How Nuclear Energy's Promise Was Nearly Destroyed

by Marsha Freeman

Editor's Note: *The key to the success of the "economic hit men" recently exposed by John Perkins' book* Confessions of an Economic Hit Man*, over the last 30 years, lies in the cultural transformation of the industrialized nations, whose post-war populations were turned from people determined they could, and would, eliminate poverty and build prosperity, into populations enmired in pessimism and fear about the very inventions which could accomplish those tasks. Technology Editor Marsha Freeman documents how this radical shift occurred in the area of nuclear energy, and was enforced both economically and politically.*

For the past 50 years, the fight by nations to develop nuclear energy has been the leading edge of the broader political fight for economic development. Opposition to nuclear power has represented nothing less than the promotion of the policy of malthusian population reduction and worldwide economic disintegration. This was true from the very beginning of the Atomic Age.

Following the end of the Second World War, the likes of Lord Bertrand Russell, playing on the disgust of the world following the U.S. atomic bombings of Japanese cities, equated atomic bombs with atomic energy. In Russell's "one world" vision, the denial of nuclear energy technology to others, and its control by the Anglo-American financial oligarchy, was proposed as necessary to protect the United States from the use (by anyone else) of this "ultimate weapon."

When President Dwight Eisenhower announced in 1953 that the United States would unilaterally declassify, and make universally available, the scientific concepts and technical know-how needed to develop nuclear power for civilian use, optimism toward the future spread to every part of the globe. Dozens of developing nations participated in the conferences on the Peaceful Uses of Atomic Energy in the 1950s, many bringing their own proposals for their nations' future nuclear development.

Following the successful demonstration of nuclear power for electricity production and the development of small-scale research reactors in the 1950s and 1960s, the 1970s was to be the decade that commercial nuclear power plants would spread throughout the world.

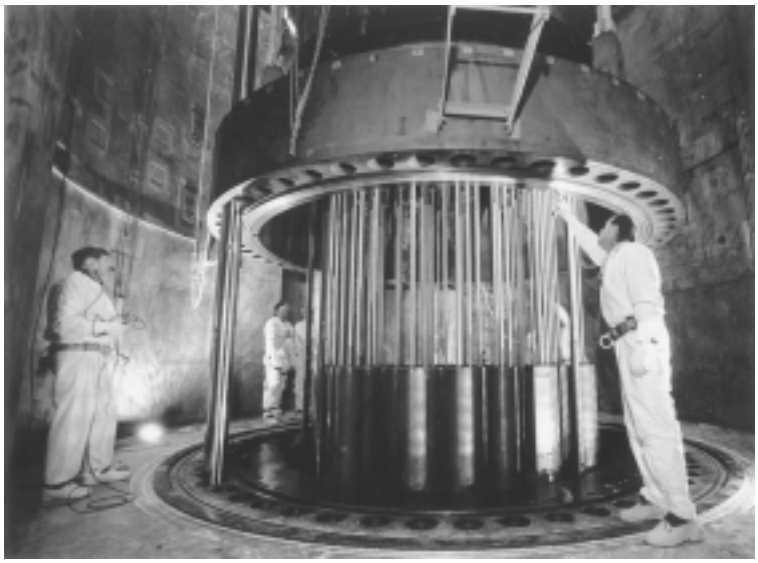
This optimistic program was not to go unchallenged, however. By the time the Fusion Energy Foundation (FEF), founded on the initiative of Lyndon LaRouche in 1974, came on the scene, the forces of economic destruction were well organized and mobilized to kill nuclear power.

The FEF became the hegemonic political force in the fight for nuclear energy, in a head-to-head battle with the Trilateral Commission and Wall Street's Carter Administration, and malthusian institutions such as the Club of Rome, which were created to kill technological optimism, along with a substantial portion of the world's population.

As a mass-based educational force, presenting the economic development policy initiatives of Lyndon LaRouche, the FEF became the focus of enmity, slander, and dirty tricks, by the financial institutions that had no intention of allowing the economic break-out of the resource-rich "Third World," which access to nuclear power would enable.[1] At the same time, as *EIR* has been documenting, "economic hit men" were destabilizing pro-growth governments, and even assassinating their leaders.

The result is that today, most of the plans from the 1950s and 1960s by developing nations for the deployment of nu-

1. See "Nuclear Club of Wall Street: 'Hit Men' vs. LaRouche's Fusion Energy Foundation," *EIR,* Dec. 3, 2004.



President Eisenhower opened the nuclear age in 1953 with Atoms for Peace. Here, he gives the signal to begin construction of the Shippingport nuclear reactor in 1954, the first to use nuclear power for civilian electricity. Above: the Shippingport reactor under construction. Built by industry and owned by the government, it was the pilot plant to demonstrate the possibilities of commercial nuclear energy.

clear technology have been stalled, delayed, or sabotaged. But in the current economic climate, where the political and military threats, and dollar hegemony of the United States are quickly losing credibility, a second chance at a nuclear renaissance is possible, if the world economy is reorganized to allow it.

Eisenhower's Bold Move

At the end of the Second World War, there was only one nuclear-weapons power. By the time President Eisenhower made his 1953 Atoms for Peace speech, the Soviet Union had also detonated its own nuclear weapon. President Harry Truman had reportedly considered using nuclear weapons during the 1950-53 Korean conflict.

President, and former general, Dwight Eisenhower, was determined to take steps to prevent any future wars from going nuclear. In his view, there were to be two parallel paths to prevent the international spread of nuclear weapons. Along the first, non-nuclear weapons states would be offered access to the civilian nuclear technology that Eisenhower was committed to developing for the production of energy, thereby promising to secure a virtually unlimited source of power for all of the world's peoples. At the same time, military applications of fission would be kept out of the hands of nations, through the international control of nuclear materials and technology.

This latter part of Eisenhower's Atoms for Peace proposal had its origin in the program put forward by Wall Street financier Bernard Baruch, the U.S. representative to the United Nations Atomic Energy Commission, in 1946. Baruch proposed the establishment of an International Atomic Development Authority which would be entrusted with the control of all phases of the development and use of atomic energy, starting with control of the raw materials needed to produce fuel for both weapons and power plants. The Authority would have the power to punish countries that violated its rules, and would require the surrender of all nuclear materials to international control. This 1946 proposal, understandably, was vetoed by the Soviet Union.

In his "Atoms for Peace" speech given before the United Nations General Assembly on Dec. 8, 1953, uppermost in President Eisenhower's mind was to engage the world's only other nuclear-weapons power, the Soviet Union, in an international dialogue, in an effort to turn the first use of fission in weapons to its peaceful applications. This engagement, he stated, was a necessary part of the road to peace.

The President stated: "The United States knows that if the fearful trend of atomic military build-up can be reversed, this greatest of destructive forces can be developed into a great boon, for the benefit of all mankind."

"The United States knows that peaceful power from atomic energy is no dream of the future," he continued. "The capability, already proved, is here today." He explicitly invited the Soviet Union to join in this effort, stating his hope that such joint initiatives would develop "the understanding required for confident and peaceful relations" between the two nations.

President Eisenhower reported that he was prepared to

Left to right: The "hit men" against Third World development of nuclear power: James Schlesinger, Bertrand Russell, Henry Kissinger.

submit a plan to the U.S. Congress that would "encourage world-wide investigation into the most effective peacetime uses of fissionable material." But he also proposed that an international atomic energy agency collect contributions of fissionable materials from the nuclear states, which would then be "allocated to serve the peaceful pursuits of mankind." A group of international experts would then control the disbursement of the fuel and the technologies to apply atomic energy to agriculture and medicine, and "to provide abundant electrical energy in the power-starved areas of the world."

It was out of the question that the Soviet Union would relinquish its sovereignty and turn over its inventory of fissionable material to a world body, controlled by the United States, which would have veto power over its use. Eisenhower's "Baruch Plan" proposal was discarded in the formation of the International Atomic Energy Agency (IAEA), four years later.

Unfortunately, this proposal for one-world control of nuclear technology has never completely disappeared. For the past year, the Bush Administration has been trying to convince nations such as Brazil not to develop their own uranium enrichment factories, but to buy fuel for their nuclear power plants from an international body, controlled by the United States. Like the Soviet Union then, nations such as Brazil today rightly consider this "technological apartheid" approach a threat to their national sovereignty.

In 1954, the U.S. Congress passed the Atomic Energy Act, and the stage was set for the development of civilian nuclear power, here and abroad. In anticipation of a change in U.S. policy, seven months before the President's UN speech, the infant nuclear industry and the utilities planning to build nuclear power plants formed the Atomic Industrial Forum (AIF), to lobby for the laws and regulations that would allow for the development of commercial nuclear power.

The AIF was formed at the initiative of Walker Cisler, head of a utility in a city that had become a hub for the industrial mobilization to win World War II, the Detroit Edison Company. At the first Atoms for Peace conference in 1955, Cisler described the advantages of nuclear energy, stating that developing nations with limited reserves of fossil fuel and hydro power, and undeveloped transportation systems to move the resources they did have, would come to rely on nuclear power as the engine for their economic development. This, he proposed, would depend upon the commitment of the United States to develop the needed technologies, and share them with the rest of the world.

Less than a year after his Atoms for Peace speech, from a Denver television studio, President Eisenhower gave the signal to start up the bulldozer to begin construction on the 60 megawatt (MW) Shippingport nuclear reactor in Pennsylvania. The reactor was built by Westinghouse, was owned by the government, and was under the administrative supervision of the most experienced reactor operators in the country—Adm. Hyman Rickover and the Nuclear Navy. On Dec. 2, 1957, the reactor went critical, producing the first nuclear power for civilian use.

Less than two years later, the world's first non-government-financed nuclear power plant, the 270 MW Dresden 1 reactor, operated by the Commonwealth Edison company in Illinois, began operation.

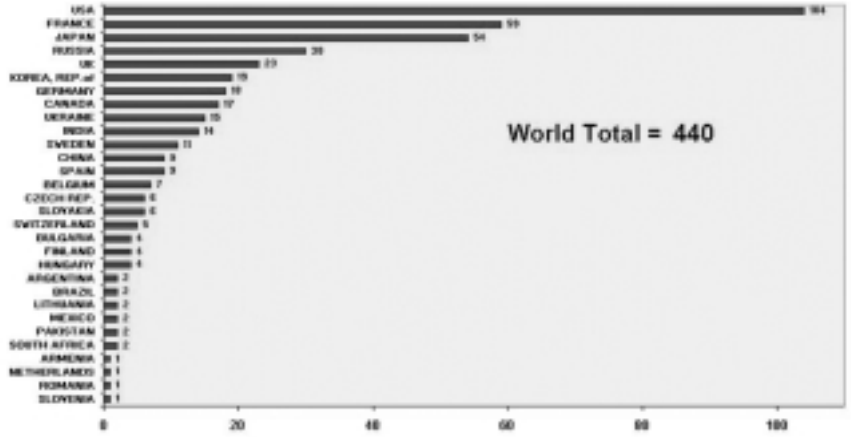
In 1962, there were 53 nuclear reactors being designed or under construction in the United States. The Atomic Energy Commission issued a report promoting research into breeder reactors, to produce nuclear fuel, concerned that there may not be enough uranium for all the reactors on order.

By 1967, there were 75 plants on order in the United States, totaling 45,000 MW of electric generating capacity. Incredibly, today, nearly *40 years later,* there is not much more than double that nuclear capacity on line, in the United States.

FIGURE 1

Number of Nuclear Reactors in Operation

(As of October 10, 2004)



In the 1950s and 1960s, nations such as Brazil and Argentina planned to have a dozen nuclear plants on line, and a substantial portion of their electricity generated by nuclear power. After two decades of political sabotage, the situation today pales in comparison to those plans.

The Atomic Energy Commission, as well as commercial publishers, educated the American public, and especially children, on the great promise, and the technical aspects, of nuclear power. Children in schools in the 1950s watched the General Electric movie "A Is For Atom," and at home watched television programs such as Walt Disney's "Our Friend the Atom."

This thrust by the United States into the age of atomic energy resonated throughout the entire world.

The Promise of Atoms for Peace

The first international conference on the Peaceful Uses of Atomic Energy was held in Geneva on Aug. 8-20, 1955. The president of the conference was the renowned nuclear scientist and father of the Indian nuclear program, Dr. Homi Bhabha. Out of over 1,000 papers submitted by 38 governments, 450 were selected for oral presentation. Participants came from 73 nations, for a total of 1,428 delegates, plus 1,350 observers.

The Swiss government arranged to have scientific exhibits coincident with the conference, and exhibits on nuclear energy were displayed by Belgium, Canada, Denmark, France, Norway, Sweden, the United Kingdom, the United States, and the Soviet Union. Over 900 representatives of the media covered the conference.

On the first day, papers were presented by India, Brazil, Japan, Argentina, China, Egypt, Korea, Pakistan, the Philippines, Thailand, Jordan, Israel, Puerto Rico, many East bloc nations, and the Western industrialized countries, on the role of nuclear power over the next 50 years.

At the end of the conference, Nobel laureate Willard Libby, from the U.S. Atomic Energy Commission, summarized some of the U.S. activities in cooperation with other nations. He reported that 47 countries had received radioactive isotopes from Oak Ridge Laboratory for research and applications in biology, agriculture, and medicine. Oak Ridge was also holding classes for foreign students to create the scientific manpower needed.

"The United States," Libby stressed, "has no wish that any nation be dependent on American technicians for the operation of a nuclear power program." In that regard, President Eisenhower, he said, had doubled the amount of American fissionable uranium available for research reactors exported from the United States, so more nations could establish experimental programs. That, combined with educational programs, should help countries "develop indigenous groups of atomic specialists."

At the time of the conference, the United States had cooperative nuclear agreements with more than 25 nations. We look here at a few case studies.

Argentina

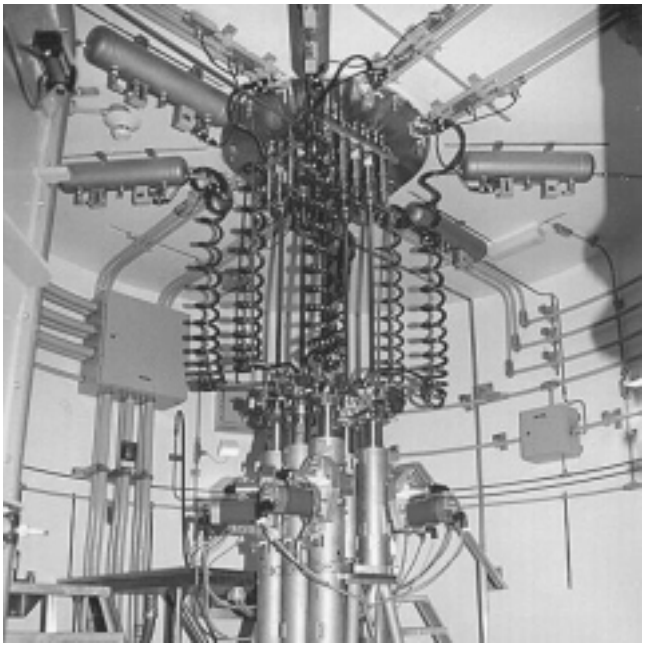
Argentina was the first nation to sign an agreement of cooperation with the United States for nuclear technology after President Eisenhower's 1953 Atoms for Peace initiative.

The Argentine National Atomic Energy Commission had been founded in 1950, and the following year, the government began the training of technical personnel to study the "application of atomic energy." At the first United Nations Conference on the Peaceful Uses of Atomic Energy in 1955, the Argentine delegation presented more than 40 papers.

Pedro Iraolagoitia, from Argentina's National Atomic Energy Commission, explained that his nation's nuclear program would be part of its goal for energy self-sufficiency and depend upon the processing of natural uranium obtained in Argentina. He forecast that by 1980, when electricity consumption per capita in Argentina would have doubled, at least half of the required increase in generation, or about 2.5 gigawatts, would "be the product of nuclear plants."

In 1955, Argentina signed an agreement with the United States to obtain a research reactor, the RA-1, which was delivered three years later. The agreement also provided for training over 200 Argentine scientists.

During the 1960s, Argentina signed cooperative agreements to share nuclear technology with Peru and Colombia, and concentrated on educational programs with more devel-



This small, ETRR-2 research reactor was built for Egypt by the Argentine technology company INVAP, which also trained the technical personnel to operator the reactor.

oped nations such as Germany. Over 300 foreign experts were brought in to help train Argentine scientists, also benefitting over 350 students from around Ibero-America who participated in the program.

At the Tenth Anniversary Symposium on Nuclear Energy and Latin American Development, held at the Puerto Rico Nuclear Center in October 1967, Ernesto Galloni, from Argentina's National Atomic Energy Commission, stated that "nuclear power will come, in time, to all the Latin American countries." He reported that already three research reactors were operating in Brazil, two in Argentina, and one each in Colombia, Mexico, and Venezuela.

Looking toward the future, even beyond Argentina's order for its first commercial power plant, then under consideration, Galloni stated: "We believe it is time to begin training personnel to develop the technology for the fuel elements needed for breeder reactors, which must surely replace the present generation of reactors."

He concluded: "We think that our program, like that of our brother Latin Americans, by the incorporation of the new resources of science and technology into our daily life, will contribute effectively to consolidating welfare and peace between nations."

The Argentine national goal, from the beginning, was for self-sufficiency in all phases of the nuclear fuel cycle. In 1968, Argentina was ready to purchase its first power reactor, to be sited in Atucha, near Buenos Aires. Seventeen bids were received for the construction of Atucha 1, and it was built by the German company Siemens. The 335 MW reactor came on line in 1974, becoming Ibero-America's first operating nuclear power plant.

To develop national nuclear independence, the Siemens heavy water reactor design was chosen, because it used natural uranium which Argentina could mine. Power plant designs requiring enriched uranium fuel, which were offered by other companies, would have made the country dependent on the United States for fuel.

The optimistic 1960s also saw the first serious challenges to Atoms for Peace. The United States and the Soviet Union signed the Nuclear Non-Proliferation Treaty (NPT) in 1968, which was ratified by the U.S. Senate two years later. In the 1970s, the treaty would become the basis for the IAEA to try to control the access to nuclear technology by non-nuclear-weapons states.

Every nation was pressured to sign the treaty, thereby signing away the access of non-nuclear weapons states to so-called "dual-use" technologies, which could be used for both civilian and military purposes—such as uranium enrichment and spent fuel reprocessing—unless they submitted to IAEA inspections and certification. Argentina refused to sign, citing its right to develop the full nuclear fuel cycle, and its national sovereignty. While it would take a few years for nuclear suppliers such as Germany, Canada, and France to implement restrictions on nuclear technology transfer, the handwriting was already on the wall.

For the same reason, Argentina refused in 1968 to sign the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, known as the Treaty of Tlateloco.

In addition to the fact that treaties do not prevent wars, as a look at international agreements immediately preceding the outbreak of World War I would demonstrate, developing nations pointed out that it was the height of hypocrisy to withhold civilian nuclear technology from them, while demanding that five nations be allowed to threaten the world with nuclear war.

Determined to be able to enter the market for indigenously developed nuclear technology, Argentina established its own company, INVAP, in Bariloche, in 1976, to develop, build, and export nuclear technology. The first reactor designed and built in Argentina was inaugurated in 1982. The 500 kilowatt RA-6 research and training reactor became the proof-of-principle for Argentine research reactors, which were later exported to Algeria, Egypt, Cuba, Peru, Iran, and Australia.

INVAP also embarked on the CAREM project to produce small, modular nuclear reactors for developing countries. The 27 MW CAREM nuclear-generating station is designed for developing nations, and an advanced design, up to 300 MW, is suitable for cities of up to 100,000 people.

Brazil

Scientific research in nuclear fission was carried out in Brazil as early as the 1930s. President Getulio Vargas signed an agreement with the United States in 1940, for the coopera-

tive mining of uranium, and a committee was created to examine future nuclear ties with the United States. Early on, Brazil decided it would develop an independent nuclear capability.

At the first Atoms for Peace conference in 1955, Brazil's representatives described their nation as "in rapid transition from an agricultural economy to an industrialized one." Energy shortages, largely as a result of dependence upon hydroelectric power and imported fossil fuels, and poor transportation, they explained, motivated Brazil to prospect for fissionable reserves, as its nuclear program would be based on indigenous sources.

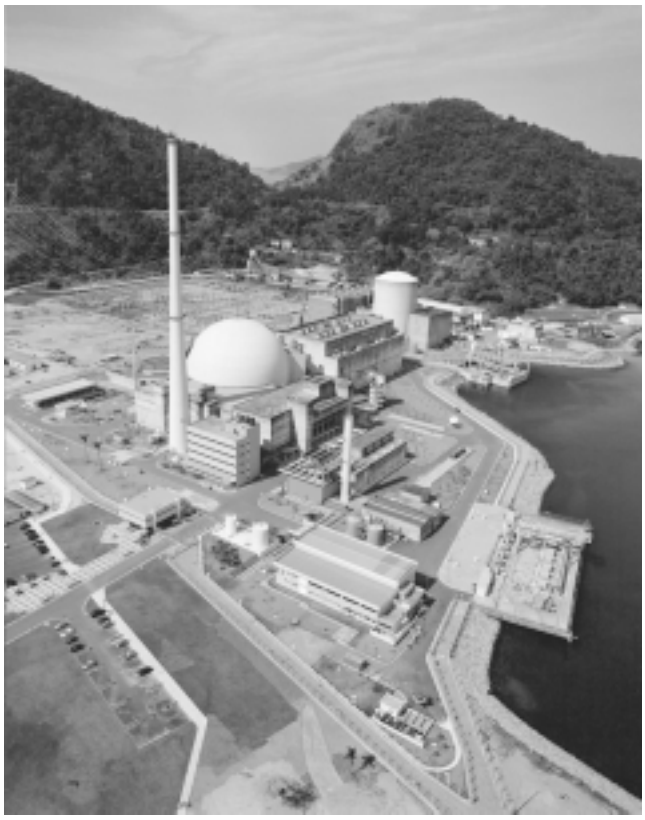
They reported that Brazil was determined to train the needed technical manpower, and make use of small research reactors, as the "preliminary step leading to the construction of a 40 MW reactor for industrial purposes."

Under Atoms for Peace, an agreement was signed with the United States, and in 1957, the Brazilian National Commission for Nuclear Energy (CNEN) was created. Two U.S.-supplied research reactors were sent to Brazil, and in 1965, Brazil built its first indigenous small research reactor.

In 1968, a site was chosen for Brazil's first nuclear power reactor, Angra I, which was a 625 MW reactor supplied by Westinghouse. The plant began construction in 1972, and went on line a decade later. But in accord with "non-proliferation" restrictions imposed by the United States, the Westinghouse contract barred any transfer of nuclear technology to Brazil. It was decided, therefore, that Brazil's future reactors would be purchased from other suppliers.

The 1973-74 Middle East oil crisis, and quadrupling of prices, led the government of Ernesto Geisel to create the Brazilian Nuclear Corporation (Nuclebras), consisting of engineering, construction, and fuel cycle technology companies to expand the country's nuclear power programs.

Over strong objections from the United States, in 1975, Brazil signed an agreement with Kraftwerk Union AG (KWU) in Germany to build up to eight additional nuclear plants, a commercial uranium enrichment facility, and a pilot-scale spent-fuel reprocessing plant. At that time, Germany did not yet require full technical safeguards under the IAEA non-proliferation regime.



The Brazilian government successfully completed the second reactor at the Angra complex, after substantial delays, and despite the policy of "technological apartheid" promoted under the cover of non-proliferation.

Iran

The most often-heard charge today from Undersecretary of State for Arms Control and International Security John Bolton, and other non-proliferation adherents in the Bush Administration regarding Iran's nuclear program, is that they must surely be developing the technology to create an "Islamic bomb," because with all that oil and gas, how could they possibly be interested in nuclear plants to produce energy?

But as early as the Atoms for Peace conference in 1955, representatives from Iran outlined in detail their projections for a continued 7% per year growth rate in domestic energy consumption. Examining their known reserves of oil, and even assuming future exploration would reveal up to 4 billion tons more, within 50 years, they still projected, with the exports needed to build up their internal capital, that nuclear energy would be needed in Iran.

Following the 1973-74 oil embargo and quadrupling of oil prices, the government of the Shah of Iran reasoned that rather than burn oil in power plants, Iran should export its oil to earn foreign exchange for development programs, and instead produce electricity from nuclear plants. Iran also stated that oil should be preserved for more important uses, such as in the chemical and petrochemical industries, and that there should be a viable nuclear energy infrastructure prepared for the time when domestic oil production would start to decline.

Iran had been operating a 5 MW research reactor since 1967, and had signed the NPT in 1970. In 1974, the Iranian Atomic Energy Organization was established, and negotiations were carried out with the United States, Canada, France, Germany, Great Britain, Australia, and India for technological training and assistance for the purchase of hardware and fuel. In that same year, the government stated its intention to increase per-capita electrical power consumption in Iran to Western European levels in the following 20 years, and provide about 40% of its required installed generating capacity

from nuclear reactors.

Two 1,190 MW nuclear reactors were ordered from Germany's KWU on a turn-key (operationally ready) basis. KWU was also contracted to supply the first load of fuel, and refuelings for the first ten years of the plants' operation.

As the political situation in Iran became unstable, work on the plants stopped in the Fall of 1978. Iran had already spent about $2.75 billion for the project, and the two plants were 80% and 50% complete. Preliminary site preparation for two French reactors was halted, as were plans for four more KWU reactors near Isfahan, and other negotiations with West Germany.

Iran had also been in talks with the United States, concerning the purchase of eight American reactors, but those contracts required Congressional approval and technical safeguards agreements, which had delayed any action on the orders. Between 1974 and 1978, Iran also acquired about 28,000 tons of natural uranium ore for its reactors, negotiated joint ventures for exploration and development of deposits in a number of countries, and launched a search for domestic uranium deposits. It also acquired shares in Western Europe's uranium enrichment facilities.

The 1979 Iranian Revolution halted all work on the two partially completed KWU nuclear plants. In the 1990s, Russia and Iran signed agreements to complete both units, and since then, Russia has been subjected to unrelenting pressure to cancel the contracts.

Recently, the United States has tried to organize an international outcry against Iran's nuclear program, and bring that nation before the UN Security Council so that economic sanctions can be brought to bear, in a process reminiscent of the pre-war U.S. drumbeat against Iraq.

It did not escape the attention of Iran in the 1970s, that a nuclear weapons program, with U.S. assistance, was under way in Israel. If the international community sincerely wants to eliminate nuclear weapons from Southwest Asia, it must start with demands on Israel, the region's only nuclear weapons power. If it wants to eliminate the threat of war in the region, it must be willing to enforce a peace policy based on LaRouche's "Oasis Plan," for water, energy, and economic development.

Many of the nations that attended the 1955 Atoms for Peace conference were not in a position to start to plan using nuclear energy to meet their energy needs. At the close of two weeks of discussions, a representative from Mexico said somewhat apologetically that, because of the "present state of development of Mexican economy and industry, our work in Mexico has been limited to purely scientific study, to basic research." But, he added, "the most important thing about this conference is the fact that it has taken place."

Every nation present looked toward a future, where, as one speaker proposed, echoing Franklin Delano Roosevelt, nuclear energy would play a critical role in securing "freedom from want."

Wrecking the United States First

The 1970s were supposed to be the decade of the blossoming of civilian nuclear power throughout the world, as many nations were ready to order and operate commercial-scale plants. But a series of economic shocks, political upheaval, and finally the accession of the Administration of Jimmy Carter, stymied nuclear development in some countries, including the United States, and destroyed it in others.

Early in the decade, President Richard Nixon, facing an international financial crisis, ended the Bretton Woods system on Aug. 15, 1971, thus ending the stable post-War financial international arrangements that were the prerequisite for long-term economic planning, and for large-scale, multi-decade infrastructure projects.

Two years later, the Middle East war led to an embargo of petroleum exports to the United States, which action was used as the public excuse by the Wall Street-controlled oil multinationals to double and quadruple the price of oil. This scam was the historical precursor to the recent Enron debacle. The cost of pumping and shipping Middle East oil had not increased, just the cartel-manipulated price. This "oil embargo" took billions of dollars out of the pockets of people driving to work or trying to keep warm, and instead were used by Wall Street to sustain a bankrupt financial system.

As oil supplies appeared to became critically low (while loaded tankers sat in New York harbor), resulting in public outrage at long lines at gas stations, President Nixon addressed the nation on Nov. 7, 1973, asking Americans to "conserve": drive less, lower their thermostats, cut down on lighting. He announced "Project Independence" to wean the United States off imported oil.

The immediate focus of that program was conservation, or austerity. The intermediate plan was to develop uneconomical U.S. fossil energy reserves, using wasteful and expensive synthetic fuel techniques that were developed by the Nazis during the Second World War. But President Nixon also supported an increased use of nuclear power.

A report titled "The Nation's Energy Future," submitted to Nixon on Dec. 1, 1973 by nuclear energy champion Dr. Dixy Lee Ray, chairman of the Atomic Energy Commission, stated that in that year, nuclear energy generated 5% of America's electrical power. It laid out a *real* project independence program, stating: "This fraction is expected to grow to about 23% by 1980, 49% by 1990, and 60% by the year 2000." In fact, today, nuclear energy supplies only a little more than 20% of the nation's electricity.

In the United States, contrary to popular myth, it was not the accident at Pennsylvania's Three Mile Island nuclear plant in 1979 that was the beginning of the end of nuclear power plant orders in the United States; it was the energy "crisis" five years earlier. Between the time of the manufactured 1973 oil crisis and the 1979 accident at Three Mile Island, 46 nuclear plant orders were cancelled.

As Americans were told there was an energy shortage,

they reduced their consumption, including their use of electricity. They had little choice. The climbing cost of fuel to the electric utilities, was necessarily passed on to the consumer. Electricity prices, for the first time since World War II, were rising; consumption was dropping.

Utilities, faced with a decline in the rate of growth in demand, plus the ballooning of costs due to stretched-out plant licensing procedures, thanks to the passage in 1969 of the National Environmental Policy Act, started to cancel orders (see **Figure 2**). They could no longer justify the construction of new power plants.

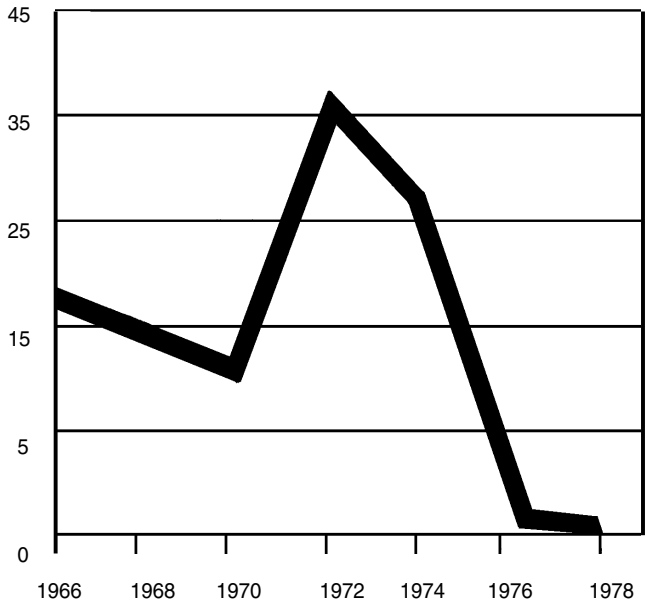
From the Atoms for Peace announcement of President Eisenhower through the Nixon Administration, every President had at least verbally supported the development of civilian nuclear power. That was about to change.

Under public pressure to do something about the continuing energy "crisis," when Vice President Gerald Ford took over the Presidency in 1974, one of his first acts was to disband the 1950s Atomic Energy Commission, and replace it with an agency which was a mish-mash of incoherent energy projects. There was no longer an Executive branch agency to promote nuclear power. In tandem, the Congress abolished the Joint Committee on Atomic Energy, dismantling the legislative apparatus that had been a clear and aggressive voice, guiding national nuclear policy.

And the situation was about to get much worse.

FIGURE 2

The Collapse of Nuclear Reactor Orders After the 1973 Oil Hoax



Source: Atomic Industrial Forum.

Before Three Mile Island, there were the 1971 world financial crisis, and the 1973-74 oil "crisis." The high point of new orders for nuclear power plants in the U.S. was in 1972, and they had reached zero by 1978. By the early 1980s, more than 100 nuclear plants on order had been cancelled.

The Anti-Nukes in the White House

The election of Jimmy Carter in November 1976 brought the counterculture, the anti-nuclear movement, and the zero-growth cultural paradigm shift begun in the 1960s, into the Executive office.

The day after his inauguration in 1977, President Carter named RAND Corp. utopian James Schlesinger as energy "czar." With the promulgation of the National Energy Act later that year, Schlesinger declared: "The era of cheap and abundant energy is recognized to be over."

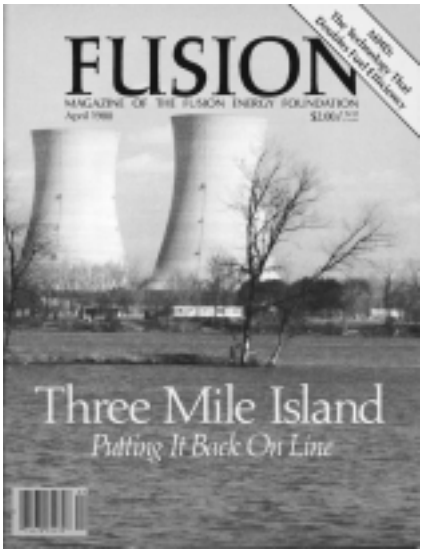
But this insane policy was not going to go unchallenged—Lyndon LaRouche's Fusion Energy Foundation (FEF) was on the scene. The FEF was soon to be in a head-to-head fight with the Trilateral Commission's Carter Administration, and the Council on Foreign Relations' 1980s "controlled economic disintegration" project, which had included contributions from "Arc of Crisis" ideologue Zbigniew Brzezinski, and "Clash of Civilizations" author Samuel P. Huntington.

Just a year after its founding in 1974, the FEF held a conference on thermonuclear fusion energy, at the New York Academy of Sciences. If Schlesinger et al. were against nuclear fission because it held the promise of abundant energy supplies for the world, imagine their horror at the prospect of developing nuclear fusion, which can use isotopes of hydrogen for fuel that are found in universally available seawater!

In 1976, the Fusion Energy Foundation held more than a dozen conferences around the country on energy and economic development, explaining how current and more advanced nuclear fission technologies, and tomorrow's nuclear fusion, would defeat the propaganda of conservation, austerity, and "limits to growth."

By early 1977, as the Trilateral Commission was settling in at the White House and Schlesinger was mapping out his plan to turn the United States into a solar-powered post-industrial scrap heap, the FEF was planning a series of conferences on "solving the energy crisis," with the participation of corporate executives, scientists, and engineers from universities and government laboratories, elected officials, trade union representatives, and diplomats.

The response from the "powers that be" was swift. Days before a conference was to take place in Pittsburgh on April 29, 1977, the FEF learned that 12 of the scheduled speakers had withdrawn, after being subjected to a campaign of blackmail, libel, and coercion from the office of Schlesinger in Washington, and the Federal Bureau of Investigation office in Pittsburgh. Months before, it was learned, the FBI had characterized the FEF as a subversive and dangerous group, due to its affiliation with Lyndon LaRouche. As early as 1976,



The national fight carried out by the Fusion Energy Foundation against the sabotage of nuclear power after the Three Mile Island incident gained the FEF national prominence, and the enmity of the Trilateral Commission, Council on Foreign Relations, and international financial institutions.

scientists working with the FEF had reported being threatened that their Federal research funding could be cut off.

Two days before the Pittsburgh conference, the FEF went into court and was granted a temporary restraining order by Judge William Knox, who determined that there was enough evidence against the FBI, Schlesinger, and the U.S. Attorney General, for the court to prevent any further harassment of the FEF.

Two years later, the incident at Pennsylvania's Three Mile Island nuclear plant on March 29, 1979 brought the FEF into national prominence as the *only* organization in the country that unconditionally supported the expanded use of nuclear energy. While the nuclear industry hid under their beds, hoping that the bad publicity and growing anti-nuclear movement would go away (and slandered the FEF), organizers for the FEF stood on street corners and in airports with signs stating: "Nuclear Power Is Safer Than Sex."

A cartoon in the FEF's *Fusion* magazine that year showed Jane Fonda holding a candle, with the caption: "If God had meant us to use nuclear energy, He'd have given us brains!" The cartoon accompanied an editorial titled: "Nuclear Power Versus the New Dark Ages."

The Foundation's independent investigation into the Three Mile Island incident indicated the likelihood that there had been sabotage at the plant, in order to create panic and hysteria, which the media then gladly spread. Jane Fonda had starred in a film, *The China Syndrome,* portraying a fictional catastrophic nuclear accident in Pennsylvania, which was released a few months before the Three Mile Island incident.

The FEF escalated its fight for nuclear power. In 1979, *EIR* published a Special Report commissioned by Lyndon LaRouche, titled, "America Must Go Nuclear," written by a task force of the FEF. LaRouche, then a Presidential candidate, stated: "In my first day in office, I shall deliver to the Congress a comprehensive energy policy." That policy, he stated, would repeal the Environmental Protection Act, and complete work on the 120 nuclear plants stalled in various phases of construction. In addition, the policy will "provide for the addition of 1,000 gigawatts (1 million megawatts, or about 1,000 large nuclear plants) of nuclear energy by 2000. . . ."

Then, in October 1979, the death knell for the nuclear industry was sounded on Wall Street. Federal Reserve Chairman Paul Volcker raised interest rates from the single digits up to 18% (and soon even higher). Capital-intensive nuclear power plants, which, thanks to "environmentalist" intervention, were now taking a decade to complete, were now beyond the financing capability of any electric utility.

The December 1981 issue of *Fusion* magazine discussed a report by Wall Street's Merrill Lynch, which predicted that 18 more nuclear plants then under construction were likely to be cancelled over the next year, because depressed demand meant new plants were not warranted, and the electric utilities could not carry the financial burden.

By 1984, *Fusion* reported, approximately 70% of the capital cost of building a nuclear plant was due to delays caused by environmentalist and regulatory delays. Interest costs, paid over these stretched-out construction times, were more than five times the capital cost! For the first time in American history, electricity consumption per capita started to fall, as measured in kilowatt-hours, in 1981.

By the mid-1980s, more than 100 nuclear power plants had been cancelled—nearly as many as the 103 reactors that are in operation today.

President Carter appointed neo-liberal S. David Freeman to head Franklin Roosevelt's Tennessee Valley Authority. Under Freeman's leadership, the TVA, the largest nuclear construction site in the world, cancelled all but 5 of the 18 nuclear plants it had planned to build. Twenty-five years later, the TVA is still paying off the billions of dollars of debt incurred from the cancellations. Freeman was awarded *Fusion*'s "lousewort laurels," for re-introducing 19th-Century wood-burning stoves into the valley.

To try to convince the world that it was "dangerous" to go nuclear, the Carter Administration foisted an exercise called the International Nuclear Fuel Cycle Evaluation (INFCE) on the world's nuclear energy countries. After scores of meetings, at a cost of more than $1 million to the United States alone, no nation would go along with the suicidal U.S. decision to outlaw breeder and spent fuel reprocessing technology.

At the end of this idiotic exercise, INFCE Ambassador-at-Large Gerard Smith was forced to admit, in February 1980, that "proliferation is basically a political matter and that if a nation elects to develop nuclear explosives, it can do so without misusing civilian nuclear power facilities."

By then, the nuclear "option" in the United States was dead.

At the beginning of 1980, General Electric and Babcock

and Wilcox, two of the four U.S. nuclear suppliers, announced that they would be shutting down their nuclear plant production facilities, due to the lack of orders. Today there is not one company in the United States that could build a pressure vessel for a new nuclear reactor.

To try to make sure nuclear power would also die in the developing countries, with Carter Administration backing, Congress passed the Percy-Glenn Non-Proliferation Bill in 1978. More restrictive than even the 1968 NPT, this put the nail in the coffin of Atoms for Peace.

Target: The Developing Nations

The 1973-74 oil crisis, it would seem, would have sent the entire non-oil-exporting world running to buy nuclear plants. Indeed, many nations made the decision then and there to go nuclear. But although plans were enunciated to accelerate nuclear power construction, the now-exorbitant cost of imported energy meant that developing nations, in particular, did not have the capital to purchase them.

As the "economic hit men" moved in, especially through the World Bank and International Monetary Fund, developing nations were plunged into debt just to import the oil they needed, which debt would grow exponentially over the next 20 years. Nuclear plans that were already in mid-stream were put on hold, as capital resources dried up.

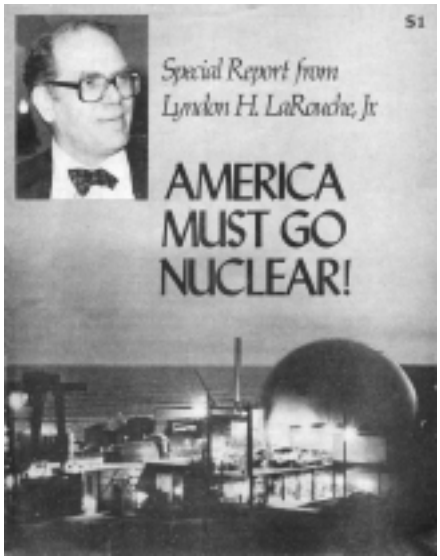
By the middle of the 1970s, as more and more nuclear supplier nations were bullied into signing the 1968 Nuclear Non-Proliferation Treaty, restrictions on the transfer of nuclear technology discouraged developing nations from placing new orders, and crippled projects already under way.

The real purpose of non-proliferation policies, as well as the economic rape of resource-rich developing nations, had been enunciated clearly by Henry Kissinger in 1974, when his National Security Study Memorandum 200 warned that population growth in the Southern Hemisphere would threaten the national security of the United States, by using up finite resources. If advanced technologies could be withheld from developing nations, there would be fewer people there, as competitors.

Argentina's second power plant, a Canadian heavy water CANDU reactor, Embalse, was, like its first, chosen so that indigenous uranium could be used. The plant began construction in 1974, and finally became operational in 1983. One of the reasons for the delay was that after India's testing of a nuclear explosive in 1974, Canada, following the lead of the United States, implemented a set of technology-transfer restrictions.

Argentina's plan in 1979 was to build four more nuclear plants, along with development of the mining and use of domestic uranium. When the time came to order its third nuclear power plant, Argentina found that although it preferred to purchase another CANDU reactor, Canada was insisting upon even tighter new technology "safeguards."

In April 1979, the head of Argentina's Atomic Energy Commission, Rear Adm. Carlos Castro Madero, stated that his nation was "ready to dispense with the technological assistance provided by the IAEA because of the obstacles imposed by the most developed countries, and the excessive restrictions on the transfer of technology."



Lyndon LaRouche released this Special Report in 1979, outlining how to put America back on track. He ran for the Democratic Presidential nomination in 1980.

Atucha II was ordered from the German firm Kraftwerk Union in 1979, which still had fewer restrictions. At the same time, Argentina announced the purchase of a plant for the production of heavy water from Switzerland, needed to cool the natural-uranium reactors, so the sale of the coolant for its plants could not be used as a bargaining chip against the country's nuclear program.

As of 1982, the government's plan still called for a total of eight power reactors, creating 4,500 MW of installed capacity, by the year 2000.

But the non-proliferation vise was being tightened. In 1978, the Carter Administration had suspended shipments of enriched uranium, used to fuel Argentina's five research reactors, because that country had refused to sign non-proliferation treaties. (Today, the Bush Administration is running around the world trying to reclaim the enriched uranium from such research reactors, lest "terrorists" get hold of it.)

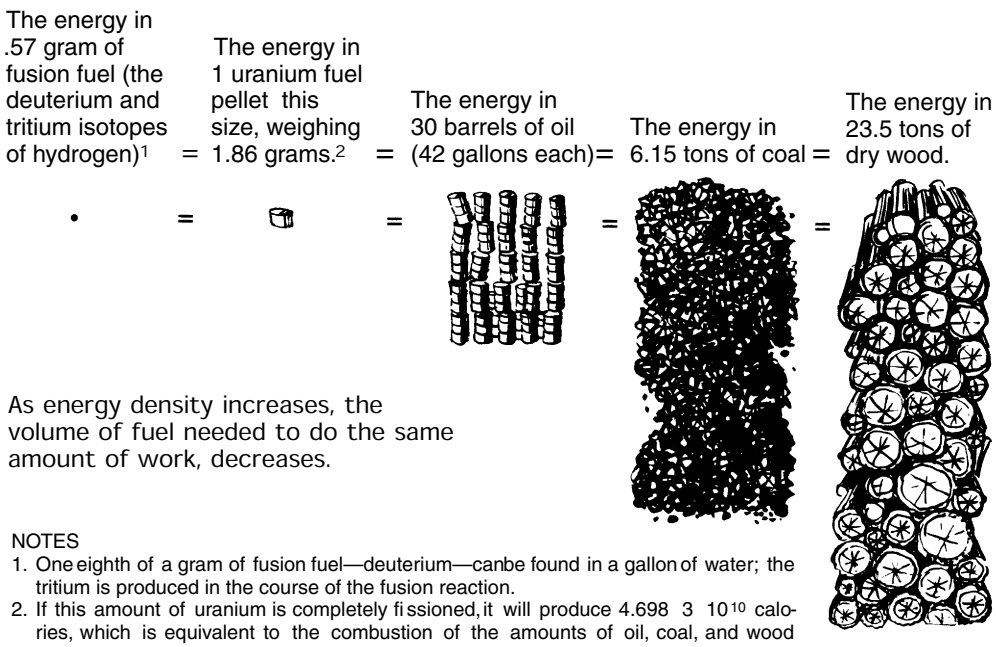
Through escalating economic crises, Argentina tried to hold to its commitment to develop the entire nuclear fuel cycle. By the early 1980s, Argentina was producing fuel elements for both its natural-uranium power reactors and enriched uranium fuel for its research reactors. An indigenous spent-fuel reprocessing technology was also developed, but was never deployed.

Hoping to end the economic warfare and nuclear technological apartheid against its country, Argentina brought into force the Tlateloco Treaty in 1994, and signed the NPT a year later.

Today, thanks to the policies of the "economic hit men,"

FIGURE 3

The Superiority of Nuclear Energy



NOTES
1. One eighth of a gram of fusion fuel—deuterium—canbe found in a gallon of water; the tritium is produced in the course of the fusion reaction.
2. If this amount of uranium is completely fi ssioned, it will produce 4.698 3 10^{10} calories, which is equivalent to the combustion of the amounts of oil, coal, and wood shown here.

Source: Dr. Robert J. Moon, 1985.

Argentina's ambitious plans to "go nuclear" lie in ruins, along with its economy. In the nation that had the highest standard of living in Ibero-America at the end of the Second World War, and the subcontinent's first operating nuclear power plant, desperate citizens rummage through trash to try to find something to eat.

The financial crisis that crippled Argentina was continent-wide. In 1982, soon after the start of construction of Brazil's Angra II nuclear power plant, that country was forced to negotiate loans with the International Monetary Fund. The IMF demanded that as a "conditionality" for the loans, Brazil limit its 1975 nuclear pact with Germany. The number of planned power plants was reduced to include only Angra II and III; the two other KWU plants were cancelled.

Finally, in 1991, the decision was made to resume construction, and in 1996 the resources were allocated to do so. In July 2000, the plant was completed and connected to the electric grid. More than 50% of the equipment was made by Brazilian firms.

Unlike almost every other developing nation, Brazil never acceded to international pressure to give up its development of the nuclear fuel cycle. For the past year, it has been in a tug-of-war with the international non-proliferation lobby, over its determination to use its own technology to produce enriched uranium fuel for its nuclear reactors.

In what was in actuality a proxy war, with the real target being Iran, in September 2004 Brazil was pressured to allow inspectors from the IAEA unfettered access to its new uranium enrichment plant. Brazil maintained that under the IAEA's own regulations it was entitled to develop enrichment technology for civilian purposes, and that its national sovereignty was at issue.

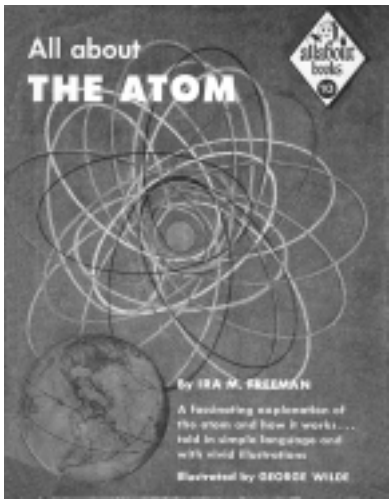
For the past year, the United States has increased pressure on the IAEA to do whatever is necessary to stop Iran's uranium enrichment program, which it insists will be used to make weapons-grade fuel. Were Brazil to continue with its program, the United States stated, this would set a "bad precedent" in dealing with Iran, even though Secretary of State Colin Powell admitted that there was never any fear that Brazil was making a bomb. Brazil refused to back down.

On Nov. 24, 2004, Brazil announced that it had reached an agreement with the IAEA and would begin the enrichment of uranium before the end of the year. Five days later, the government said that it would be deciding soon whether to complete the Angra III reactor. For 15 years, the partially completed Angra III plant has been mothballed. About 70% of the needed hardware from Germany has been shipped, and is in storage. The plant is about 30% complete, and $1.7 billion is needed to finish it. The French state-run nuclear engineering company, Framatome, is likely to be chosen to complete the construction.

Can We 'Go Back' to the Future?

A number of nations today have reached the point where, regardless of what the United States may think, they are now determined to go nuclear. For decades, Anglo-American financiers and geopoliticians have been quite successful in keeping a stranglehold on nuclear technology, Now, other nations are stepping forward to pick up where Atoms for Peace left off.

In 1954, Indonesia established a State Commission of



Books like this one, dated 1955, educated a generation of American children, and adults, about the promise of the coming Nuclear Age.

Radioactivity and Atomic Energy. Since the 1960s, this most populous nation in Southeast Asia has been attempting to research and develop applications of nuclear technology, and has been stymied by political upheaval and economic warfare by the "hit men."

Since 1970, energy consumption in Indonesia has been increasing at an average of 10% per year. Although it is estimated to have the 16th-largest proven reserves of oil, output has been declining, and in 2004, Indonesia became a net importer of crude oil for the first time.

In 1978, the government began the first feasibility study for the introduction of nuclear power, but apparently delayed a decision until its nuclear research facilities were more fully developed. The worldwide anti-nuclear hysteria after the Three Mile Island accident the following year, the skyrocketting cost of buying a nuclear plant, and environmentalist interference, led many developing nations to think twice about such large commitments of their scarce capital.

Studies continued, and by 1983, Indonesia had chosen two possible sites for a medium-sized power plant, between 200-400 MW, to be located on the island of Java. In 1985 Indonesia began work to up-date the earlier feasibility studies, but again, decisions were delayed.

Dr. B.J. Habibie, a German-educated aeronautical engineer, became Minister of Research and Technology in 1978. He tried to move forward with the plan to build the nation's first nuclear plant. Opposition in many corners—from the international financiers to a misinformed population—brought the project to a standstill in 1997.

But the Indonesian scientific community had continued to look ahead. At a series of IAEA conferences in the mid-1990s, they reported that nuclear energy by the turn of the century was imperative for Indonesia. Proposals were made for applications for nuclear power in water desalination and the production of hydrogen for fuel, both important for their nation.

Finally, in August 2003, Indonesia concluded a ten-year cooperation agreement with Russia that included the construction of a nuclear research reactor and a power plant. It is likely that the power plant will be a 40 MW floating nuclear reactor, modeled on Russian's naval reactor program.

In February 2004, South Korean and Indonesian specialists also began a three-year feasibility study for what could be a six-reactor complex in Indonesia, each with a 1,000 MW capacity. The goal would be to complete it by 2016.

In February 2004, during a visit to Hanoi, Russian Deputy Prime Minister Viktor Khristenko announced that Russia had agreed to help Vietnam build its first commercial nuclear power plant. Russia also announced at the end of 2003 that it is willing to build a nuclear plant in Libya, if it signs the Non-Proliferation Treaty, and United Nations sanctions are lifted.

In March 2004, Thailand signed an agreement to engage a nuclear manufacturer in South Korea to build a test reactor in the Nakhon Nayok providence of Thailand.

China, which is in the midst of a huge nuclear construction program, is also planning to make its indigenously developed nuclear technology available for export. The China-Brazil scientific cooperation agreement which has created a joint space exploration effort, was broadened to include nuclear collaboration, during Chinese President Hu Jintao's visit to the region in November 2004. Hu also visited the nuclear research and manufacturing facilities in Argentina, with an eye toward additional nuclear cooperation.

What is the U.S. response to this renaissance in nuclear power? On Feb. 11, 2004, President Bush announced a new series of steps to "strengthen the nuclear non-proliferation regime." He proposed a ban on the transfer of uranium enrichment technology to non-nuclear weapons states, supposedly to make sure they cannot produce highly enriched uranium for bombs. "There is no need for additional states to build [uranium] enrichment or [spent fuel] reprocessing plants," stated Deputy Assistant Secretary of State for Non-Proliferation Andrew Semmel, on April 29, 2004. And unless nations sign on to the Additional Protocol of the IAEA, which allow for unannounced and unfettered inspections, international pressure should be brought to bear to close down any facilities they might develop on their own.

This arrogance is indicative of the disregard for national sovereignty, and even common sense. Sovereign nations have no intention of allowing supplies of nuclear fuel for their power plants to be controlled by the political dictates of the United States, the IAEA, or any other body. Nations such as Argentina and Brazil made clear 50 years ago that their intention in "going nuclear" was to be able to execute their plans for energy development, without interference, or blackmail, from the "developed" countries.

Genocidal Consequences

The denial of nuclear technology to developing nations has had consequences. In 1982, the Fusion Energy Founda-

tion released a study indicating that at least 115 million people worldwide had died over the preceding 15 years due to the sabotage of nuclear power. Suffering with lower energy and low economic growth rates, poorer or no health care, and lack of infrastructure, millions in the developing nations were denied the very means for survival.

Today more than 2 billion people live without electricity. Their life expectancy is comparable to what it was in the United States five decades ago. There are only 440 nuclear power plants in the world operating today, with nearly 90% of them in the industrialized nations.

Today, nuclear energy provides Argentina with 8.6% of the electricity it generates. In Brazil, the figure is 3.6%. Their plans from the 1960s were never allowed to materialize.

In his Atoms for Peace presentation in 1955, Detroit Edison head Walker Cisler said: "Atomic energy has stirred the imagination of men more than almost any other subject in history. It has engendered a worldwide hope that the lot of all people can be greatly improved. . . . The incomparable research laboratory, the human mind, is busy in many people and in many lands. . . . I believe sincerely that in this kind of mutual endeavor is the highest hope of advancing nuclear energy into its ultimate and most significant role its peaceful use for the betterment of mankind everywhere. The challenge is great; the reward greater."

For Further Reading

21st Century Science & Technology magazine has published many articles on nuclear technology, radiation, nuclear history, environmentalist history, population, and eco-hoaxes. A subject index can be accessed for 1988-99 at www.21stcenturysciencetech.com, and back issues can be purchased online.

Some suggested *21st Century* articles include:

"Getting the Atom Away from the Army," by Theodore Rockwell, Summer 2004; "Who Owns the Environmentalist Movement?" by Rogelio A. Maduro and Ralf Schauerhammer," Fall 1992; "The Great Atomic Bomb Hoax," by Carol White, Fall 1994; and "The New Nuclear Power," by Marjorie Mazel Hecht, Spring 2001.

Also useful is *The Health Hazards of NOT Going Nuclear* by Petr Beckmann (Boulder, Colo.: The Golem Press, 1976). This is a classic review of nuclear and radiation questions, which, unlike most academic books on the subject, treats anti-nuclear lies with irreverent humor.