trend in the electric power industry should be toward smaller and locally sited energy production. The big utilities are still pushing large-scale utility projects—now in renewables as well as fossil and nuclear. A nuclear power plant is, by necessity, a huge facility.

The severe financial risks that nuclear power expansions entail are overshadowed by the risk to public safety that the site on Calvert Cliffs poses. Calvert Cliffs' location, so near a large population center—50 miles southeast of our nation's capital—makes it a grave public safety risk and even more frightening, a possible terrorist target. New plant designs are still vulnerable to radiation releases from accidents, sabotage and terrorist attacks. Today's security standards at nuclear facilities are inadequate to defend against credible threats. The standards have not been upgraded to reflect post-Sept. 11 real-world dangers.

The risk of fuel being stolen for weapons' production is also a serious consideration. Any expansion of nuclear power, especially if reprocessing of fuel is allowed, greatly increases the risk that more nations or terrorists will acquire nuclear weapons.

In addition to these specific objections to expand the facility at Calvert Cliffs, the disposal of spent fuel from all nuclear reactors has yet to be addressed. The proposed Yucca Mountain site in Nevada has been plagued with technical, managerial and political problems at a cost to taxpayers of more than \$13.5 billion. At this point the site has been abandoned and no permanent repository has been established or even designated to take its place. Even if a repository were in place, there is still the problem of accidents or acts of terrorism occurring during the transportation of "spent" nuclear materials. (Union of Concerned Scientists, May 2009)

G. Conclusions:

This analysis shows why nuclear power has been on hold in this country; a new nuclear power plant has not been licensed in 20 years. The times may have changed, but the reasons for opposing nuclear energy have not. They remain valid and cannot be ignored.

"Nuclear power is a distraction from the real task at hand—transitioning to an efficient, smart-grid electricity system based entirely on renewables." (Makhijani, 2009).

"John Wellinghof, the Chairman of the U.S. Federal Energy Regulatory Commission, has recently noted that there may be no need for new nuclear or coal plants ever." (Straub, *et al.*, 2009)

Alternative power sources as well as conservation should be pursued vigorously. The nuclear power option should be taken off the table.

In *The Washington Post's* "Politics & The Nation" section, according to Amory B. Lovins, a Colorado-based renewable power advocate, "the long-

term trends show a shift from traditional energy sources toward renewables—the more local, the better.” (Slevin, 2009)

Maryland’s Governor Martin O’Malley (D) is concerned about the adverse impact on ratepayers of the planned construction. “On behalf of the state Attorney General’s Office and the Maryland Energy Administration, Joshua Auerbach, an assistant attorney general, recently submitted a report to the commission focusing largely on a new provision that would give EdF veto power over how Constellation Energy could spend money on BGE’s capital projects.” (Sauers, 2009)

In his report, Auerbach states that starting Jan. 12, 2011, EdF could veto monthly transactions, making Constellation direct money away from BGE. Further, he said in his report that the commission should require Constellation to protect BGE and its ratepayers from the joint venture’s dealings. (Sauers, 2009)

To put this into today’s perspective, “The fact that the goal of a nuclear-free world is altogether attainable renders it all the more imperative that the route prescribed by the Court (the International Court of Justice) should be meticulously followed. The 2010 Nuclear Non-Proliferation Treaty Review Conference offers an outstanding opportunity to pursue this objective.” (Weeramantry, 2009)

According to the Nuclear Weapons Advisory Opinion, “The destructive power of nuclear weapons cannot be contained in either space or time. They have the potential to destroy all civilization and the entire ecosystem of the planet.”

Addendum

According to *Clean Water Action*, Electricite de France's shares have had over a 40 percent drop during the last six months; EdF's subsidiary, Areva's, shares have plummeted over 60 percent since June 2008. Now Areva is looking for \$4 billion in a short-term bailout from French taxpayers. And after the first year of construction, a French reactor is more than \$1 billion over its estimate. Their Finland reactor is three years behind its schedule with a 55 percent cost increase.

Further, one of Areva's French nuclear facilities showed gross negligence: In the summer of 2008, uranium was spilled into two rivers that provided drinking and irrigation water to local communities. During another accident at this site, at least 100 workers were contaminated. And throughout the summer, unacceptable levels of Carbon-14 radioactive gas were emitted there.

Other serious environmental impacts of EdF's and Areva's nuclear-related business have taken place in Niger, Africa: Company-operated uranium mines and mills are under investigation because local water supplies are radiologically contaminated 10 times the level for safe drinking water. Moreover, investigators found rocks outside a company-owned hospital that were 100 times more radioactive than normal levels.

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