

Give me the
warm power
of the sun
Give me the
steady flow of
the waterfall
Give me the
spirit of
living
things
as they
return
to clay
Just give me
the restless
power of the wind
Give me the comforting
glow of the wood fire
But please take all of your
atomic poison power away!

— from "Power" by John and Johanna Hall

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OFFICIAL PROGRAM: INTERVIEWS WITH THE ARTISTS
GUIDE TO SAFE ENERGY

The **MUSE CONCERTS** for
A NON-NUCLEAR FUTURE
September 19-23, 1979



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METROMEDIA STEREO

The MUSE CONCERTS for A NON-NUCLEAR FUTURE

*Madison Square Garden
September 19-23, 1979*

*Jackson Browne
Ry Cooder
The Doobie Brothers
John Hall
Chaka Khan
Graham Nash
Tom Petty and the Heartbreakers
Poco
Bonnie Raitt
Raydio
Gil Scott-Heron
Bruce Springsteen
& The E Street Band
Sweet Honey in the Rock
James Taylor
Peter Tosh
Jesse Colin Young
And Special Friends*

*Come to the Rally
Sunday, September 23rd, 11 a.m. - 4 p.m.
Battery Park City*

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The Muse Concerts for a Non-Nuclear
Future, produced by Musicians United for
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Locals #1, 52 & 306; International
Brotherhood of Electrical Workers, Local
#3; Theatrical Teamsters, Local #813;
United Brotherhood of Carpenters and
Joiners, U.S.A., Local #608.

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STATEMENT OF PURPOSE

Musicians United for Safe Energy (MUSE) is a group of artists and activists working for a future built on the natural power of the sun, and for an end to the threat of atomic power plants and nuclear weapons. We are organizing a series of fundraising efforts to help finance local- and national-based groups committed to a non-nuclear future.

There are several scientific and economic reasons for our concern:

- ★ A reactor meltdown could kill thousands of people and destroy a land area the size of Pennsylvania, according to the government's own estimates. The Three Mile Island accident showed that the previously unimaginable "China Syndrome" could happen.

- ★ Low-level radiation from atomic reactors and weapons production, previously thought to be safe, is causing cancer and birth defects. Recent studies have revealed that even one-tenth the permissible radiation dose has longterm health effects.

- ★ There is no safe method, according to the U.S. Geological Survey and other government studies, for the storage of radioactive wastes, some of which will remain deadly for hundreds of thousands of years. Current waste disposal sites have already leaked millions of gallons of radioactive wastes into the environment.

- ★ Radon gas, emitted from uranium mined for nuclear fuel, is causing cancer among miners and adding dangerously to radiation levels elsewhere.

- ★ Radioactive wastes produced by both commercial and military reactors are becoming generally available for the making of atomic bombs. There have been several reports in the established media about secret atomic arsenals in South Africa, Taiwan, Israel, Pakistan and other countries.

- ★ Nuclear weapons production continues at a tremendous cost when we already have enough bombs to destroy the planet hundreds of times over. Military budgets are a major cause of world inflation.

- ★ The transport of nuclear cargoes jeopardizes the safety of millions of people every day. In the past decade there have been hundreds of accidents involving radioactive materials.

- ★ The atomic power industry is an economic disaster. The unavoidable costs of construction (now more than \$2 billion per reactor), decommissioning, waste disposal and equipment repairs are forcing electric rates to skyrocket. Uranium fuel prices are also being manipulated by a small group of international corporations, as are the prices of oil and gas, guaranteeing ever-rising

costs to the American public.

- ★ The atomic industry employs only a small number of workers in jobs that are dangerous and often of short duration. Solar technologies create four to ten times the jobs per dollar, and are safe, permanent and accessible to a broad cross-section of the working public. The United Auto Workers, the International Machinists, the Sheetmetal Workers and other major unions have endorsed a strong push for solar power as a key step toward full employment.

- ★ A nuclear economy is also a threat to our civil liberties and democratic way of life. A Nuclear Regulatory Commission report has already pointed to the likelihood of a special nuclear police force empowered to conduct domestic surveillance without a court order and, under certain circumstances, to torture suspected nuclear terrorists.

Overall, the continued use of nuclear fission invites more deaths, the mutating of our genetic code, ecological catastrophe, economic impotence and the erosion of our freedom.

In the long run, all our energy needs can be met in ways that are harmonious with nature. We waste half the energy we use simply through inefficiency. Expanding our dependence on fossil fuels through synthetic technologies, for example, will only extend this wasteful cycle and add to our energy and environmental costs. The cheapest and most reliable solutions are in conservation and recycling. Beyond that, we can ultimately supply all our power with direct sunlight, wind, tidal and hydroelectric power, wood, biomass and other natural forms.

Such technologies can be owned and operated by small communities or individual homeowners and tenants, offering true energy independence and emancipation from corporate control. Solar power can produce electricity as well as heat; it is free and accessible to anyone and can help promote grassroots, neighborhood democracy.

Therefore we are devoting our own energy toward the day when not one more cent is spent on nuclear fission except for decommissioning those plants already built and disposing of those wastes already created. We are asking that all future energy efforts be directed toward a democratically controlled energy supply based entirely on natural, renewable sources.

Our health is inseparable from the health of the planet.

We must stop nuclear power and move into the solar age. We feel privileged for this opportunity to help make the transition happen.

DECLARACION DE PROPOSITO

Músicos Unidos para Energía Segura (MUSE) es un grupo de artistas y activistas que trabajan para un futuro basado en el uso de la energía natural del sol y hacia un fin a la amenaza de plantas de energía atómica y de armas nucleares.

Estamos organizando una serie de funciones y otras actividades para recaudar fondos que ayudarán a grupos regionales y nacionales que están comprometidos a asegurar un futuro anti-nuclear.

Hay varios motivos científicos y económicos en los cuales basamos nuestra preocupación:

* Una fusión nuclear accidental podría matar a miles de personas y destruir una extensión de tierra equivalente al tamaño del estado de Pennsylvania según el cálculo del propio gobierno. El accidente de "Three Mile Island" mostró que el antes imaginable "China Syndrome" podría ocurrir.

* La radiación de nivel bajo que derrama los reactores nucleares y la producción de armas atómicas, previamente consideradas "seguras," ahora es la causa de cáncer y de defectos de nacimiento. Estudios recientes han revelado que aún la décima parte de la dosis permisible de radiación tiene efectos duraderos sobre la salud.

* No hay método seguro, según el Análisis Geológico de los E.E.U.U. y otros estudios gubernamentales, para el almacenaje de despojos radioactivos, algunos de los cuales perdurarán letales durante miles de siglos. Los sitios despojadores presentes ya han expulsado miles de galones radioactivos, penetrando peligrosamente las aguas subterráneas almacenadas.

* El gas radón, que se emite del uranio minado para combustible nuclear es la causa de cáncer entre los mineros y se añade peligrosamente al nivel de radiación en todas partes.

* Los despojos radioactivos producidos por reactores comerciales tanto como por los militares se encuentran cada día más disponibles para la fabricación de bombas atómicas. Han aparecido varios reportes en las noticias del "establecimiento" que tratan de arsenales atómicos secretos en Sud Africa, Taiwan, Israel, Pakistán, y otros países.

* La producción de armas nucleares sigue, costosamente, cuando ya tenemos bombas suficientes para destruir y reedificar el planeta. Los presupuestos militares son causa mayor de la inflación monetaria mundial.

* El transporte de cargos nucleares perjudica la seguridad de millones de personas diariamente. En la década pasada ha habido centenares de accidentes en los que figuraban materiales radioactivos.

* La industria de energía atómica es un desastre económico. El costo inevitable de la construcción (ya más de dos mil millones por reactor), desarmado, disposición de despojos y compostura de equipo son responsables del alza irresponsable de las tarifas de la electricidad. Los precios de combustible de uranio también están manipulados por un pequeño grupo de corporaciones internacionales al igual que el precio de petróleo y gas, garantizando de tal forma, precios que suben día tras día.

* La industria atómica emplea sólo un pequeño número de personas en trabajos que son peligrosos y, frecuentemente, de corta duración. La tecnología solar, en cambio, crea 4 a 10 veces más empleos por dólar y son seguros, permanentes, y accesibles a un sector representativo del público adulto. El sindicato de automovilistas (United Auto Workers) de maquinistas (International Machinists), de metalúrgicos (Sheetmetal Workers), y otros sindicatos importantes han apoyado y garantizado el uso de energía solar como un paso clave hacia el empleo universal.

* Una economía nuclear es también una amenaza a nuestros derechos civiles y modo de vida democrática. Un reporte de la Comisión Regulatoria Nuclear ya ha señalado la probabilidad de una fuerza policíaca nuclear especial con el poder de llevar a cabo el espionaje dentro del país sin beneficio de orden de corte y, bajo ciertas circunstancias, la tortura de los que sean sospechosos de ser terroristas nucleares.

* Visto globalmente, el uso continuo de fisión invita a ciertas muertes, una mutación de nuestro código genético, una catástrofe ecológica, una impotencia económica y una amenaza a nuestras libertades.

* A largo plazo, todas nuestras necesidades energéticas podrán resolverse en formas que armonizen con la naturaleza. Echamos a perder la mitad de la energía que utilizamos, simplemente por falta de eficiencia.

La expansión de nuestra dependencia en combustibles fósiles a través de tecnologías sintéticas, por ejemplo, sólo extenderá este ciclo pernicioso y se añadirá a nuestros gastos de energía y de ambiente en general. Las soluciones más económicas y confiables residen en la conservación y el reciclaje. Más allá de esto podemos en última instancia proveernos de energía con la potencia de los rayos directos del sol, el viento, las mareas hidroeléctricas, la madera, la biomasa y otras formas naturales.

Tales tecnologías pueden ser poseídas por y manejadas por pequeñas comunidades o por individuos, sean propietarios o inquilinos, ofreciendo una verdadera independencia de las compañías eléctricas y emancipación del control de las corporaciones. La potencia solar puede producir tanta electricidad como calefacción; es gratis y accesible a cualquiera; además puede promover raíces y democracia comunitaria.

Con este fin, estamos dedicando nuestra propia energía para lograr que un día no tengamos que gastar ni un centavo más en fisión nuclear excepto para desbaratar aquellas plantas que ya existen y la disposición bajo estricto control de los despojos ya creados. Pedimos que todo esfuerzo futuro relacionado a la energía sea dirigido hacia provisiones que sean controladas democráticamente y que estén basadas en recursos renovables y naturales.

Nuestra salud es inseparable de la salubridad del planeta. Debemos poner fin a la potencia nuclear y avanzar a la edad solar. Nos sentimos privilegiados por esta oportunidad de poder ayudar a que esta transición suceda.

ON • TO • THE • SUN



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Save the Planet

A Film Produced by Green Mountain Post Films with Special Help from the Archives Project

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"We fight to protect the unborn"

John Trudell

We must consider all the aspects of the nuke fuel cycle.

We are aware of the contamination that is a result of the nuclear industry. The land, the water, the air and the wind become victims of the deadly radiation. The things of the creation must all become victims. Nothing will remain untouched.

We are becoming aware of the nuclear danger to physical human life but our awareness of the meaning of the earth must also be developed. The earth is sacred. Without it we cannot live, we cannot even exist. The earth gives us life and sustains our life throughout our physical presence on it.

To allow the energy corporations to continue their uncaring, unfeeling attack against the land can only insure the human destruction. There must be more validity to our lives than to just exist for the maximized profit motive of the corporate greed.

A very large percentage of the uranium is on Indian people's lands. When the U.S. government joins the energy corporations in taking uranium from Indian people's lands they are breaking the law. We have treaties signed between our nation and the U.S. government.

These treaties make it *illegal* for the exploitation of our land and our culture without our consent, and *we have not* consented!

The government tells us it's all right to break the treaties, but it is not. The treaties are laws and America cannot be a nation of freedom or morality or law or democracy if the laws of treaties are disregarded. If the treaties are just pieces of paper, then so is the Constitution. That is the reality of life.

Leonard Peltier was sentenced to two lifetimes in jail because of his belief in the treaty, which is our opposition to the nuclear attack. The FBI attacked an Indian people's spiritual encampment in South Dakota in 1975. The result of the fire fight was the death of Joseph Stuntz and two FBI agents, Coler and Williams. Leonard Peltier was one of four men charged with premeditated aiding and abetting of first-degree murder.

Two of the men, Dino Butler and Bob Robideau, were acquitted of the charges and the third man, Jimmy Eagle, had charges dropped. Leonard was illegally extradited from Canada and convicted in the kangaroo court of Paul Benson in

Fargo, North Dakota. Peltier was convicted of premeditated aiding and abetting, but no one has ever been convicted of murder or even stood trial for murder. Murder has never been proven.

The day of the fire fight, the Pine Ridge tribal chairman was in Washington, D.C. illegally giving away one-eighth of the reservation to the U.S. Department of the Interior. There is uranium on this land. The FBI attack was a diversionary tactic to draw attention away from the land grab.

Leonard was convicted not because of guilt, but because the government has to cover up its illegal activities in the exploitation of Indian people's resources.

The people of America have an awareness of Karen Silkwood, but we have had a hard time getting the people's attention directed to Leonard Peltier. Leonard has not received a fair trial and we need the people's help to get a new trial for Leonard. The reality is this racist political attack against Leonard is an attack against all of us.

We must work to overcome the division by racism, age, sex, class and religion. We are not each other's enemy, we are all the collective victim.

This is a time of challenge for the human spirit and we look forward to meeting that challenge, together.

We do not have all the solutions but we do know we cannot afford the death of the human spirit. We cannot afford this attack on the earth.

We pray for the people.

John Trudell is a member of the Lakota nation and speaks for the International Treaty Council.

Winona LaDuke

Mother Earth is the center of the indigenous nations. From the earth comes the religion, education, sustenance, and culture—all parts of the circle of life. We have a saying, "It is not the land which belongs to the people, it is the people who belong to the land." She has always provided well for us. We respect her, take only what we need, and we pray.

The Europeans, and more recently the Americans and Australians, have an entirely different concept of living on the earth. They see the earth and creatures (what we call relations) as "producing" for the humans. The *Lakota* (Sioux) have a term for the Euro-American philosophy of "land use"—*wasichu*, meaning "he who eats the fat." The

wasichu gives no offerings or prayers to the earth. He takes not only what he needs, but takes the rest too.

Wasichu does not describe a race. It describes a state of mind, and in turn, a policy. The *wasichu* policy is called American expansion, "progress" and "Manifest Destiny."

The first step in "progress" is technology. The technology creates a demand for the earth—or "resources" as it is called by the *wasichu*. In order to get the resources, the indigenous people must not be there. The first technological capability of European colonists was to exploit productive cropland. Then came the technology to exploit oil and mineral resources.

This generation, the technology of the "atomic age" is upon us—the most serious threat to the entire circle of life.

The uranium for the atomic bomb dropped on Japan came from the land of the *Dene* of Saskatchewan. Much of the uranium for American nuclear weapons and power plants has come from the land of the *Dine*, Pueblo and Spokane, the first two from the Southwest.

There are some places on Mother Earth where her spirit and the spirit of all the relations can be felt especially strongly—here we pray and give offerings. These sacred places are where the *wasichu* often find the "resources"—Mt. Taylor at *Dine*, the altar in the Spokane nation, Black Mesa at *Hopi*, the sacred mesas at Laguna Pueblo—and are being destroyed. The Black Hills—or *Paha Sapa* as it is called by the *Lakota*—is now planned for destruction by the *wasichu*. It is here that the death starts.

As the *wasichu* government destroys the land with radiation, the government has proposed to "zone the land into uranium mining and milling districts so as to forbid human habitation." The people "zoned out" of the land are the indigenous people, told that we can be honorary *wasichus*.

Seven generations ago, our people made treaties with the U.S. and Canadian governments. Our old people planned to protect us these generations later. The *wasichu* does not think this way, but the *anishnabe*, or "people," must. We fight. This is the last battle—a battle we cannot lose.

We fight to protect the unborn.

Winona LaDuke is a member of the Anishnabe nation and is active with Women of All Red Nations (WARN).

NORM WALKER

JACKSON BROWNE

"Each of us must do what we can."

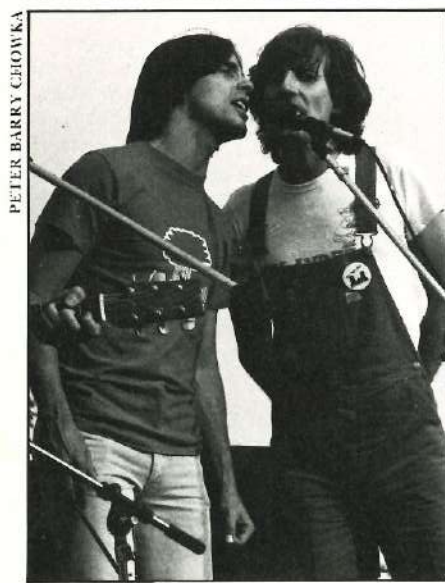
The American Indians are the original ecologists. The way they lived for centuries was in total harmony with their environment. I think the concept of an ecological balance is relatively new to our own society.

It has a lot to do with respect. Respect for life. Respect for Creation. If you respect your own life, you can respect the life of another.

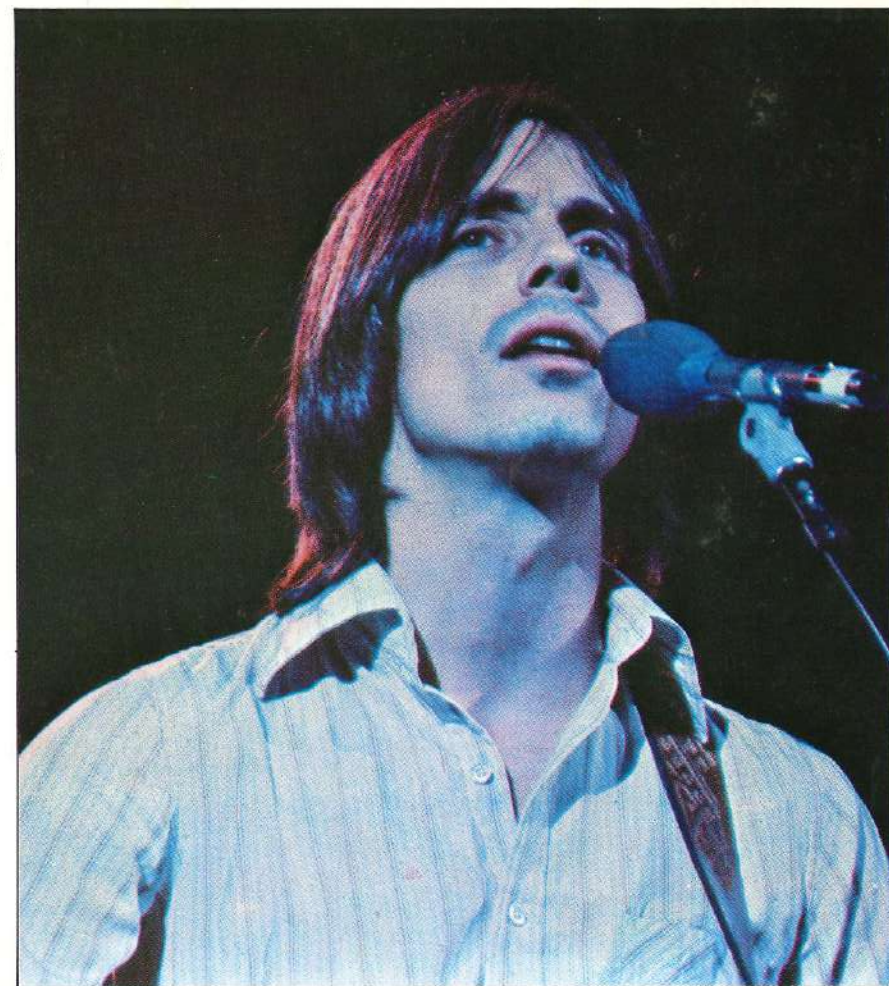
It's easier to ignore the threats posed by the nuclear power industry if there's nobody you feel responsible for. I suppose the person who made it possible for me to focus on this issue was my son. I want my son to be able to have his own children without being afraid that the increased levels of radiation in the environment could cause them to be born deformed.

We're going to have to think about what we need and what we want. About what's important.

We hear that we must make sacrifices in order to become an energy self-sufficient nation. And that's true. Sac-



PETER BARRY CHOWKA



RICHARD E. AARON — THUNDER THUMB

rifice is a very healthy thing, a way of coming in touch with what's important.

But when we hear these multinational corporations that control the energy telling us that we have to become self-sufficient, they're not talking about people. They're talking about their own interests. What they're talking about is protecting their profits.

If they really wanted energy self-sufficiency for the people, they'd be developing solar technology. They'd be promoting conservation, not selling us more and more extravagant uses of energy.

I guess I think of the corporate mentality as the enemy. These people have to be called the enemy, because whether or not they are consciously trying to kill us—or whether they are just being negligent—they threaten our very existence, and they threaten the life of this planet. They're just so plugged into their own ambitions that all they see is the next rung on the ladder, and they don't care who they're standing on.

For most people, this problem gives rise to a tremendous feeling of hopelessness. Do you lay down and let these corporations roll over you? Are you going to play dead? Can you leave your life in the hands of these people?

It seems to me that we really have no choice but to fight. Each of us must do what we can. We have to educate ourselves and we have to educate each other, and I think we have to take control—while we still have the chance to.

And if we don't—maybe we don't deserve to be here. And we can just go ahead and let the mutant sponges inherit the earth.

But myself, I like people. I'd like to see a few of them around in a few years from now.

In a society that's founded on the idea of getting away with all you can get away with, it's really encouraging to see people working for the good of the whole.

I respect that power in each one of us that decides what the quality of existence will be.

Nuclear power begins with uranium.

Most of the world's uranium deposits are located on native lands—in the U.S., Canada, Australia, South Africa and Namibia. Many of the richest deposits are in spots held sacred by tribal cultures—such as Mt. Taylor in New Mexico, the Black Hills of South Dakota, and key sites in Saskatchewan and Australia.

Despite conflicting land claims, the uranium mines and reserves are dominated by the world's biggest oil companies including Exxon, Atlantic Richfield, Gulf, Getty, Continental, Standard Oil of Ohio and Sun Oil. This corporate control of the uranium market has brought skyrocketing profits (the price of uranium has quintupled in recent years) and a history of unsafe mining conditions.

Uranium gives off radon gas, which decays into "radon daughters"—tiny radioactive particles that cause cancer when breathed into the lungs. Scores of native miners are now dying in the Southwest because of their long years of work in poorly vented mines. In most cases the mining companies never warned them of danger and never provided them with protective clothing, masks, or clean water, forcing them to drink contaminated liquids that seeped through the shafts.

"They chased us like we were slaves," says one man who worked for Kerr-McGee. "I remember that it used to be so dusty that we were always spitting up black stuff. When we went home we all had headaches from breathing all that contamination."

"I would like to ask some of these men here," a uranium miner's daughter demanded of a 1964 Labor Department hearing, "particularly the ones from the Atomic Energy Commission, if they ever saw anyone they loved die because their bones were rotting away? My father died very fast. My uncle took longer."

Lung cancer rates among some of these miners are about ten times higher than among heavy cigarette smokers of parallel age groups in urban areas,

URANIUM: MINING DISASTER

according to U.S. Public Health Service figures.

Yet even more dangerous than mining may be the processing of the raw ore. This "milling" procedure has left in its wake some 140 million tons of radioactive wastes, called "tailings," in huge piles at mill sites. When they dry, these tailings can be scattered by the winds throughout the countryside, polluting farmland and water supplies. In some parts of the West and South, tailings have actually been used as building materials, threatening home owners and even schoolchildren with lethal doses of radiation, and in some cases forcing structures to be abandoned. Many of the buildings in Grand Junction, Colorado, were built using mill tailings as cheap land fill and concrete mix.

On July 16, 1979, 100 million gallons of water contaminated by mill tailings

from a Home-stake operation (part of the Hearst Empire) broke through a dam and contaminated the Rio Puerco for some 30 miles downstream.

At Black Mesa, some 6500 Navajos are being forcibly removed from their homes to make way for mining operations. The relocations were suggested by a U.S. government lab study which concluded that the solution to the radon problem might be to "zone the land into uranium mining and milling districts so as to forbid human habitation."

A suppressed Nuclear Regulatory Commission study indicates that radiation released through the mining and milling of uranium could raise background radiation levels around the world. According to Dr. Walter H. Jordan of the Oak Ridge National Laboratory, "Deaths in future generations due to cancer and genetic effects resulting from the radon from uranium required to fuel a single reactor for one year can run into the hundreds." Congressman Clifford Allen (D-Tenn.) has contended that Jordan's figures indicate that "one hundred reactors operating for the next 25 years would cause 2.5 million deaths" merely through increased background radiation from mining and milling.

The production of nuclear fuel has proved to be not only expensive and very dangerous—it also consumes vast amounts of energy. After the ore is mined and milled, its U-235 content must be "enriched" before it can be used to generate electricity. The U.S. enriches 90% of the world's nuclear fuel at three huge facilities in the Midwest. Together these plants cost \$2.3 billion to build, and consume 4% of the nation's electricity—a third of all the power produced by the entire U.S. nuclear program! The Portsmouth, Ohio plant alone uses more electricity than the city of Cleveland.

Nuclear costs and dangers originate long before the explosion of a bomb or the start-up of a reactor. The safest and most economical thing to do with uranium is to leave it in the ground.

THE DOOBIE BROTHERS

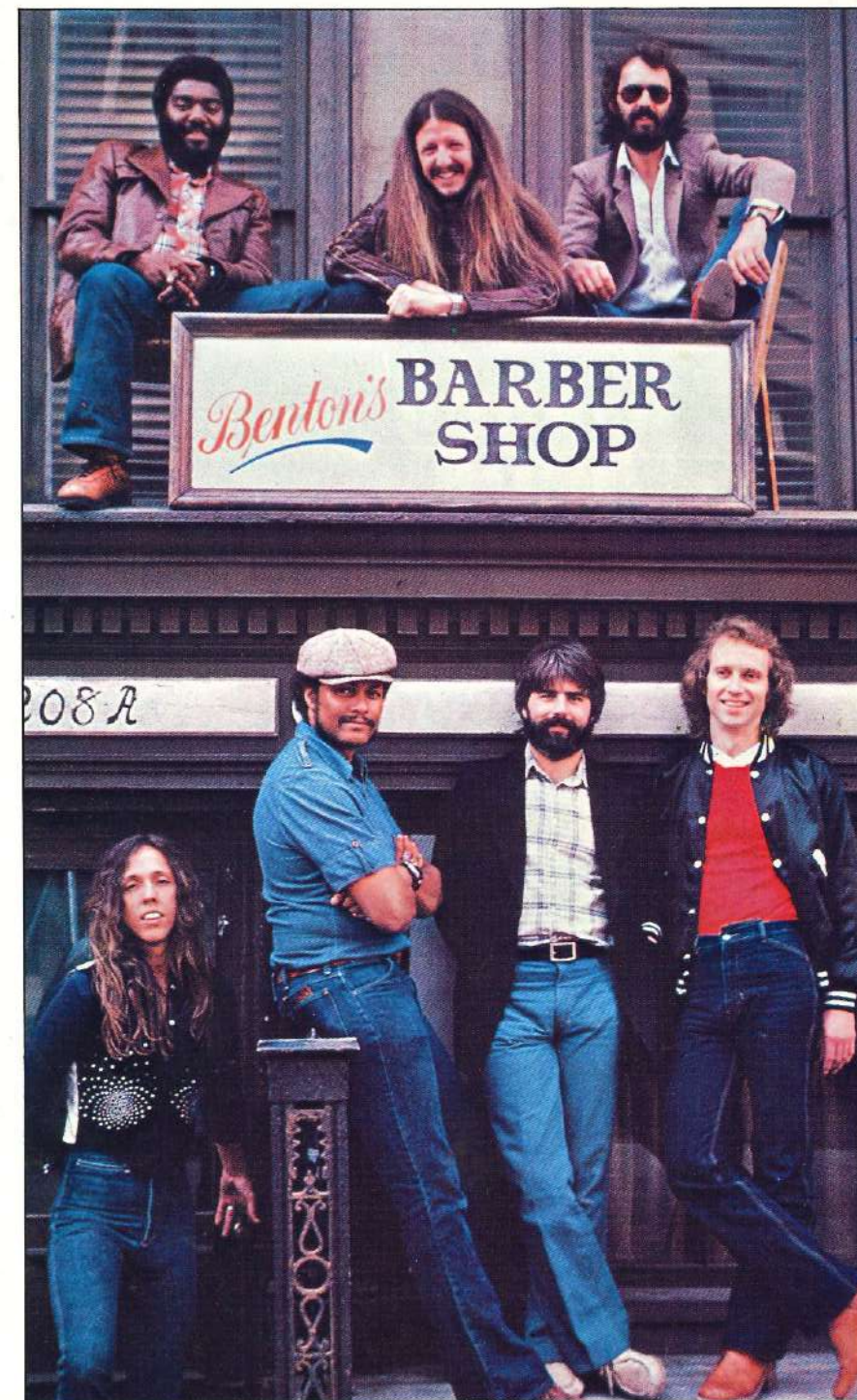
"We can join together to raise the consciousness of this country"

Our message as a group began ten years ago with a song called "Listen To The Music." Audiences throughout the world responded to this message and rewarded us with immense loyalty and support. Tonight we offer with our friends another message we hope you will listen to, and hear. The message is for lives free of the threat of nuclear waste and contamination, lives made safer through a greater reliance upon the sun's vast resources, a future free of fear.

We are urging all of you to join our efforts in encouraging the leaders of this country to adopt legislation that will provide greater safeguards against the dangers of nuclear disaster. But before we can expect government officials to heed this message, we must find ways as individuals to encourage these efforts. We must join together to support the activities of nonviolent anti-nuclear power groups.

There are many people in this country who will deny the magnitude of our nuclear energy problem despite the realities of Three Mile Island and similar incidents. There is a pervading sense of discouragement and frustration among the people of this country who feel powerless as individuals to bring about change. There are, however, ways in which all of us as individuals can contribute to finding a solution to this problem.

We can only begin by attempting to conserve energy, thereby diminishing the need for greater production, and hence fewer nuclear plants. We can



The Doobie Brothers (clockwise from top left): Cornelius Bumpus, Patrick Simmons, Keith Knudsen, Chet McCracken, Michael McDonald, Tiran Porter, John McFee.

offer our support and effort to groups working towards a safer "solar" future. We can join together to raise the consciousness of this country to a level where people will no longer tolerate the tragedies which have taken place.

Tonight we are asking for the same support and enthusiasm you have shown by making these concerts instant sell-outs. Only with the efforts of each and every one of us can the dreams of a safer future become reality.

Uranium mining and milling are the most significant sources of radiation to the public...

—Nuclear Regulatory Commission

ACCIDENTS HAVE HAPPENED ...AND THE WORST IS YET TO COME

The cows knew.

In the hazy dawn of March 29, 1979, they began to line up along a fence five miles north of the crippled nuclear power plant, in the heart of Pennsylvania's dairyland. Following no apparent signals, they faced the injured reactor which was hidden from view by a bend in the meandering Susquehanna River.

Farmers told reporters that if the cows began to bolt, they would too—no matter what the government said.

Three Mile Island is the best-known reactor accident. But it was neither the first nor the worst. Time and again, human error, poor design, shoddy construction and cost-cutting by reactor owners have brought us to the brink of atomic catastrophe.

One of the first major accidents came in October 1957, when uranium fuel caught fire in the core of the Windscale reactor in northern England. Temperature gauges began giving contradictory readings, and monitors at the top of the plant's emission towers showed that radioactive gases were pouring into the countryside. Instruments in London, 300 miles away, soon recorded abnormal levels of radiation.

Around Windscale, officials found high levels of radioactivity in milk for days afterward. Thousands of gallons were confiscated and dumped into the Irish Sea, contaminating marine life. Hundreds of cows, sheep and other farm animals were rounded up, slaughtered and

buried. Coal miners were laid off because mine ventilation systems had funneled in radioactive gasses, making it hazardous to breathe in the shafts.

At the reactor, technicians stopped the fire the only way they could—by pouring water into the core, thereby destroying the reactor and creating thousands of gallons of deadly wastes. The Windscale reactor became little more than a pile of deadly junk.

At Chalk River, Canada, two accidents within five years cast strong doubts on the safety of atomic power. The second occurred in 1958, when operators failed in an attempt to remove a "hot" fuel rod. Radiation was released and eventually clean-up crews were forced to decontaminate every inch of the reactor building, plus an entire one-mile stretch of highway leading to a burial ground.

In 1961 three men died at the SL-1 test reactor near Idaho Falls. Apparently a crewman lifted the main control rod a little too far, a little too fast, allowing the core to run wild in less than 1/500th of a second. The explosion released enormous amounts of radiation, and impaled a crewman to the ceiling of the plant with part of a control rod, which passed through his groin and out one of his shoulders.

The heads and hands of the dead workers had to be buried along with high-level radioactive wastes for fear of contaminating civilian cemeteries.

This year NRC documents revealed that the SL-1 "event" may not have been an accident. Some investigators believe it

was deliberately caused by one of the dead technicians because of a love triangle at work.

In 1966 America's first (and only) commercial fast breeder almost forced the evacuation of Detroit. Beginning on October 5, 1966, plant operators confronted a partial meltdown that could have led to an explosion and the release of a huge cloud of radioactive poisons into the Motor City. The mayor and local civil defense crews were kept on constant alert. Because breeders use highly volatile liquid sodium as a coolant, the potential for catastrophe at Fermi was greater than at Three Mile Island. Yet, at the time, the public was kept in the dark about the accident, which only became widely known with the early Seventies publication of John G. Fuller's *We Almost Lost Detroit*.

In March of 1975 two electricians using a lighted candle to check for air leaks at Alabama's huge Browns Ferry plant set a fire that destroyed hundreds of control wires, many of them connected to crucial plant safety systems.

As the flames were sucked through a forest of cables, poorly trained plant workers spent six frantic hours attempting to extinguish the fire. One system after another failed, until jury-rigged back-ups barely

averted a meltdown at what was then the world's biggest nuke. The fire did \$150 million damage and—though no one was told at the time—it threatened the lives of thousands of people.

Meanwhile, smaller accidents and constant radiation leaks into the air and water continue to plague us. Scores of workers have been contaminated, thousands of gallons of radioactive wastes have been dumped into rivers, lakes and oceans, and count-

less quantities of deadly gases have been released into the atmosphere. In 1971, 50,000 gallons of "hot" water leaked into the Mississippi from Minnesota's Monticello reactor, eventually finding its way into the St. Paul water supply. In 1969, a \$50 million fire at the Rocky Flats plutonium factory sent radiation downwind to Denver. In 1976, 83,000 gallons of water contaminated with radioactive tritium spilled from the Vermont Yankee nuke into the Connecticut River.

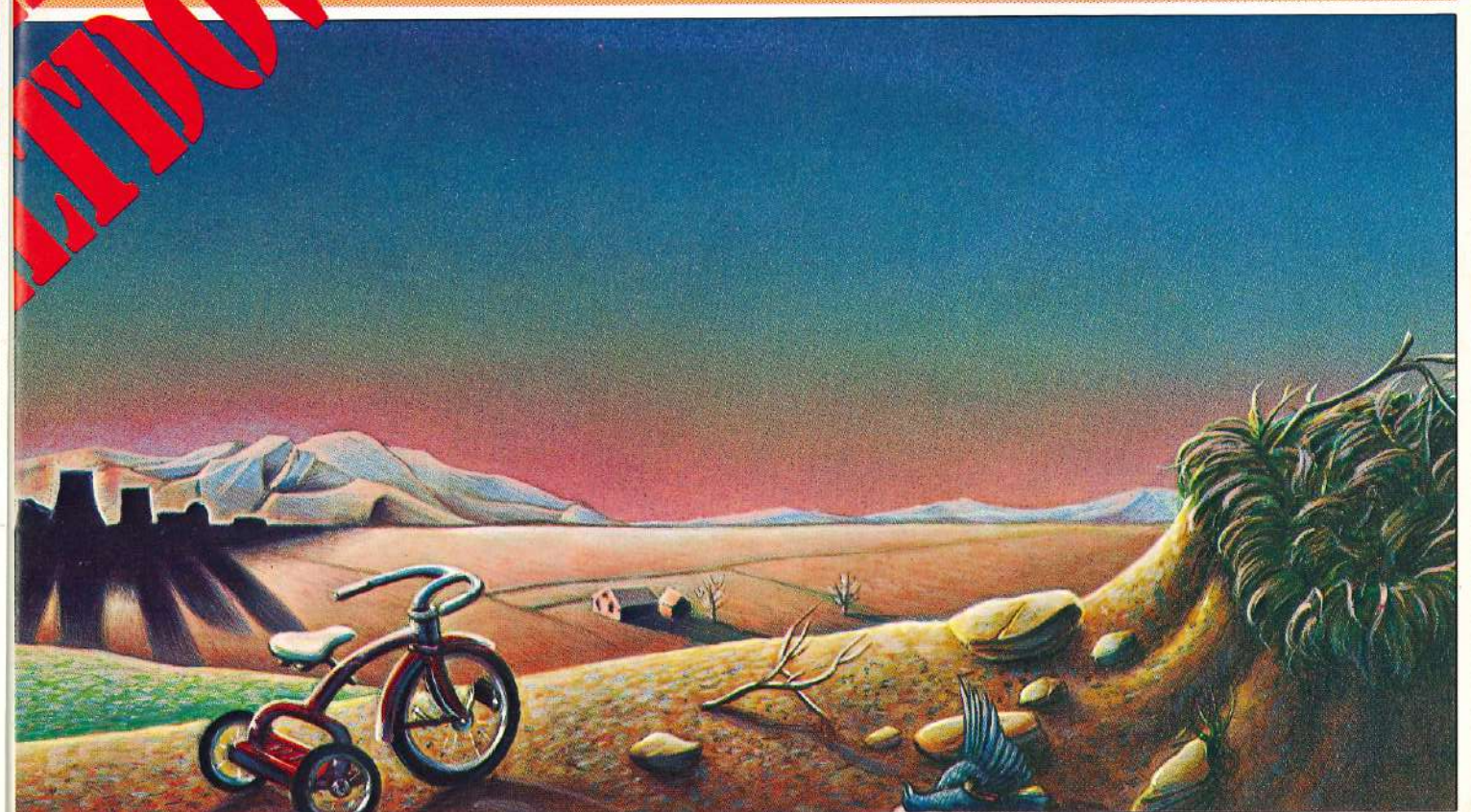
Perhaps the worst accident of all occurred at a nuclear facility in the Soviet Union, where an explosion contaminated a huge land area, killing hundreds of people and rendering much of the region uninhabitable. To this day no vegetation grows in many parts of the area.

Such a fate almost befell central Pennsylvania—and more. Depending on the winds, a lethal radioactive cloud from Three Mile Island could have been sent over New York, Philadelphia, Baltimore, Washington or even Boston. A secret 1964 government report predicted a reactor catastrophe could kill 45,000 people, injure another 100,000 and destroy a land mass the size of Pennsylvania. Three Mile Island seemed to threaten far more.

Just prior to that accident, an official NRC study—the Rasmussen Report, which put the odds of being killed in a reactor accident at one in 300,000,000—was renounced by the government. So there are now no official odds on a catastrophic meltdown, and no private insurance company is willing to insure one without a federal guarantee of limited liability.

The nuclear industry is always pointing out that life is not "risk free," and that nuclear reactors pose just one of the many dangers in modern society.

But nuclear power provides just 4% of our energy, while threatening millions of lives and billions of dollars worth of property. Few games stake so much to lose against so little to gain. The tragic lesson of TMI is that tomorrow may be too late to stop the roll of the nuclear dice.



EVACUATION

Can You Beat the Cloud?

If Three Mile Island taught us anything, it was that the idea of evacuation in the wake of a nuclear holocaust is little more than a bad dream. How would the people of New York or Baltimore or Philadelphia or Washington, D.C. have gotten out of the way of a radioactive cloud headed toward them? How could Chicago, which is ringed with atomic reactors, realistically hope to move its people out if one of those plants blew?

In 1975 the American Physical Society estimated that people living as far away as 40 miles from an atomic reactor might have to be evacuated following the mass release of radioactive gas. The Nuclear Regulatory Commission estimates that 43 % of the people downwind should be able to evacuate within 1 hour of an accident.

But when did you last read the nuclear evacuation plans for this area? Do you know the escape routes? How would you get out if you had to?

Only 12 states have been able to meet even the watered-down "essential" NRC evacuation plan. Thirty-one states—including some of the most heavily populated—house nuclear facilities with no evacuation program.

As for those areas which do have evacuation programs, consider this:

- ★ After Three Mile Island reactor #2 ran out of control, Pennsylvania authorities were astounded to discover that the civil defense agency at the nearby town of York had an unlisted phone number.

- ★ When a fire crippled the safety systems at the Browns Ferry nuclear plant in Alabama, the emergency response plan listed the wrong numbers for the local fire department.

- ★ Operators at the Duane Arnold atomic center in Iowa once listed three separate evacuation plans with different points for evacuees to assemble.

- ★ A full-scale emergency rehearsal at Oregon's Trojan re-

continued after next page



TRANSPORT

Deadly radioactive materials are as close as your doorstep!

They travel on interstate highways, on our railroads and through our airports every day. Three million packages of nuclear fuel, medical isotopes and atomic wastes move through the U.S. each year, barely regulated. The NRC says the number of such shipments will quadruple by 1985.

In 1978 Sandia Laboratories estimated that a single accident involving a spent nuclear fuel cask could cause upwards of \$700 million in decontamination costs alone. An accident involving plutonium, they said, could result in 1,000 premature deaths, 4,000 latent can-

cer deaths and over \$2 billion in decontamination costs.

In April 1979 a special NRC memo disclosed that sabotage of a single spent fuel cask in an urban area could kill 1200 people within weeks and cause 7500 latent cancer deaths.

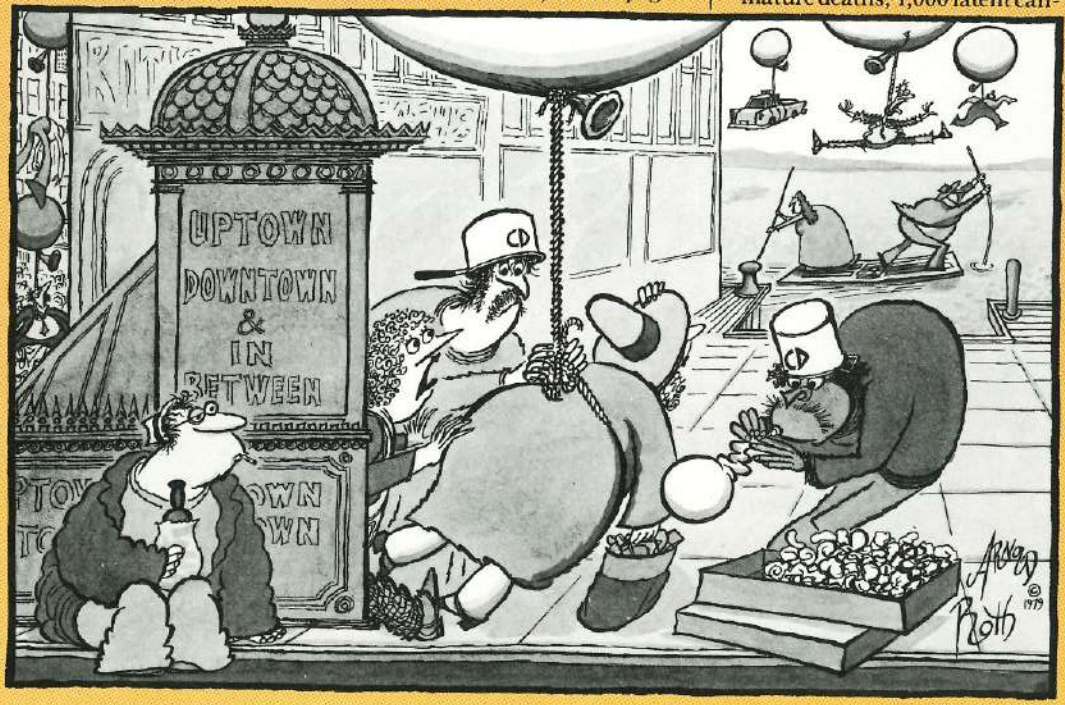
The City of New York's Bureau of Radiation Control then did its own calculations, and computed that such an attack in Manhattan could cause 10,000 immediate deaths and 1.3 million latent cancer deaths. "It is evident," wrote bureau director Dr. Leonard R. Solon, "that the results of a major radiological release from the deliberate or accidental rupturing of a spent fuel cask in a hyperurban environment could be disastrous."

But despite the dangers (or maybe because of them), no federal agency admits to responsibility for regulating these shipments. The NRC says its control ends when materials leave the reactor sites. The Interstate Commerce Commission says jurisdiction lies with the Department of Transportation. And the DOT has never issued a single routing, training or cargo monitoring regulation for radioactive shipments.

The DOT does estimate, however, that some 1100 accidents involving radioactive shipments have occurred over the last five years. For example:

- ★ When 15,000 pounds of radioactive uranium concentrate spilled from a truck which overturned in rural Colorado,

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ARNOLD ROTH

Ry COODER

Everybody I know is in accordance with stopping nuclear power. So it isn't as if I just found God and he's a non-nuclear guy. It's just a fact of life as far as I'm concerned.

You do see people on TV saying nuclear power is good, but they're obviously shills, obviously in the pay of the companies.

I'd say that in these days of overwhelming power wielded by corporations—especially the oil companies and the chemical companies and the government itself—the way they dom-

inate the landscape and threaten our environment, I'd say that nuclear power has become the only real referendum the people have had since Vietnam.

This time, because of the immediate threat to everybody's life, the issue cuts across all social and economic strata. We're getting good quality information this time, and we can act together. When you're in ignorance, you can't get anything done.

But this is an issue where people have a chance to do something and actually feel effective. They can't build a reactor unless people let them. If everybody in these target communities were to rise up, it'd be all over. We were able to stop Occidental Oil from drilling here in the Santa Monica Canyon, and it can be done elsewhere.

The threat from nuclear power is the scariest thing in the world. You can't see it, you don't know it's there. Smog you can see. Chemicals you can taste. But the stuff from reactors is invisible. People can't grasp what it can do to them. But we know what it's going to do to generations down the



line. It's genetic—a threat to the genetic chain.

It hits home when you have children. At first you want humanity to survive, you're looking at humanity at large. A child is a reminder that it's also your personal piece of it. All you have to do is think about it for a minute.

When something as insidious and rich as this industry gets a hold on the government it's hard to do anything about it. But we have to do it. It's sure worth a try.

Dr. John Gofman



LIONEL DELEVINGNE

With a meltdown, we're talking about a mass of a hundred tons of material, melting at 5,000 degrees Fahrenheit, with water around, with hydrogen being generated, and burning explosively, melting through concrete into the soil. And when somebody tells me that we're sure it isn't going to go far away, I look at them as a chemist, and I say I've heard various forms of insanity, but hardly this form.

Who's going to define whether the chance is one in 10 or one in 100 or one in 10,000 of whether 20 percent of the radioactivity will get 30 miles away.

But even if this hazard of a meltdown were securely answered, it doesn't alter for one second my opposition to nuclear power. Because whether it melts down or it doesn't melt down, you've created an astronomical amount of radioactive garbage which you must contain and isolate better than 99.99 percent perfectly in peace and war, with human error and human malice, guerilla activity, psychotics, malfunction of equipment... Do you believe that there's anything that you'd like to guarantee will be done 99.99 percent perfectly for 100,000 years?

You know, one makes errors at various times. And in the first blush of enthusiasm about this remarkable source of power after World War II—the awesome power of the bomb—everybody said: "Isn't it marvelous that we have this source of power. And now if we just use it for peaceful purposes, it'll be excellent."

And some awfully big interests invested in uranium and the future of atomic power. And unfortunately, their view is, "We've got to recover our investment, no matter what

happens to the public."

You know, it's terribly important to conserve dollars before life. And that's how they have to look at it. It's too bad if somebody gets hurt in the process. But after all, they have millions and billions invested in nuclear power and the uranium industry.

The decision to build nuclear power plants may very well be, for the first time, a decision that can result in the desecration of the earth with respect to life for all future generations. And if any decision requires profound consideration and the most intensive public study and debate, I would think it is that decision.

But when electric utility companies use their funds to put advertisements in national newspapers and magazines stating that nuclear power is safe—in the face of considerable questions in high scientific circles that it is not safe—that is a conspiracy. In spite of the profound character of the decision that has to be made, both government and industry have simply prevented the public information process from occurring.

When the U.S. Atomic Energy Commission announces that it is going to hold open public hearings on the safety of Emergency Core Cooling Systems, and then in advance of those hearings issues a written directive to its scientists: "Never disagree with established policy on safety"... this is a conspiracy to obstruct the truth that the hearing process is supposed to bring out. There is no other word for the obstruction of truth. I think the evidence will show that there is far more there than Watergate.

Dr. John Gofman is a world-renowned chemist and medical doctor, a co-discoverer of Uranium 233, and co-author, with Dr. Arthur Tamplin, of *Poison Power*. This talk was delivered at the Franklin County Courthouse in Greenfield, Massachusetts, during the trial of Sam Lovejoy, September, 1974. Lovejoy was charged with destroying a 500-foot weather tower in an attempt to stop a nuclear power plant. He was acquitted. The plant has not been built.

EVACUATION

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actor revealed that radiation monitoring teams had to communicate their data by using pay phones at gas stations.

★ When an accident at Colorado's Fort St. Vrain spewed radioactive helium into the countryside, sirens blasted—as planned—at nearby Platteville. But nobody heeded the warning because the community had never been told what the sirens meant.

Part of the problem is that when a utility applies to build a reactor the NRC asks the owners—not the state government—to draft emergency procedures. The NRC approves a particular reactor site on the basis of the utility's idealized plan. As often as not, the government receives an unrealistic scheme for a site which could never be evacuated even under ideal circumstances.

What can we do?

We can demand that all residents within 40 miles of a reactor be given nuclear emergency instructions.

We can demand that these evacuation plans—which seem to exist only on paper—be regularly tested. The NRC doesn't require such exercises except directly on site. Those tests must be expanded to include the civilian community, which stands to lose everything in case of an accident.

In areas where nuclear plants are being considered, we can take a very close look at the real capabilities for evacuation. If an accident happens, are there adequate escape routes? Are the hospitals prepared for large numbers of contaminated victims? Is the local civil defense agency or public health department ready for an accident of such magnitude?

The answers demand just common sense. Publicize your findings.

TRANSPORT

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It took state officials, trucking company representatives and the owners of the ore (Exxon) three days to figure out how to clean up the mess. Meanwhile, the uranium blew all over the countryside.

★ During the holiday season of late 1971, a commercial passenger flight left New York carrying radioactive molybdenum 99, which leaked in the cargo hold. It took federal inspectors two days to discover the problem—in Houston. By then the plane had completed nine flights to eleven cities and had carried at least 900 passengers.

★ In 1974 improperly packaged radioactive materials were discovered aboard two successive Delta Air Lines passenger flights.

★ More recently, a crack was found in a container of radio-

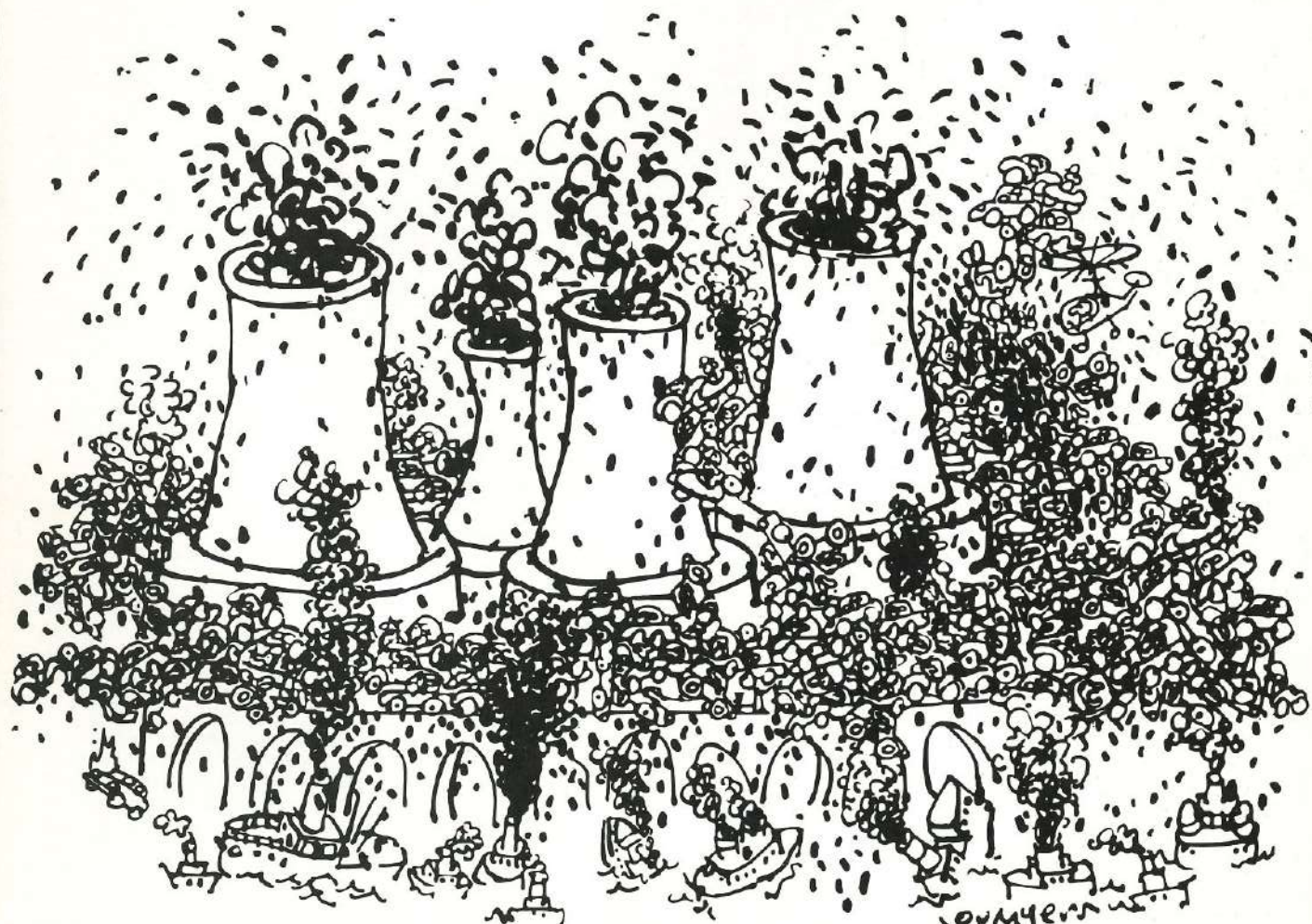
active krypton gas headed from Washington's Dulles Airport to Thailand.

★ In Rockingham, North Carolina, a train derailment of uranium hexafluoride caused state and federal rescue agents to flee the scene when the gas began leaking into the wind.

Boycotts have begun. The Airline Pilots Association now refuses to ship plutonium by air. The Association of American Railroads refuses to ship spent fuel under current rules. Chicago's O'Hare Airport refuses to fly out certain types of uranium. The Port of Miami has banned the import of spent nuclear fuel elements. The city of New York has banned all large radioactive shipments through the five boroughs.

And other communities are beginning to follow suit. They don't want the health and safety of the public to rest in the hands of a single truck driver or engineer.

Do you?



LOU MYERS

JOHN HALL

“The power is in our hands”

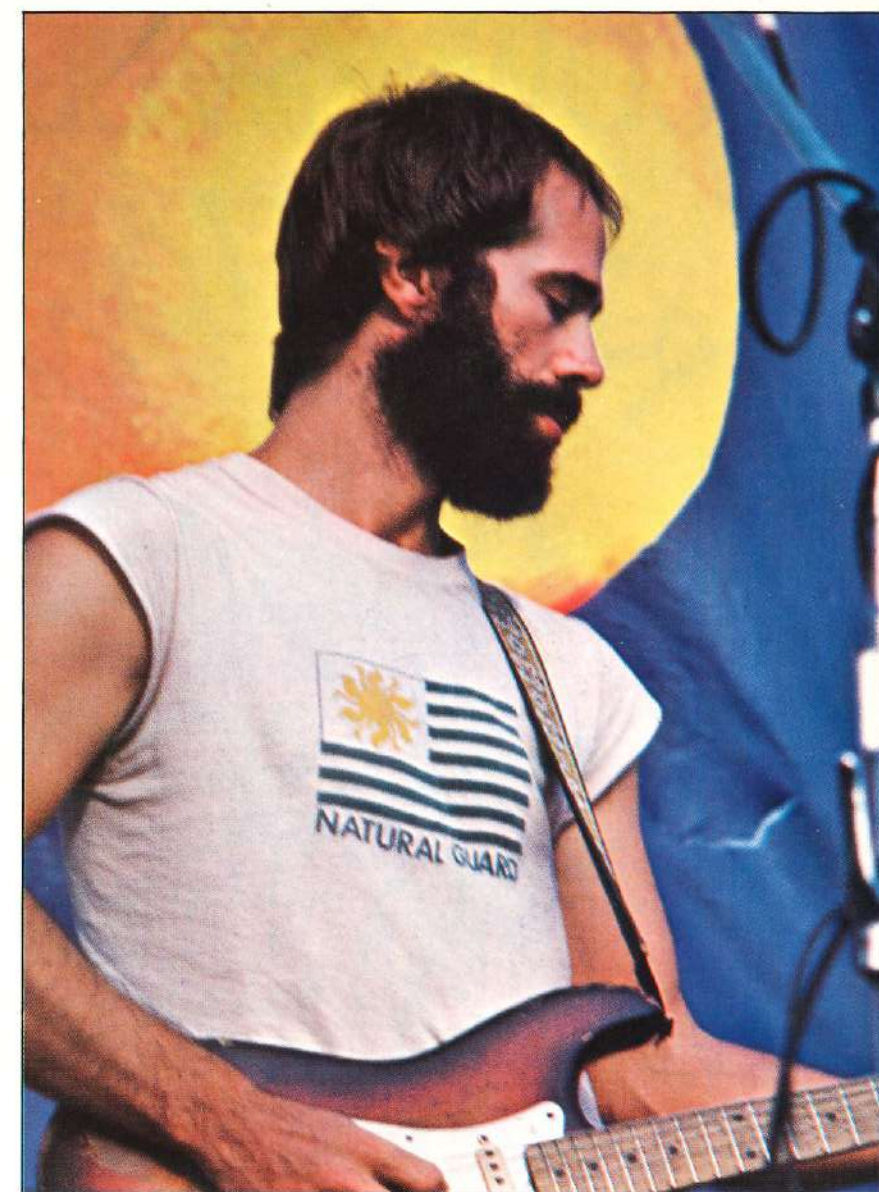
My involvement with the nuclear power issue began when the New York State Power Authority announced plans to build a nuclear reactor about six miles north of my home town of Saugerties, at Cementon in Green County. Becoming a father intensified my concern about the kind of world we leave our children. I made it my business to learn as much as I could about this prospective neighbor and the more I learned, the more scared I got.

I tried through public hearings, debates and licensing proceedings to voice my concern about nuclear waste, weapons proliferation, accidents, sabotage, terrorism, and the cancer, leukemia and genetic diseases that radiation causes. But I found that the federal government had decided long ago that nuclear reactors are safe. One was not allowed to discuss radiation or any of the above-mentioned problems in the licensing hearings. Only peripheral issues such as parking, traffic flow, condensation from the cooling towers, and the like, are approved for discussion.

I also found that despite opposition from every town, municipality and county in the Mid-Hudson region, the Power Authority spent \$147 million on a plant they had no license to build. They did this in spite of the fact that we supposedly live in a democracy. I voted for Carter in '76 because he said nuclear power would be used only as a last resort. Now, frustrated with voting and letter writing (although I still advocate both), I began playing at benefit concerts and rallies and writing songs about energy.

The energy situation presents us simultaneously with a deadly threat and the promise for a near-Utopian solution. I found that the alternatives to nuclear energy are so plentiful and promising that we are by no means reduced to the “last resort.”

Specifically, according to the President's Council on Environmental



JIM SHIVE

Quality solar energy could provide 25% of our total energy needs by the year 2000. Nuclear power now supplies just one-sixth of that.

According to the Army Corps of Engineers, there are enough untapped low-head hydro-electric sites in the country (with dams already in place) to supply approximately one-third of our electric needs—nearly three times what nuclear now supplies.

A spokesperson for Lockheed (hardly a hippie-environmentalist group) estimates that their new wave-powered generators could replace the entire nuclear capacity of the United States right now.

The Department of Housing and Urban Development studied 200 homes in Arkansas and concluded that passive solar features reduced their heating and cooling requirements by 75%.

Windpower potential on the coast

parallels the electric consumption curve, peaking in the early and mid-afternoon hours.

Gasohol produced from grain or garbage, ocean thermal power, tidal power and other natural resources, could provide all the energy we need.

And, according to the 1978 Ryan Report—from the House Subcommittee on Energy, Environment, and Natural Resources—going solar would create 3-4 times as many jobs per dollar as building nukes.

Let's not jump out of the OPEC frying pan into the nuclear fire. By switching to safe, renewable sources of energy, we can give ourselves and our children a much-improved chance for survival. At the same time, we can reduce unemployment and give our economy and our collective psyche a much-needed boost. The power is in our hands.



Sam Lovejoy

“I said, ‘Somebody’s gonna knock that tower down’”

Some people think the anti-nuke movement is only a few years old, but its roots go back before Hiroshima. Some scientists who worked on the Bomb effort didn’t realize how destructive it was. When it was dropped, they felt tremendous guilt, which fueled the Ban the Bomb movement in the 1950’s.

The scientists were also the first to question the so-called “peaceful atom.” There had been speculation about the possible health effects of low level radiation since the 1930’s, but it wasn’t until the early 1960s that the government decided to look into it. They wanted to prove that low level wasn’t harmful, maybe even healthful! So they hired a government scientist, Ernest Sternglass, to study low level effects. He concluded that a quarter-million people would die every year from the effects of low level radiation if the government kept to the plant construction schedule it dreamed of in the 1950’s.

Sternglass’ findings gave the government a collective heart attack. They couldn’t let his credibility stand, so they cut off his funds and tried to destroy his reputation. Then they hired a famous Manhattan Project scientist, John Gofman, to refute Sternglass. Gofman was *their* man, or so they thought. But Gofman’s conclusions agreed with Sternglass’ except for the estimates of people killed from cancer and genetic mutation.

Cancer is terrible, but genetics scare me the most.

If you get cancer, you die, and that’s that. But if you get a genetic problem and pass that gene on, future generations could be in big trouble. At a simple moral level, you just DON’T tamper with the gene pool.

The government didn’t know what to do with Gofman. His credentials were impeccable. First, they tried to get him to change his conclusions. He refused. Then they went after his career, eliminating his staff and funds to box him out. Finally, he resigned. Meanwhile, the government tried to hang onto his work so it wouldn’t get out.

Gofman did a book, but none of the big publishers would touch it. So he and his co-author Arthur Tamplin went to Rodale Press, publisher of *Organic Gardening* magazine, which released *Poison Power* in 1968.

That same year, I moved to a communal organic farm in Montague, Mass.

I’d been a physics and math major in college. I actually *liked* nuclear power. I’d heard about the safety controversy

but never gave it much thought until the local utility decided to build a nuke in my backyard in 1973. At that point, I began to read everything I could about nuclear power, which was about all I did for eight months.

Then they built this tower, a 500-foot weather-monitoring rig to measure wind speed and direction in the valley for the environmental analysis needed to get a construction permit. A friend of mine first showed me the tower after I returned home from a trip. I turned to him and said: ‘Somebody’s gonna knock that tower down.’ Eight months later, somebody did—me.

The more I read about nuclear, the more outrageous it got. The utility was saying the plant would reduce local taxes 99%, so people were getting sucked into an economic buy-off. The utility also lied to us, saying it didn’t need certain permits it really needed. That was around the time of the 1973 Oil Embargo. The utilities were paying all sorts of electric bill games with us, so our utility was the LAST corporation I’d believe on anything—and here they were selling us a nuke.

I analyzed the scorecard of legal intervention against nuclear plants. In the courts, the opponents were batting zero. The government just wasn’t listening. They had a big facade of “public hearings,” but the hearing officers just went to sleep. There was simply no way to stop nukes through the legal system. There was no choice but to build a citizen’s movement.

I decided to send a clear message to the townsfolk, the utility and the people like me in the area who didn’t want the plant but just weren’t geared up yet. I decided civil disobedience would be that clear message.

On George Washington’s birthday, 1974, (“I cannot tell a lie”) about 1 a.m. on a cold crisp night, I took a crowbar and unscrewed the bolts supporting the tower. It was easy. Then I walked to town and turned myself into the police with a 4-page explanation of why I did it. They charged me with malicious destruction of property, a 5-year felony.

Seven months later, I defended myself in a 2-week trial. John Gofman testified on the dangers of nuclear and Prof. Howard Zinn, of Boston University, testified about the history of civil disobedience. The jury went anti-nuke right before our eyes. The judge didn’t want to preside at a trial that would legalize civil disobedience against nukes, so he ordered me acquitted on a technicality. Afterward, we polled the jury. We were batting 13 for 14 to acquit.

Today, we have two parallel movements: the anti-nukers and the alternative technology movement. The anti-nukers are continuing to oppose plants and weapons production mostly on a local level. The alternative technology folks are rapidly developing the many energy sources that use renewable resources, which can and will replace nuclear.

Meanwhile, the nuclear industry is turning to the government. Three Mile Island destroyed their ability to lie in public to the American people. The only place they can lie now is in private to the government, which is more pro-nuke than the average citizen.

So that’s a direction we have to move, too—into the government. Over the next few years, our focus will have to shift. Local work will always be important, but I see us moving to a combination of grass-roots and government organizing because the utilities want government agencies to bail them out. The utilities think they’ll have an easy time with Congress. They always have, and we all know the corporations ruin Congress.

The citizens have to cover this nuclear animal like a wet blanket. When the utilities and their friends in the government sink with their nukes, that’ll be perfect.

S GIL SCOTT- HERON

Maybe next time

Detroit didn’t seem to convince you

Maybe next time

Barnwell made no sense to you

Maybe next time

You don’t believe in Three Mile Island

I can see you’re in a hurry

So maybe we can talk about it next time.

That’s a tune we did recently. Ever since ’73 or so I’ve been trying to develop ideas in my music and contribute to ideas that have been growing concerning fighting nuclear power and using alternative forms of energy. We did a tune called “We Almost Lost Detroit,” based on the book by John Fuller about the nuclear accident (in 1966) at the Enrico Fermi nuclear plant.

I got involved in this issue when I started to do research on the nuke waste depository at Barnwell, South Carolina. I found out the life expectancy of some of those toxins was 480,000 light years, and that we had buried them in lead containers that had a life expectancy of approximately thirty years. The same people who had been in charge of oil and coal were responsible for depositing these new toxins.

The issue is primarily the economy. The oil and nuke idea sets up a junkie/pusher type relationship. You have to have it and they have it. They can’t make a great deal of dollars from using the sun because once you have a solar installation, all you have to have is the sun—and you get that every day.

For the most part, the black and third world populations in this country are in the city—people who do not have that much direct contact with some of the larger nuke plants that are being built out in the rural areas. At this point, it hasn’t become a day-to-day priority in certain third world communities simply because living



ROBIN PLATZER — IMAGES

has become so difficult. There is a recession/depression going on—regardless of what they call it, paint it, cosmeticize it to be in Washington. And that has become the principal concern.

Oftentimes people relate to artists as though they’re from another planet and they just visit to do concerts and make records. But we’re all really part of what’s happening in society. I think we have some of the most articulate musicians in the world in this country. So we should be doing more to see that it’s a better place for us all to live.

From time to time people ask me what I think about the war and other

things that have become damn near institutionalized in this country—such as racism. I’ve seen people banded together to destroy those negatives. I believe that what the people did in the ’60s and ’70s—how they made the country pull out of Vietnam, how the people’s movements in the streets have brought on a lot of legislation and progress for all the people in this country—I believe that the same sort of influence can be used now.

To see something happening on a national level that includes a lot of people who are discovering how important this issue is—that’s a pleasure for me.

Whether it's fossil or nuclear—
Bigoil wants the energy centralized.

THE POWER PUSHERS

"The U.S. may run out of oil someday, but there will always be an Exxon."
—William Greider, "Washington Post"

The same people that brought us gasoline lines, the oil crisis and natural gas shortages are also the ones bringing us atomic power. Twelve oil and gas companies control half the known U.S. uranium reserves, some of which they purchased with profits from the 1973 oil crisis. Five oil and gas companies control some 62% of the domestic uranium milling capacity. Babcock and Wilcox, the company that brought us Three Mile Island, is owned by J. Ray McDermott, an engineer and builder of offshore oil and gas drilling equipment.

Nuclear reactor production is totally dominated by four giant companies. Two of them—General Electric and Westinghouse—took more than two-thirds of the reactor orders placed with U.S. producers from 1953 to 1977. Three construction firms—Bechtel, Stone & Webster, and United Engineers—got three-quarters of the contracts for building the plants. A total of seven firms

Synfuels

The latest corporate catch-word for solving the energy crisis is "syn-fuels." The idea is to chemically treat coal and oil shale to produce liquid fuel.

But the techniques are unproven on a mass scale. They involve serious environmental costs, including ripping apart thousands of acres of the earth for mining, and the use of millions of gallons of precious water.

Because the process is new and complex, some experts now estimate syn-fuel costs at \$40 a barrel, twice that of imported oil. A massive syn-fuel push would provide more taxpayer money to the same corporations that already monopolize our fossil and nuclear fuel supplies. And it would prolong our dependence on diminishing resources.

have gotten 99.9% of those orders.

The main buyers of nuclear reactors are the 200 investor-owned utilities (IOUs) that supply electricity to 80% of the American public. The utilities are tied into the same banks that dominate the financing of GE, Westinghouse and the reactor builders. As Don Michak, writing in Anna Gyorgy's *Everyone's Guide to Nuclear Power*, puts it: "Interlocking directorates are everywhere."

Large universities also invest in private utilities and, in turn, profit from nuclear-related research contracts.

Some interlocks have become a public embarrassment. In 1972, James Schlesinger, then Richard Nixon's chairman of the Atomic Energy Commission, asked Norman Rasmussen of the Massachusetts Institute of Technology to do a study on reactor safety. Rasmussen's \$3 million report took two years to complete and said the odds on any given person being killed in an atomic accident were minuscule.

But Rasmussen has been a director of Northeast Utilities, a private Connecticut-based electric company heavily committed to atomic power. Just before Three Mile Island, the NRC repudiated Rasmussen's statistics.

The recent drastic downturn in new reactor orders has led friends as well as foes to predict the industry's death. But the obituaries are premature.

There are now some 70 operable reactors in the U.S. and the contracts for

supplying them with nuclear fuel continue to be profitable.

Roughly 90 reactors are now being built, with a minimum price tag of \$100 billion. Another 30 nukes are in the "pipeline," meaning unless citizen opposition can stop them, they will drain still more public resources into the nuclear till.

Though Three Mile Island was, in the words of one executive, "a big, bad publicity blast," the industry did not even approach collapse. Profits have been way off (the major producers seem to be taking huge losses) but nukes remain the ultimate bastion of centralized energy and control for the world's most powerful corporations.

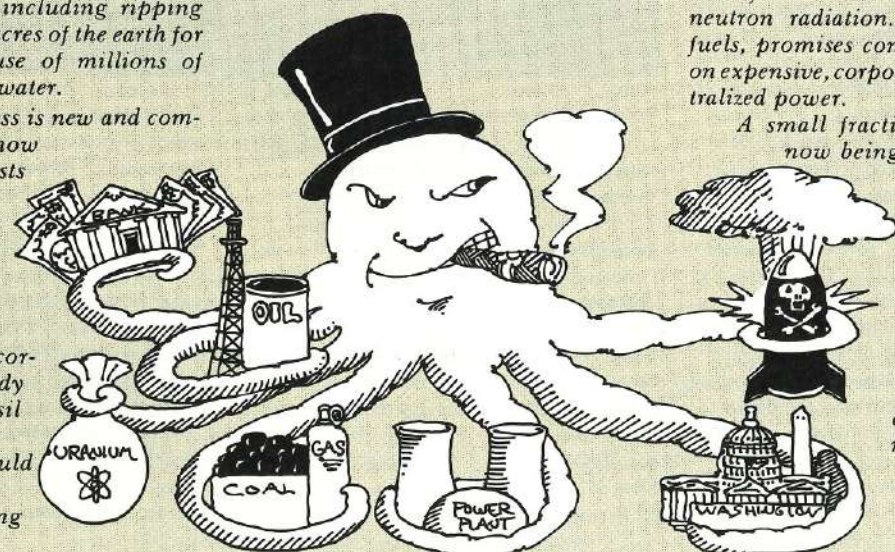
Pushing them aside to get decentralized solar power will not be easy. "The market is going to return," says Westinghouse's Leo Yochum. "After all, there's a nuclear imperative for this country."

Fusion

An energy boondoggle similar to syn-fuels is nuclear fusion. The fusion reaction involves the joining together of hydrogen atoms under intense heat and pressure. The reaction parallels the basic working of the sun.

But on earth, perfection of fusion technology is many years and many many billions of dollars away. Though it does not create plutonium, fusion does yield lethal tritium and intense neutron radiation. And it, like syn-fuels, promises continued dependence on expensive, corporate-controlled, centralized power.

A small fraction of the billions now being slated for the syn-fuel and fusion experiments—both of them unproven and unperfected—could put us a long way up the road toward mass applications of solar power and conservation—technologies which will be cheaper, more reliable, cleaner, and community controlled.



KIMBLE PENDLETON MEAD

GRAHAM NASH

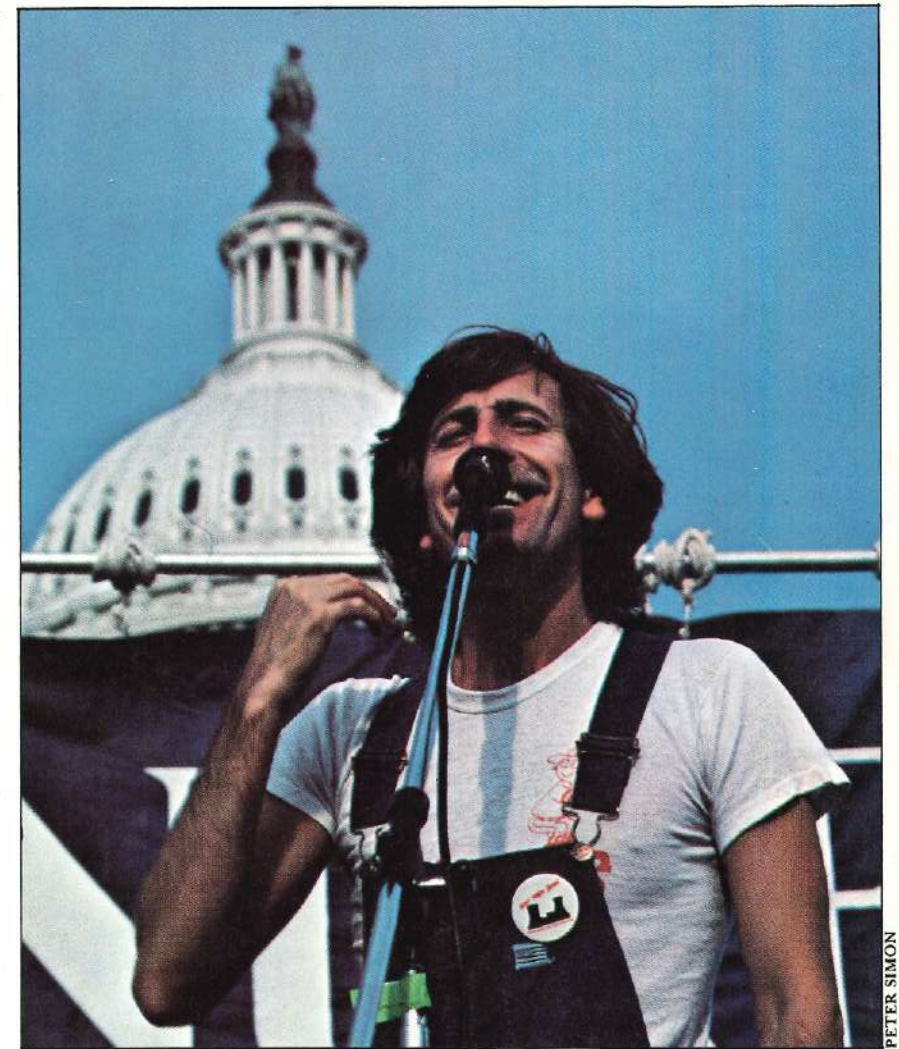
"I felt it coming in the Sixties and I feel it coming now."

Back in 1975, I was very involved with the Jacques Cousteau Society and Cousteau talked to me about his overriding concern about plutonium. He told me about the dangers—genetic damage with DNA crumbling, problems with the storage of waste, and on and on. So I decided to get more involved and did a couple of benefits for the Cousteau society and donated money.

Then soon after, my wife Susan and I became parents, and suddenly I felt responsibilities to my son Jackson as a father, as a representative of the future, and I began to wonder what his future would be. I decided to work as hard as I could to make sure the environment he grows up in at least stands a chance of being able to support him. I'm an artist and I have always been involved in opening my mouth against injustices. I think the very definition of an artist means someone who sees and has a chance to change things. It goes through every level of my life, not only music. And I think it's the responsibility of every human being to fight the nuclear madness of this country, because there will be no such thing as art if we blow it on this one.

We did some benefits with Jackson Browne in California earlier this year and I was eating, drinking, and sleeping nuclear radiation nightmare information. I wrote a song called "Barrel of Pain," which opens up side two of my new album. It's about the low-level nuclear waste lying in barrels off the coast of San Francisco. There are 60,000 barrels and 20% of them are leaking. It's also about the giant mutant sponges scientists have found growing among the wastes.

Another song on that album—"In the Eighties We Will Come Alive"—is about the change that I see coming. I think the youth of this country have



PETER SIMON

the greatest power to effect change. I felt it coming in the Sixties and I feel it coming now.

I think people realize that if they believe in something enough to lay their bodies on the line or march to Washington, they have genuine power to change and shape their destiny. After Vietnam, the Civil Rights movement, the Gay Rights movement, people know they can play a greater role in what happens to them in the future and in who actually controls the purse strings. I think that people really will stop nuclear power, because they've realized that boiling water with atoms just to create steam is totally crazy.

If there had been a solar power mobilization in World War II, we wouldn't be in this position right now.

The cartels and the multinationals and the oil companies have billions and billions of dollars invested in this nuclear program and they're not about to come off it. But if we can stop the Diablo Canyon plant in California, for instance, I feel pretty sure that the powers that be will not be so likely to

waste another thousand million dollars building another plant that we also have the chance of stopping.

They have far more money than we. The only thing we can defeat them with is truth and the spreading of information. And that's what the NRC and the oil industries and nuclear power promoters have been keeping from the American public for years.

I think there possibly is a real oil shortage, but it's not nearly as severe as they say it is and I'm convinced that they're just driving up the price of oil. They can get away with it. They do have the power. That's the secret. Power is the new power. It isn't land or money anymore, it's power.

Everyone has it on their own conscience to find out information, and when they learn that the information is so one-sidedly deadly, hopefully they will want to do something. People can join antinuke alliances, volunteer their services, write letters.

We're committing evolutionary suicide here and that affects every person on this planet.

From an economic standpoint alone, to rely upon nuclear fission as the primary source of our stationary energy supplies will constitute economic lunacy on a scale unparalleled in recorded history, and may lead to the economic Waterloo of the United States.

—Saunders Miller, Vice-President, First Midwest Capital Corporation

Nuclear construction costs are out of control. The price for building an atomic reactor has quintupled since 1970, and is expected to triple again by 1990. As the Atomic Industrial Forum, a pro-nuclear trade association put it: "Estimating capital costs for power plants is like shooting at a moving target."

At the Seabrook nuclear project, the official price tag is now \$2.5 billion—nearly three times what the builders originally said it would cost. Independent experts figure the final cost at closer to \$4 billion, which represents an astounding \$20,000 for every household in New Hampshire—more than enough to solarize the whole state. Nuclear costs elsewhere have soared just as high.

In fact, nuclear power plants are now the most expensive form of new energy, more expensive than burning coal or oil for electricity, and more costly than burning oil or gas in a furnace or engine.

But the way utility regulations are written, the more money electric companies spend on generators, the more profits they're allowed to make. The added costs are passed on to the public. The reactors mean fat corporate profits no matter how poorly they produce.

When they first started building them, the atomic producers said commercial reactors would generate at 80% capacity. But plagued by leaks, accidents, design flaws and operator error, U.S. nukes have actually performed at only 60% capacity. As the *Wall Street Journal* put it, "their unreliability has become one of their most dependable factors."

Some plants have gone beyond unreliability. The Enrico Fermi I breeder reactor, which almost blew up in 1966, had to be permanently shut after just four months' operation. Fermi I cost Detroit-area rate-payers \$133 million, for which they got virtually nothing in return.

The 1975 fire at the Browns Ferry plant near Decatur, Alabama, cost southern ratepayers \$150 million. And the utilities that own Three Mile Island are already trying to force consumers to pay the enormous costs of the accident at that brand new, \$800 million plant. Clean-up costs there could run as high as \$400 million.

MORE MONEY LESS ENERGY

NUCLEAR POWER DOES NOT PAY

Meanwhile, uranium fuel costs have soared just like imported oil, skyrocketing from \$7 a pound to more than \$40. Its reserves are limited and its supply is dominated by some of the same multinationals that control our fossil fuels.

There are also hidden costs to account for, including decommissioning and waste storage.

Once reactors finish their life span (they are designed to operate no more than 35 years), they are too radioactive just to let sit. Some parts must be buried, others must be permanently guarded, at a cost no one yet knows. Congressional investigators say the price

tag could go as high as the cost of building the plants in the first place.

The technology for disposing of nuclear wastes hasn't yet been devised, so no one really knows how much that will cost either. But it could easily go into the tens of billions. And the final bill will be passed onto the ratepayers and taxpayers—you and us.

Then there are the accidents yet to come. As of now, the federal Price-Anderson Act limits liability from a nuclear catastrophe to \$560 million, even though official studies show the potential damage is in the tens of billions. That means if there's a meltdown and a city is wiped out, the victims will pay for cleaning up, even though they never had a full voice in deciding whether the plant should be built in the first place.

And think about this: Let's say the U.S. gets to be dependent on nukes for 25-50% of its electricity. Then a reactor destroys a major city. Wouldn't the demand to shut down the others be undeniable, especially from the people who live near them? And what, then, happens to our electricity supply?

Nukes are the ultimate welfare case. Our taxes underwrite plant security, radiation monitoring, waste disposal, decommissioning, promotion and the research and development that make it all happen. Our electric bills cover the mismanagement and breakdowns.

But it's time to kick the industry off the dole. Nukes provide one very specialized form of power—electricity—and they do it badly.

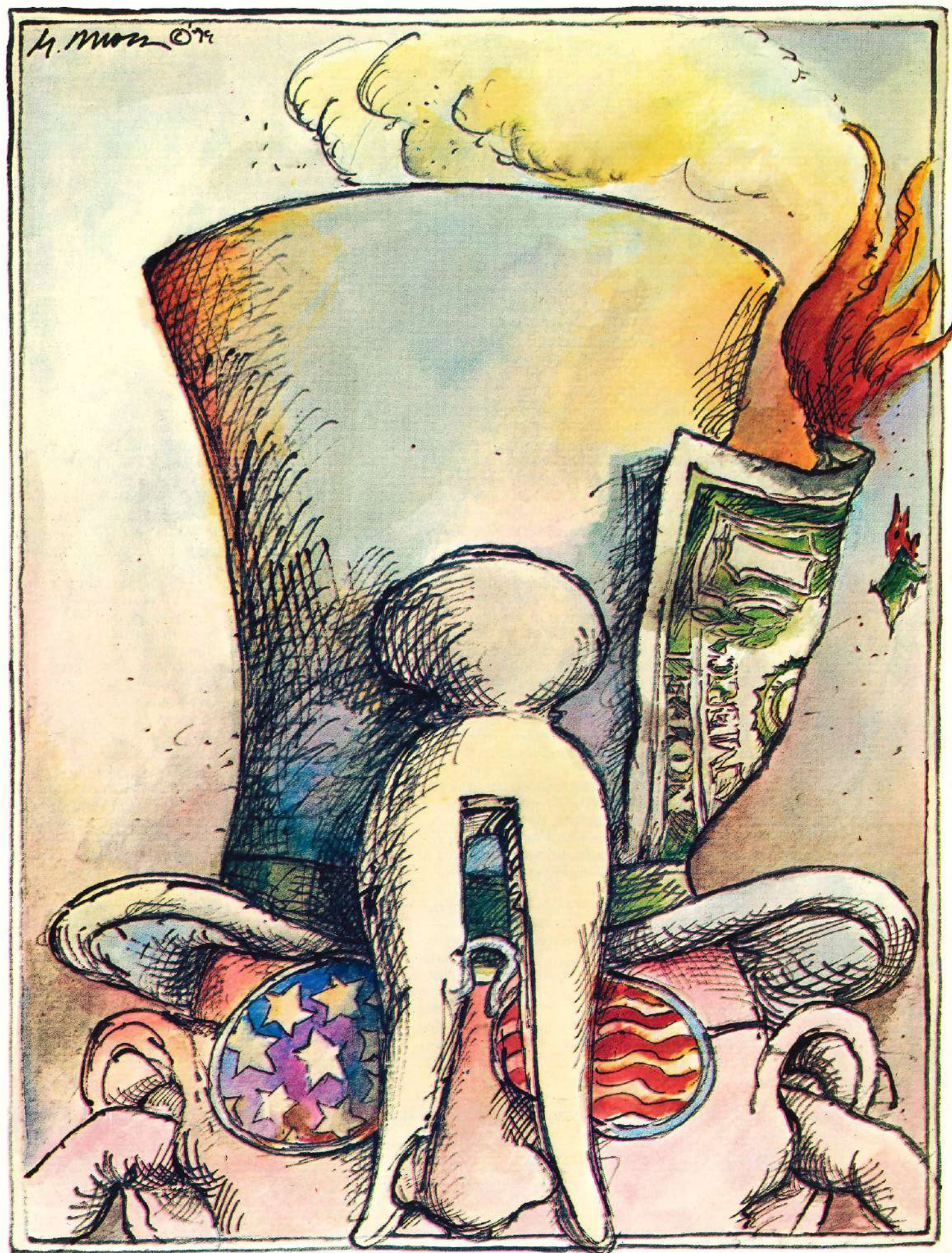
Reactors can do little to help our oil shortages. Only 10% of our oil now goes for generating electricity, and replacing that with nukes will do very little to reduce our overall consumption or imports.

We can make the transition to a solar economy without atomic power merely by increasing the efficiency of our energy system. Energy conservation efforts begun in factories alone since 1973 are now saving more power than the combined output of our nuclear plants and the Alaska pipeline. Just raising the average performance of U.S. cars by 3.5 miles per gallon would save energy equal to the current output of all our nukes.

Yet the new reactors under construction have already cost us \$30 billion and could run up another \$100 billion in flat-out capital costs to finish, plus billions more in further subsidies.

That money is ours. It's time we used it to move toward a solar society, creating millions of safe, permanent jobs as we go, paving the way for cheap, reliable, natural sources of energy—which nuclear power is not.

ILLUSTRATION BY GEOFFREY MOSS





HERE COMES THE SUN

"The sunshine falling on New York City [on a clear June day] is equivalent to the energy produced by all the power plants in the world at peak performance." —Mass. Energy Policy Office

Solar power is here. Now. It comes as direct rays that can heat—or cool—our homes, offices and factories.

It comes as electricity when sunlight energizes rooftop photovoltaic cells.

It comes as air currents—caused by uneven solar heating in the atmosphere—harnessed by windmills.

It comes as hydroelectric power when seawater—evaporated by the sun—turns to rain that feeds rivers and spins turbines as it flows back to the seas.

It comes as ocean thermal energy, built around the temperature differentials between surface water and water deeper down.

It comes as bio-mass energy, in wood and farm wastes that can be burned; and in sugar cane, grains, corn, manioc root and other crops that can be fermented into combustible alcohol and methane gas.

Depending on local needs and conditions, solar options can be mixed and matched to provide every corner of the planet with a balanced energy supply.

Solar power is simple. It was known to the ancient Greeks, who designed their houses to suit it, as did the Pueblo Indians.

In 1952, a blue-ribbon commission appointed by Harry Truman predicted there could be 13 million solar-heated homes in the U.S. by 1975. Today we have a bare fraction of that, and we pay for it every minute in soaring fuel bills, nuclear pollution, oil slicks and air made unbreathable by the burning of coal.

Right now, solar features can be incorporated into new buildings at little or no additional cost—if contractors, architects and buyers will make the basic effort. Federal statistics confirm that **solar space and water heating** is cost competitive with electric heat throughout the U.S. "frost belt," from Boston to Bismarck. Older buildings can be "retro-fitted" with solar features whose pay-back period gets shorter each year, as fossil and nuclear energy costs skyrocket.

Solar water heating is in use in 30,000 American homes, apartments and factories. Israel has more than 200,000 units; Japan has 2 million.

The oil and nuclear interests have generally portrayed solar technology as the province of the rich. But in San Bernardino, a CETA program employs inner-city youths to install solar heaters on old homes—at \$400 each. Corporate domination of energy funds, not the price of solar technology, is what is keeping natural power out of public hands.

Photovoltaic cells convert sunlight directly to electricity with no moving parts and no pollution. They can be made from silicone—sand—the second most abundant element on earth. According to a suppressed U.S. military report, \$500 million in development funds (a fraction of the cost of one reactor) could make photovoltaic electricity available on a mass scale at a per-kilowatt price less than half that of current nuclear power costs.

In recent decades, more than 6 million **windmills** produced power throughout the U.S. About 150,000 of them are still working, and their ranks are multiplying. U.S. Wind Power, a Massachusetts firm, expects to mass-market 50-kilowatt wind generators within five years at \$500/kilowatt—well under half the current cost of nuclear. Some individual wind machines have already come in cheaper.

University of Massachusetts researchers have also designed offshore wind generators that could provide as much energy as 70 reactors before the turn of the century. A U.S. government report has conceded that wind power alone could meet 24% of overall U.S. energy needs—not just electricity—by the year 2000.

In the 1920s, **hydroelectric power** produced one-third of our national energy. Today the figure is just 13%. And the potential for expansion remains enormous. The Army Corps of Engineers has estimated that installing generators in small dams already in existence could provide us with the power equivalent of 26 large nukes. **Ocean thermal and tidal power** could add still more.

Wood resources in New England alone have been estimated by government sources at the power equivalent of ten nukes—with a crucial difference. Trees

grow back. Many of our forests have been badly logged and need care and thinning. Proper management could create thousands of jobs, yield huge quantities of energy and leave us with healthier woods.

Grain, corn, certain roots and other crops can be fermented into **alcohol**, to mix with gas for gasohol. Brazil now expects to stop importing oil by 1985 through the development of its own gasohol resources. Crop wastes, sewage and manure can also be converted to **methane** and fed into existing natural gas pipelines—as is already being done in the Midwest. Farmers love gasohol and methane production because it gives them an added cash crop and allows them to cut back on their energy bills.

American farmers usually feed grain, cornstalks and other crops to their animals. But when micro-organisms ferment them into alcohol, the end product takes on a **higher** protein content than it had before. Creating the fuel also creates a more valuable feed!

It's that kind of "new alchemy" that furthers faith

Waste Not....

Our cheapest and most readily available source of "new" energy is increased efficiency—conservation.

The entire U.S. energy economy was built around the assumption of infinite supplies of cheap fuel. Our homes, offices and factories leak, our machinery is poorly designed, our automobiles guzzle gas and we don't have a national mass transit system. We waste fully half the energy we burn.

Sweden, West Germany and Switzerland all have healthier economies, higher standards of living and tougher winters than the U.S.—but they all use just 60% of the energy per person that we do.

According to energy economist Vince Taylor, increased fuel efficiency could produce five times the energy generated by nuclear power in the period 1973-85. A 1978 report by the National Academy of Science says that with conservation, we could double our gross national product and still use 19% less energy. The trick is in tightening up.

Home heating now accounts for about a fifth of our energy use. Insulation alone can cut heat loss in half, and basic design changes can take the savings much further.

Industry consumes 40% of U.S. energy, and much of that can also be saved. After the 1973 embargo, IBM instituted a conservation program that cut power use 30% merely by turning off unnecessary

in a solar future. Even conservative government figures now estimate that the sun could supply 20-25% of our energy needs by the year 2000—more than five times what's now produced by nukes. By the middle of the next century, we could be totally off both nuclear and fossil fuels. We could have a prosperous, self-sufficient solar society.

Simplifications and ahead-of-schedule breakthroughs are bringing solar on faster and more easily than ever imagined. It's a technology that can only get cheaper and simpler, and that will bring us closer to a healthy balance with the planet on which we live.

It can also bring us the kind of independence in energy that is the foundation of a true democracy, one in which individuals and communities can control their own destiny.

The barriers to that kind of future, to re-building our economy around the sun, are political, not technological. But the transition is inevitable, and it's coming. Fast.

lights and machines, and by lowering thermostat settings a few degrees. Recycling aluminum cans, glass bottles and other reusable resources can save still more.

Transportation eats up about a quarter of our energy. But railroads—which have been left to decay—are four times more fuel efficient than trucks and 60 times more efficient than airplanes for intercity freight transport. A decent public transit system and better-designed cars could, by all accounts, slash overall energy consumption drastically.

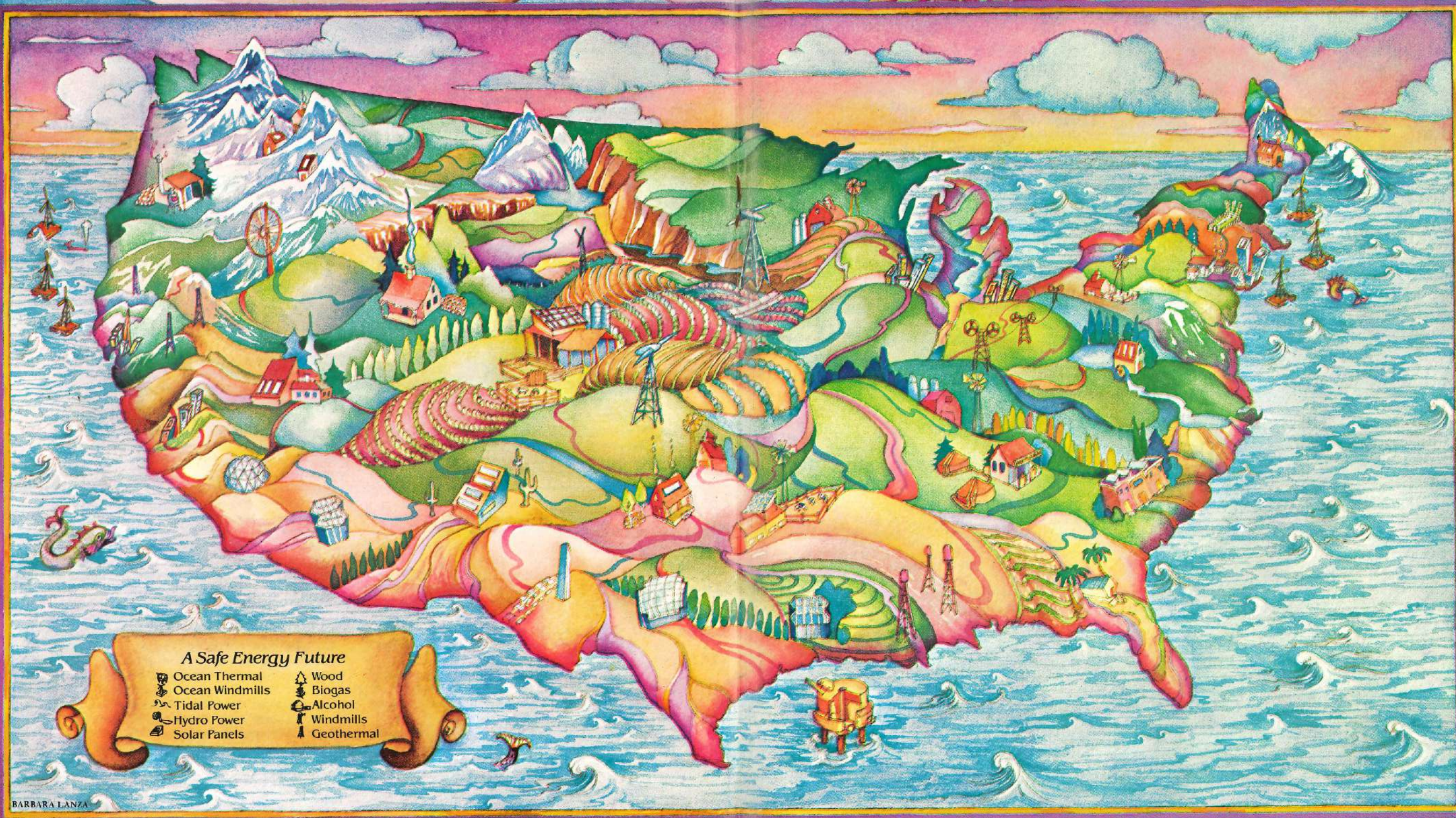
Even our smallest power generators waste reusable heat. Housing complexes in Queens and Coney Island now use natural gas co-generators that produce electricity and recycle waste heat into the buildings at great savings. A similar unit at Starrett City in Brooklyn saved that 5800-unit complex from being blacked out during the 1977 Con Ed power failure. "We were lit up like a Christmas tree," says the manager. In industry, co-generation could save 30% in fuel costs off the top.

The energy cartels have used the word "conservation" to imply a lowered standard of living.

In fact, saving a unit of energy costs as little as one-tenth the price of producing a new one.

Increased efficiency means jobs, cheaper energy and the guarantee of a stabler, healthier economy.

And it's the first step—probably the most important one—toward an economy that can survive the next two decades.



A Safe Energy Future

- | | |
|---|--|
|  Ocean Thermal |  Wood |
|  Ocean Windmills |  Biogas |
|  Tidal Power |  Alcohol |
|  Hydro Power |  Windmills |
|  Solar Panels |  Geothermal |

BARBARA LANZA

B. Lanza



SOLAR CITY

Modern cities have not been designed with the sun in mind. But key studies—and some actual projects—have shown that New York and other urban areas can go a long way toward solarization.

First and foremost, the city is a massive energy waster. Huge skyscrapers in which windows don't open, lights can't be turned off and air conditioning must be kept on even in the winter are among the world's worst energy offenders. The World Trade Center alone uses more electricity than the city of Springfield, MA. Though New York has a relatively extensive mass transit system, enormous quantities of energy are still being thrown away on inefficient, outmoded—and often maddening—means of getting people around; the situation in other cities is far worse.

Overall, fuel costs have risen some 300% in the last ten years, and are a major factor in the abandonment

The Bronx Frontier

A plot of land in the South Bronx that three years ago was used only for illegal dumping is now the site of New York's first industrial application of wind energy.

The Bronx Frontier Development Corporation, a community-run group working to help "regreen" the Bronx, has just put up a 40-kilowatt windmill which will provide all the electricity—and more—needed to run their 2.5-acre compost ranch.

"Wind could provide anywhere from 15-75% of the energy needed for companies along the river," estimates Jack Flanagan, 32-year-old co-founder of Bronx Frontier. "And that's particularly significant because a major reason that companies move out of this area is the utility costs. New York pays the highest utility rates in the country."

The idea to put a windmill on a compost ranch was prompted by its location—on the Bronx shore of the East River, a few hundred yards from Riker's Island—where it's very windy. "The wind was a major hassle," says Flanagan of the time when the operation first started, back in 1976. "The compost

of "marginal" tenements. Lower income urban residents must spend 25% and more of their entire income on energy.

On the other hand, the north-south orientation of many of Manhattan's skyscrapers could encourage their use of solar collectors. The presence of so many tall structures also tends to speed air currents, making wind power a strong possibility in many corners of the city. Massive brick brownstones, painted darker colors and shielded with a fiberglass pane, make ideal passive collectors and distributors. Even the huge quantities of trash and garbage that plague the urban ecology could become an energy plus by burning some of it and turning the rest into methane, alcohol and fertilizer.

Right now New York is the only major U.S. city where solar investment can pay off in the form of tax rebates; the city will credit up to 90% of a private solar investment toward city taxes over an 11-year period.

Cities will undoubtedly be the last frontier for solarization. But they can be tightened up for enormous energy savings right off the top. Given some ingenuity, they could become part of the solution rather than a big chunk of the problem.

piles would blow and you couldn't even light a cigarette in those high winds." So Flanagan, who is on leave from the South Bronx police force, hooked up with Irma Fleck, founder of the Bronx Museum and the Bronx Council on the Arts. Together they choreographed some research on harnessing the wind. "We found that we had access to an average wind speed of 12 m.p.h.," says Flanagan. "That was more than enough."

The compost operation handles daily deliveries of a hundred tons of discarded leaves and vegetables which are hauled in and added to enormous mounds of refuse already there—refuse which must be turned over every two weeks to insure proper decomposition into usable humus. The end product is donated to various neighborhood renewal projects. Along with a few other local groups, Bronx Frontier is developing 14 new park sites.

The windmill will speed up the decomposition process by pumping air through plastic pipes which run underneath the compost piles. The friction of the air passing through the pipes creates heat which speeds up the decomposition activity of microorganisms that break down the compost.

The windmill is scheduled to go into operation

this fall. It's 90 feet high (including a blade span of 40'). The cost was \$35,000 for the hardware—which Flanagan estimates will be made back in 6-7 years.

Standing by the riverside, Flanagan points to a nearby waste treatment plant, where methane gas naturally created by the sewage is routinely flared off into the atmosphere. "We may try to capture our methane and use it to speed up the system still further," he says.

And the corporation may even get help from an unlikely source. "The courts have ruled that if we produce electricity beyond what we can use and store," says Flanagan, "we'll backfeed it into the grid and have Con Ed pay for it."

Citicorp Center

A major symbol of solar energy in New York—for better or worse—has been the Citicorp Building at 153 East 53rd Street. The 59-story tower was designed by Hugh Stubbins and completed in 1977. Many New Yorkers view the building as a "failed" attempt at solar power, but in fact it is a tribute to conservation.

According to John Williams of the Citicorp, the building was originally designed with a slanted roof before solar power was even considered in its construction. The slant, however, was designed to face west.

While plans were still being drawn up, Citicorp approached Con Ed for ideas on ways the new structure could save energy. According to Williams, Con Ed told Citicorp to consider solar.

The company then asked its architects to change the roof's slant to face south, in the interest of maximizing solar potential. The cost of the re-designing, says Williams, was \$80,000.

In early 1975 the National Science Foundation commissioned MIT to do a year-long, \$186,000 study on how solar might be installed on the south face. What they came up with was a system of powering a massive chemical de-humidifier designed to cut back on air conditioning costs. But the system could only promise a saving of 1-2% in energy use, which wasn't enough to warrant installation costs.

And by the time the building was built, the air conditioning unit had been redesigned to greater efficiency—saving more than the solar system would have. "We have a lot of things in that building that are quite advanced as far as energy conservation is concerned," says Williams. Among them are special windows designed to save energy, piggy-back elevators and an aluminum reflective skin.

Meanwhile, Citicorp still has that south-facing roof, and officials say they're working on a pilot project that involves photovoltaic cells on the roof.

East Eleventh St.

You walk east on Eleventh Street, climb a few flights of steps, and there it is. The Empire State Building is framed by two solar hot water panels. You turn around and there's the windmill, silhouetted against the World Trade Center. And then Raimundo Reyes tells you, "this is only the beginning."

It all began several years ago with plans to rehabilitate the abandoned, burned-out tenement at 519 East 11th. "We were looking to cut costs every way we could," says Reyes. "It started out with insulation and solar panels for hot water. And then," he laughs, "it sort of snowballed."

The tenement was re-opened in March of 1976. That November, a donated Jacobs windmill began spinning on the rooftop, sending two kilowatts of electricity into the building. The project immediately found itself embroiled in a court fight with Con Ed, who refused to pay for power sent back into the grid. The project won, and now there are two meters on the building—one for juice coming in from the grid, and one for what the windmill sends back.

The project itself has now rehabilitated three buildings and has two more underway. In the main office, an architect methodically plots the angle of the sun through the different days of the year, information he expects to use on a passive solar space heating system for the abandoned tenement across the street. At his right hand is a scale model of a greenhouse being designed for a rooftop.

Then you're beckoned into a dank basement where you're greeted by faint, gurgling noises.

There are five aqua-blue tanks, two of which hold dozens of little brown tilapia, swimming restlessly in the big oval. "They're tropical and they're getting really big," says Edwin Sosa, project director. "They're a good source of protein and we hope to start breeding them soon."

Back in the sunlight, Sosa points to other buildings up and down the block, rattling off plans for the future. Most of all, the project hopes to market the urban/solar technology it is pioneering here on the Lower East Side. "Since Three Mile Island," says Raimundo Reyes, "we've been getting a lot of calls." You might try them too. 982-1460.



The nuclear industry has long argued

Citizen/Labor Energy Coalition, 600 W. Fullerton, Chicago, IL 60614

RADIOACTIVE WASTE: A PLAGUE

The stuff is so dangerous an invisible speck can give you cancer. It's so hot and corrosive it eats through just about every substance known. It stays radioactive so long it has to be isolated from living things for as much as a quarter-million years.

Some of it comprises the "missing ingredient" in the production of atomic bombs.

And now tons of these radioactive wastes are building up at nuclear sites all over the world, with nowhere to store them and no solutions on the near horizon. Every effort at safe disposal has failed, and every potential solution will cost billions of dollars—with no guarantee of success.

Every year, each 1000-megawatt atomic reactor produces 9000 gallons of high-level liquid wastes, plus tons of solid radioactive residues. By the year 2000, the U.S. will be stuck with a billion cubic feet of this lethal stuff, enough to build a four-lane foot-thick highway from New York to California.

Some of the stuff is "low level"—contaminated tools, machinery, filters, air masks, clothing etc., which even after brief exposure to radiation becomes too "hot" to use again and must be buried.

From 1946 to 1962 more than 47,000 barrels of waste from the weapons program were dumped in the Pacific Ocean off the Farallones

Islands, 35 miles west of San Francisco. U.S. Environmental Protection Agency experts now say a quarter of those drums have already leaked, contaminating the ocean and the marine life. Dumping has also been done off Cape Cod and the Maryland-Delaware border.

Even more dangerous are "high level" wastes, spent nuclear fuel and materials heavily exposed to the fission process. Often in liquid form, these wastes have to be stored in tanks that have a horrendous track record for leaks and accidents. The heat, radioactivity and corrosive properties of the liquids quickly destroy most materials. Tanks that have been in use for just twenty years have already begun to disintegrate. Through 1973, a half-million gallons of lethal radioactive liquid leaked from the Hanford federal reservation in Washington state. Contamination has already been recorded among rabbits and coyotes in the area, and the poisons are moving toward the Columbia River.

The biggest chunks of atomic reactor wastes are the spent fuel assemblies—huge, heavy, highly radioactive racks of special metals and atomic by-products. The industry once claimed that the thousands of pounds of used fuel contained in these assemblies could be "reprocessed" and reused. The reprocessing would happen through a chemical treatment through which usable uranium—and the fission by-product plutonium—could be separ-

ated from the spent fuel elements. They promised that as much as a third of the uranium rods could go back into the reactors, and that the plutonium could be used to feed breeder reactors, which in turn would create still more plutonium.

But the industry's promises have turned into disaster. The only commercial fast breeder built in the U.S.—Fermi I, near Detroit—almost blew up in 1966, and has been permanently shut. The experimental Clinch River Breeder Reactor in Tennessee has become the subject of fierce congressional debate, and has been labeled a "technological turkey" by its critics, whose ranks include the Carter administration.

Three major attempts at industrial reprocessing have also failed miserably. The first was West Valley, near Buffalo, which opened in the mid-Sixties under private ownership, then changed hands, and was shut by regulatory order in 1972 because of radioactive leaks. Workers from the plant have complained of cancer and birth defects among their children. The plant was a big money loser and has now left the state of New York with 600,000

ON ALL OUR HOUSES...FOREVER

gallons of high-level wastes it doesn't know how to handle.

The second was General Electric's \$65 million Morris, Illinois, plant, which never worked and has been abandoned.

The biggest reprocessing venture of all sits at Barnwell, South Carolina, where a multi-national consortium has sunk \$360 million into a giant facility that's still unfinished. The consortium wants a \$750 million handout from the federal government to complete the project, but so far hasn't gotten it.

Reprocessing has been widely opposed because it makes accessible the element plutonium, a small quantity of which was used to make the bomb that destroyed Nagasaki.

Plutonium eats through just about

anything, and a tiny grain is capable of causing a fatal case of lung cancer. It is also the missing link in making small-scale nuclear weapons. According to the NRC, more than 7000 pounds of bomb-grade materials are missing from U.S. nuclear facilities.

Meanwhile, the technology for converting wastes into bombs has become widely known. In 1974, India used material from its own reactor program to build a nuclear "device." The continued production of such wastes virtually guarantees the spread of nuclear weapons throughout the world—and not necessarily just to governments.

As of now, the atomic trash piling up at nuclear sites and no one knows what to do with it. "Swimming pools" used to store spent fuel are being stacked up with two or three times as much material as they were designed to hold, making them as dangerous as the reactors themselves.

"Last resort" schemes for getting rid of the stuff range from shooting it into the sun

to floating it onto the polar ice cap to injecting it into the ocean floor.

The most serious attempts have aimed at burying the wastes deep in the earth. But plans to use a federally approved salt mine near Lyons, Kansas, had to be abandoned when the Kansas geological survey found the site was far wetter than previously believed. Another deep site is being developed near Carlsbad, New Mexico, but experts warn that it, too, will fail.

A special presidential task force on the waste problem has conceded that even a test project won't be working until the late 1980s.

Plutonium has a radioactive half-life of 24,400 years, meaning it will be dangerous to life—and must be stored with total precision—for at least 240,000 years, many times longer than all of recorded human history. Other waste elements are nearly as dangerous.

Small wonder nobody wants the stuff in their own back yard.

But then, what are the boundaries of one's "own back yard" when we're talking about volatile trash that can kill for thousands of centuries?

And why are we creating more of it every day?

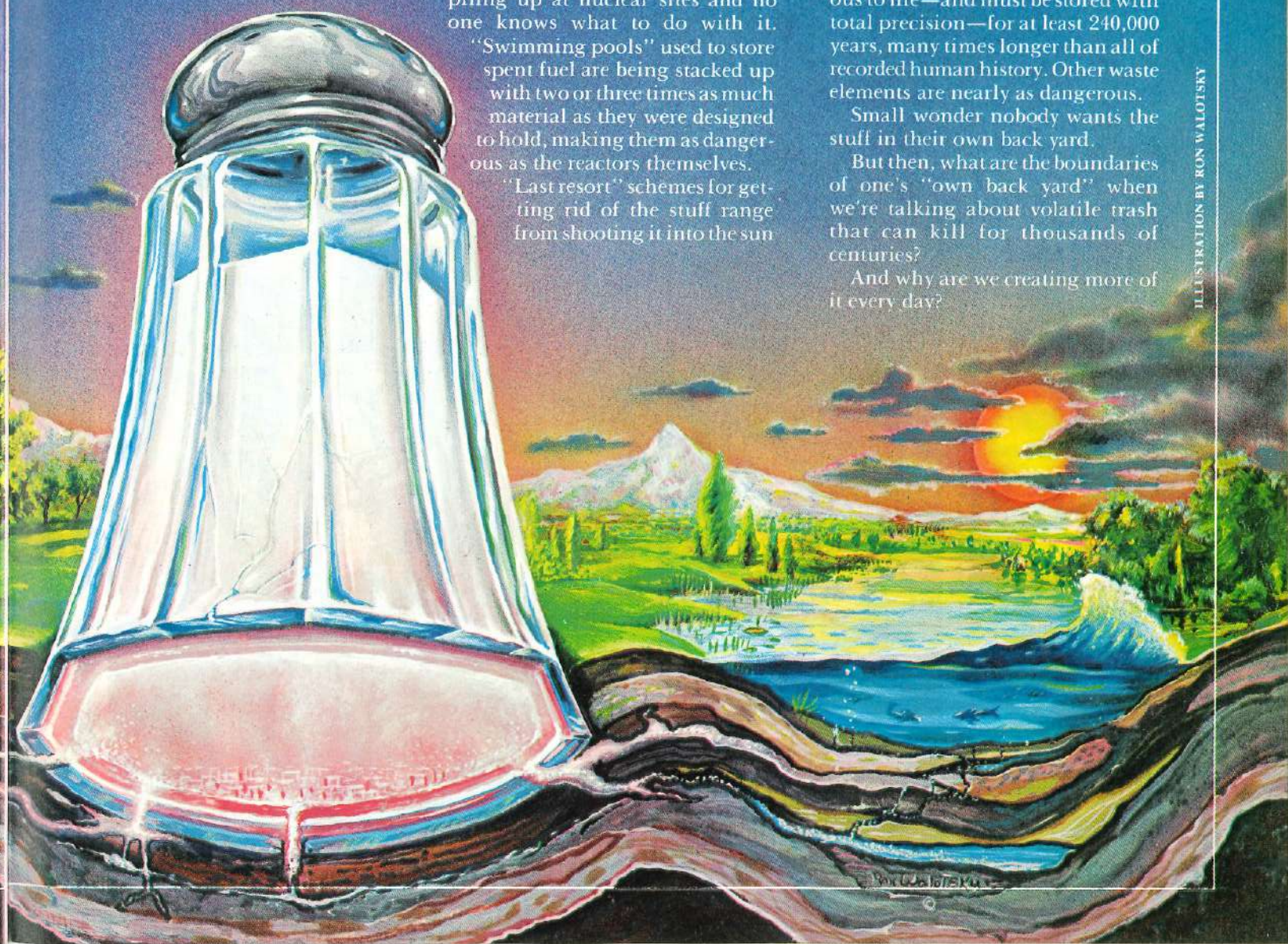


ILLUSTRATION BY RON WALOTSKY

A whole city could be held hostage by a small group attacking a nuclear reactor. A single operator inside a control room could cause the release of enough radiation to kill tens of thousands of people.

Such terrifying possibilities have given birth to yet another threat of the nuclear age—destruction of our legal rights.

In 1975, Stanford University law professor John Barton did a study for the Nuclear Regulatory Commission on the civil liberties aspects of atomic power. The nuclear commitment, he warned, carries with it the potential for a "nation-wide guard force . . . greater surveillance of dissenting groups and . . . area searches in the event of loss of [nuclear] materials." Theft of plutonium—or even a threatened theft—could result in "block searches . . . detention of known dissidents . . . and extraordinary means" of getting information on where the plutonium might be, including "lie

detector tests or even torture."

The government's fears of nuclear sabotage are well-founded. Since 1970 there have been well over 200 confirmed threats against atomic facilities. In November of 1974 a plant employee calling himself "Project Achilles Heel" did \$5 million in arson damage to Indian Point #2, then under construction. A malfunction at the Zion, Illinois, plant that year is also believed to have been caused deliberately by an insider. At least one bomb has been found set to go off at a reactor site, and many nuclear facilities have been turned into virtual armed camps, off-limits to the public they are supposed to serve. Yet the record shows determined infiltrators have little trouble getting on site.

Furthermore, according to Ted Taylor, one of the world's leading nuclear weapons experts, it would take just 25 pounds of plutonium for a relative amateur to build a nuclear bomb that could fit in an automobile and be exploded

at will. Because of its extremely poisonous nature, even a much smaller amount, attached to a stick of dynamite, could prove deadly to a whole city.

Yet regulatory officials now acknowledge the "loss" of thousands of pounds of plutonium over the past few years, and there is growing evidence of a black market in the stuff. "Once special material is successfully stolen," warned Atomic Energy Commissioner Clarence Larson in 1969, "the number of thefts can be expected to grow."

The extreme sensitivity of nuclear sites and materials means law enforcement agencies will invoke "national security" to deal with those who oppose nuclear power. By government admission, anti-nuke alliances have already been infiltrated with secret agents, and even the most conservative opponents of nuclear power have been carefully—and often illegally—monitored by both enforcement

agencies and private utilities.

And now, for the first time in American history, the government has gone to the extent of censoring a magazine—*The Progressive*—to keep it from publishing nuclear-related information, even though that information was already in the public domain. Atomic knowledge, argues the government, is "born secret."

Are we soon to be told that all nuclear decisions are "born secret"? Will opposition to atomic energy become illegal because of "national security"? Will power reactors burn up our basic rights?

"Commercial nuclear power is viable only under social conditions of absolute stability and predictability," warns Denis Hayes, formerly of the Worldwatch Institute. "Yet the mere existence of fissionable materials undermines the security that nuclear technology requires. Reliance on nuclear power as the principle source of energy is probably possible only in a totalitarian state."

The Zirconium Story

When reports came out last April that the real danger at Three Mile Island was the appearance of a hydrogen bubble inside the reactor's containment vessel, spokespeople for the NRC and the utility companies professed bewilderment. They called it "a new twist" and "something that had not been foreseen when the reactor was designed."

The crisis at TMI began when mechanical difficulties led to a partial loss of coolant water, causing the temperature to rise. The hydrogen bubble posed a lethal threat because it further interfered with the cooling of the damaged core: if the hydrogen had continued to expand, it might have further forced down the water level, exposing the hot radioactive fuel rods. In addition, the presence of hydrogen inside the containment vessel created the risk of a hydrogen explosion which could have

resulted in a nuclear catastrophe.

TMI marked the first time such a bubble threatened to burst—but it may not be the last. What did burst was another one of the government's dark little secrets—that the "new twist" of the hydrogen bubble is a danger inherent in all water-cooled systems and that danger has been well known to the industry from the start.

The key to the "bubble trouble" is the material used for fuel rods—an alloy of the metal zirconium. Zirconium is one of the most chemically reactive metals known. When it reaches 1100 degrees celsius, it reacts rapidly with steam to create heat and hydrogen. This is a simple chemical reaction, nothing to do with radiation. The dangerous hydrogen bubble at TMI was therefore very predictable—the kind of basic chemistry which one prominent scientist termed "high school textbook knowledge."

But the experts had good reason to feign surprise. There is no known alternative to zirconium for use as fuel cladding. Zirconium has the highest resistance to radioactive decay of any

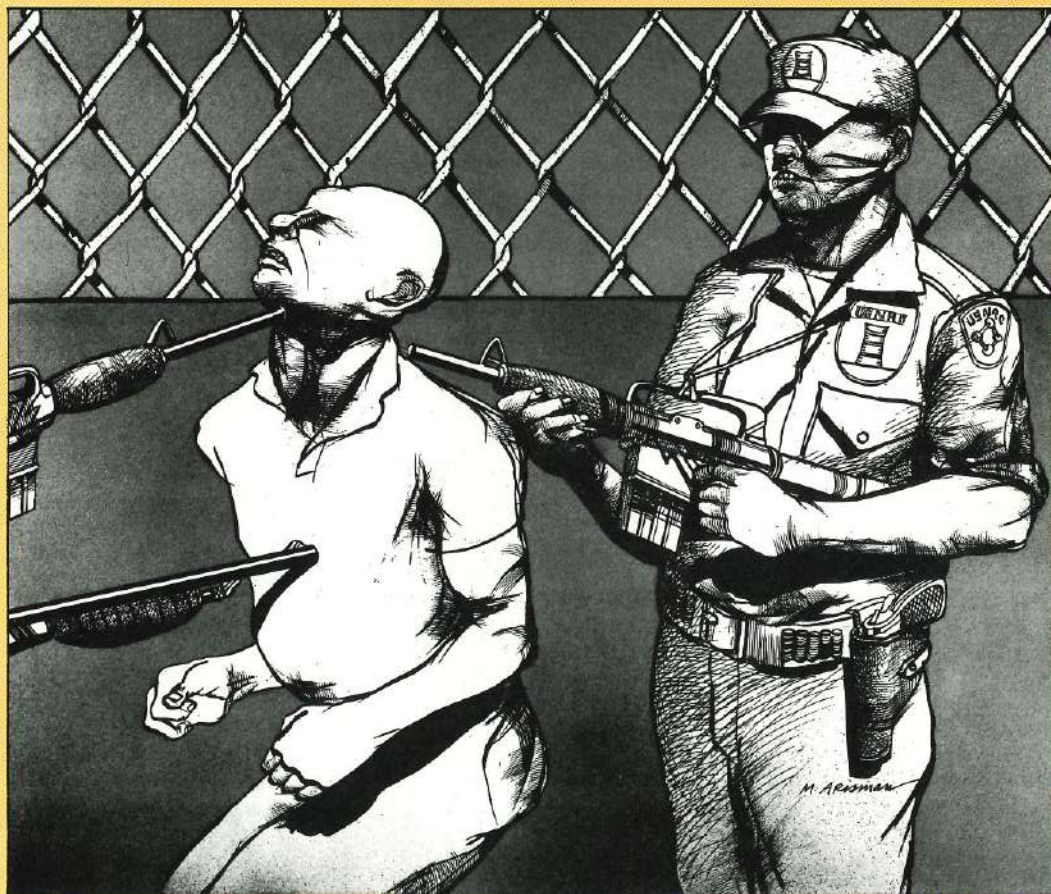
known substance. But if the temperature inside a containment vessel climbs above 1100 degrees celsius—which is very possible in a loss-of-coolant accident—it could set off an irreversible chemical reaction of zirconium into hydrogen.

The Emergency Core Cooling System of an atomic power plant is designed to lower core temperatures in case of a loss of coolant accident. But the possibility is very real that temperatures could not be lowered fast enough to prevent mass conversion of zirconium into hydrogen, meaning more bubble trouble is inevitable. If we continue to rely on nuclear power, someday, somewhere, the zirconium-hydrogen bubble will burst.

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PLUTONIUM POLICE STATE



MARSHALL ARISMAN

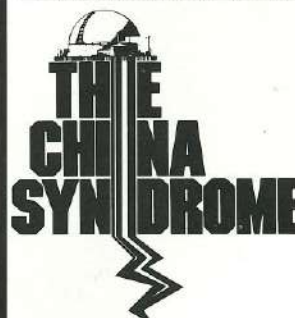


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CHAKA KHAN

I see music as a life force. Musicians are the sparks, and where there's sparks, there's fire. I didn't get into this business with the idea that I would change the world. But this is the only earth we have, and they're turning it into a huge garbage can.

Three Mile Island was my first glimpse of the nuclear thing. I was in L.A. watching the news and seeing those really incredible shots of a little girl on a swing with huge towers in the background and people evacuating. It was obvious to me that

nuclear power is a blatant, outright threat toward humanity, toward all living things. It's unfair that we have so little say-so as to what happens to our lives and how we are living.

As a mother it almost makes me feel bad that I just had a kid. The radioactive gases, the waste, the pollution of the water—we could be killing the next generation. So having two children has made me feel the need to be more active.

This is really my first strong political involvement since the Sixties. Back then I tried to change the system at the age of sixteen. We had sit-ins, arrests. I worked with the Black Panther Party in Chicago on the free breakfast program. We were getting up at 6 a.m. and trucking over to the schools getting the kids their breakfast. That was a little thing on a small scale, but it's also on a bigger scale. Maybe because of that program some of those kids are thinking different right now.

It's all relative. By helping people we're helping ourselves. As for stopping nuclear power, obviously I think we can do it. If I didn't, I wouldn't be doing this.



TOM PETTY & THE HEARTBREAKERS

I think it would be a fair statement to say I am not really "the top of the list" on current events.

When the T.V. news gets too morose (which is most of the time) I change the channel. I couldn't really say I've read much more than the movie ads in a newspaper in years. And while I'm confessing I might as well admit I've usually viewed most fundraising events (for any cause) with more than a slight bit of skepticism.

But this is different. REALLY!

Nuclear energy threatens everyone and everything. (That's you and me.)

And believe me I have tried to change the channel. But this is a very real (even scary) problem. There really are people (some in positions of great power) stupid enough to annihilate the planet. And this will cut in dras-



JOEL BERNSTEIN

tically on Rock & Roll, roller skating and other popular pastimes.

Will these concerts save the world? I doubt it. But they can only help. Which is more than a lot of us (present company included) have done so far.

I won't embarrass myself by trying

to explain the nightmarish magnitude of the nuclear energy problem or even go into the many practical solutions. (There are many others much more qualified.) I'll just ask you to dig that this thing is real and for you to decide what you should do about it.

Enjoy the show.

RAYDIO

Nuclear power plants bother me because I think they're going to blow everybody up. There's no telling how many people are being affected, or how bad they really are.

I first found out about it from my friend Gil Scott-Heron. He was over my house one day and I asked about his song, "We Almost Lost Detroit." So he explained to me about the accident (at the Fermi I plant in Monroe, Michigan in 1966). At the time of that accident, I wasn't aware that anything was wrong.

But I live in Detroit and I found out that I was there when the accident happened. My whole family lives there. I guess we might all have gotten exposed to radiation.

The way I feel about that is the same way I feel about an unborn child whose mother does all kinds of drugs. You don't have a fair shot.

What IS low-level radiation, anyway? How much is coming out? We're



Raydio, from left to right: Arnell Carmichael, Ray Parker, Jr., Larry Tolbert, Charles Fearing, Darren Carmichael.

promised that it's only such and such. But to industry the real concern is money. If so-and-so can make an extra two million by exposing a whole bunch of people, they'll do it. There's a thin line between life and money, and sometimes that line gets lost.

I guess you can blame it on all of us. Man is greedy by nature. Long as he gets it in his pockets, most people don't worry about the things that don't happen directly to them. Which is the tragedy of the thing. The awareness of people is what's really important,

because unless people are willing to check into things and find out what's happening, it's all gonna continue.

In this case, I think the solution will be solar power. Solar power is free. Now that we can see a gasoline shortage, we're finding cars can run on grain we can grow here. Volkswagen's working on a car to run on alcohol.

I do think demonstrations and people acting can help. Remember ex-President Nixon?

—Ray Parker, Jr., of Raydio



Nicky Perlas

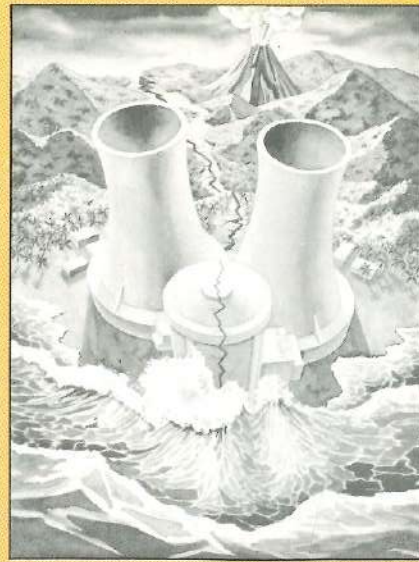
It was unbelievable!

The Philippines' first nuclear power plant (PNPP-1) was being built on the slope of a volcano! The site of the reactor in Bataan peninsula was also in an earthquake zone, with active faults in striking distance of the nuclear plant! Tidal waves battered the area.

Sister Aida Velasquez, a courageous Catholic nun, was already organizing the people near the site to stand up for their rights and safety. These residents were not even informed of the decision to build PNPP-1. When they expressed concern about nuclear accidents, they were charged with being subversives. One government utility official, when asked about radioactive waste disposal problems, retorted, "There's plenty of sea around us."

Sister Aida and I—together with some others who cannot be identified for security reasons—formed the Philippine Movement for Environmental Protection (PMEP).

When the PMEP figured that we might be able to extend our struggle, I came to the United States, where the nuclear reactor was going to be licensed for export. I initially had to carry out my task "under cover" for the sake of



ALLEN JENKS, Mother Jones

A Nuclear Plant On a Volcano?

my family and friends. The dictatorship in the Philippines was getting tougher with energy activists. Several had been tortured; at least one, Ernesto Nazareno,

disappeared, never to be seen again.

But, after a few months, I found out my cover was blown. So I accepted an invitation to the No-Nukes Strategy Conference in Louisville, Kentucky. We were energized by the warm reception given by U.S. anti-nuclear activists to the Philippine nuclear issue.

PNPP-1 has become a major test for the world anti-nuke movement on the question of nuclear exports. On June 15, 1979, President Marcos yielded to pressure from both inside and outside the country, and suspended construction of PNPP-1, creating a special commission to investigate safety questions.

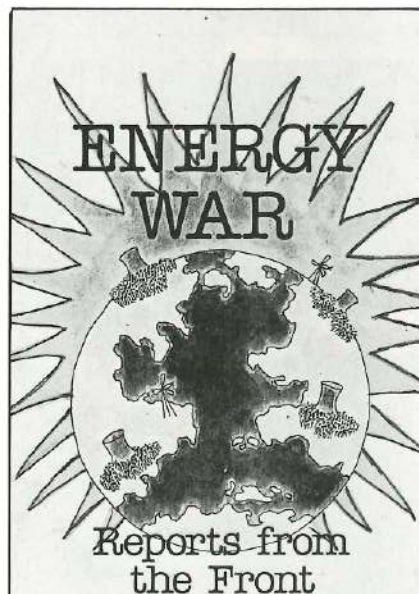
But, the battle is not yet over. If present trends continue, the safety investigation can turn into a whitewash and a justification to grant an export license to Westinghouse. Support is urgently needed to maintain our leverage.

I sit in my room, my typewriter in front of me. I wonder, will my beloved country turn into a desolate wasteland, the victim of unwanted nuclear technology? Or will Truth guide the Philippines towards a humane "soft energy" future?

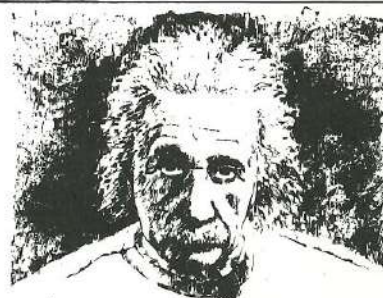
Nicky Perlas is a Filipino activist presently camped in Washington, D.C.

Three Mile Island was not the first! Twelve years ago, We Almost Lost Detroit!

The massive radioactive accident near Pennsylvania's Capitol was only the latest in a long string of nuclear near-catastrophes. In the fall of 1966, a major melt-down occurred at the Fermi Fast Breeder facility in Michigan. For one month terrified plant officials contemplated a hasty evacuation of one of the world's most populous cities. Yet, the public was not told of this \$150-million melt-down with the potential for a thermonuclear explosion until the publication of John G. Fuller's gripping account of the first, little-known "Three Mile Island." *Original publishers' hardcover edition at a big discount. \$4 postpaid from Green Mountain Post Books, Box 177, Montague MA 01351.*



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BONNIE RAITT

"We must stress the positive alternatives"

I was raised as a Quaker and my friends and family were connected with the nuclear disarmament issue. So from an early age I was aware of the dangers of nuclear power. We saw films and pictures of the genetic nightmares caused by the bombing of Hiroshima. When I was a kid, I used to go to the principal's office instead of diving under the desk during air raid drills at school because somehow it seemed that to participate would mean accepting the inevitability of nuclear war.

In school I was active against the Vietnam war, and in the years since I've been trying to find a way to combine my musical career with my interest in bringing about political change. In this business, we tend to be so insulated and self-involved in terms of where we invest our heart, time and money—I think it's imperative for artists to give something back to the community besides just their art. We have the capability—as the focus of so much media attention—to bring a lot of important issues into the public consciousness.

Over the years I've done benefits for organizations such as women's health centers, the farm workers, listener-sponsored radio stations and certain political candidates. But I never felt there was a chance to build a strong coalition among all segments of the country until the anti-nuclear movement started gathering momentum.

I first became aware of how dangerous the nuclear industry had become when I read about Karen Silkwood's death back in 1974. Sometime later the Supporters of Silkwood approached me about doing a benefit to raise funds for the family's case against the Kerr-McGee plutonium company, which they believed was responsible for her death. Ironically, tickets to a concert Jackson Browne and I were giving a



NEAL PRESTON

few days later in Oklahoma City were found in her car when she died.

But the kicker for me has been the attempt to license the Diablo Canyon power plant just a few hours upwind of where I live in Los Angeles. When it became known that the plant was about two miles from the Hosgri earthquake fault, I knew there was no other choice but to get involved. I read all I could and the more I found out, the more frightened and angry I became. Stopping nuclear power is not just another cause; it's a necessity. What good is music if you don't have any place to play it, or anyone to play it to?

Something that particularly concerns me is that while it's important to stop nuclear power, we must also stress the positive alternatives. Gas lines and inflation make you wonder why the government isn't investing in safer and cheaper methods of energy production—why they insist on keeping us in the dark.

Last year there was a federal study that said if a paltry \$500 million

dollars—which is less than a quarter of the cost of a nuclear plant—were spent on photovoltaic cells, it would bring down the cost of solar energy to a level competitive with current utility costs. Yet nothing is being done about it.

It all comes down to the profit system. The same mentality that puts poisonous preservatives in our foods so they'll last longer on the shelf also puts poisons in the environment, in our minds and bodies. It's the same thing that allowed us to devastate a country like Vietnam—the need to protect our overseas interests, on a business level, not a pride level. And the same thing that leads us to ignore our own native American people's right to this land we call "our country."

The profit-motive mentality does not let power rest with the people. The energy situation is another chance to regain control of our lives. If we can control our energy needs, then maybe we'll get some control over who's telling us lies and who isn't.

FRANCES JETTER



August 6, 1945. 8:15 a.m. The streets are full of people going to work, going to shop, going to school.

An aircraft flies across the city. The bomb falls for 10 or 15 seconds. Then there is a sudden, searing flash of light. People vanish from the earth, utterly consumed by the furnace of the flash. There are not even ashes on the pavement. Nothing but black shadows on the stones.

Then comes the blast, thousands of miles an hour. Buildings for miles in all directions are flattened. Victims are piled in heaps seven or eight corpses deep.

Then the fireball touches the earth. Many thousands more, trapped by walls of flame, are burned to death.

Then all goes black as night. The mushroom cloud rises to 40,000 feet. It blots out the sun. It drops its poison dust on everything.

It took four years and a unique federal "blank check" for the "Manhattan Project" to bring us the age of nuclear warfare. Special reactors were invented to create enough plutonium and high-grade uranium for one test bomb and the two dropped on Japan. When it was over, some 600,000 people had worked on the project, and a multi-billion-dollar industry was born.

The birth was accompanied by profound doubt among some of the scientists who made it possible. "If I had known the Germans would not succeed in constructing the atomic bomb," mourned Albert Einstein, "I would never have lifted a finger."

In 1949 the U.S.S.R. succeeded in an atomic test. The nuclear arms race was on.

In the U.S., the Manhattan Project had spawned the Atomic Energy Commission, which by the early Fifties was a giant bureaucracy with thousands of workers, billions of dollars—and a product to sell. "There was a conviction," writes David Lilienthal, first chairman of the AEC, "that somehow or other the discovery that had produced so terrible a weapon simply had to have an important peaceful use . . . We were grimly determined to prove that this discovery was not just a weapon."

In 1953 Dwight Eisenhower introduced, in front of the United Nations, the concept of "Atoms for Peace." Atomic

WEAPONS

energy would be used, he said to promote the prosperity and industrialization of the planet. But the announcement coincided with the first U.S. tests of the hydrogen bomb, and was viewed by AEC insiders as a brilliant ploy to divert public attention from the new weapon.

The U.S. also began using the "peaceful" atomic image to promote reactor sales overseas. Subsidized by the U.S.

Export-Import Bank, foreign sales got the industry going.

The U.S. and Soviet governments—and others—have now produced enough bombs to do to all the cities of the world many times over what was done to Hiroshima. The increasing availability of weapons technology and nuclear materials guarantees the spread of the bomb not only to smaller nations but to terrorist groups.

Ever since the Fifties, humanity has been living with the dread of nuclear holocaust. But the destruction hasn't been just psychological.

The U.S. alone produces 3 nuclear warheads a day, costing us well over a billion dollars a year. Countless millions are spent elsewhere around the planet on nuclear war machinery, money that could be better spent on just about anything else.

Bomb testing in the Pacific, the Asian continent, and the American West and elsewhere has also greatly added to worldwide radiation levels, doing untold damage to this and future generations.

Weapons facilities create enormous quantities of nuclear wastes. The transport of weapons-related material is dangerous. And the plants can be as deadly as any commercial reactor. Since 1953 the Rocky Flats weapons factory has suffered two major fires, sending deadly plutonium downwind into Denver. A study released this year by Dr. Carl Johnson of Colorado's Jefferson County Health Department indicates that cancer rates among civilians living downwind from Rocky Flats are abnormally high, with at least 500 additional cases recorded.

Meanwhile, weapons stockpiles leak deadly radiation everywhere.

The nuclear power and weapons industries were born malignant twins. Hopefully we can bury them together—before they bury us.

JAMES TAYLOR & CARLY SIMON



PETER SIMON

CARLY: You know, people become immune to bad news. A danger like Three Mile Island tends to fade from people's minds unless there's a reason that it's kept alive. People start to say, well, radiation is extremely dangerous and nuclear power's dangerous but here we are, we're still living and everything seems to be all right. People start to forget the facts.

I think people become involved in causes if there is a personal danger to them or if there's a personal involvement. The fact that I have children may have increased my involvement. You think, "I am here, I could die from this, I could get cancer, my children could be affected for the rest of their lives by radiation poisoning." Those are personal things.

It was hard to get people involved in the Vietnam war, except for the fami-

lies of the boys that actually went over, because it seemed so removed. It took a long while for people to see how that was personally affecting their lives.

This is a much more immediate situation because it's affecting our lives as we speak. It's not 200, 5000, 8000 miles away from here. It's everywhere in the United States.

Which reactors scare me the most? All of them. Anywhere I go I think about where the reactors are and what the damage is. Until I'm assured that there are safe ways of producing nuclear energy, I'm just completely opposed to all plans for continuing it.

JAMES: Our government has preempted all jurisdiction over certain areas of decision making and the nuclear process for purposes of national security. They say we will decide what the safe level of radiation is for workers in nuclear plants, we'll decide whether it's safe to put a nuclear or weapons plant in a certain environment—we'll make all the decisions.

The question of national security keeps coming up like a kind of bugaboo—both in terms of nuclear power and weapons. It's the same excuse that the government gave to keep us in Vietnam, and it's what kept Watergate dammed up until the election was over. But who's the nation? Who are the people that are protecting whom?

What it comes down to is whether or not we are willing to take responsibility for a democracy,

whether or not we are really ready to participate and contribute. That affects public officials too—if we don't care, they won't either. Politician has become a dirty word. If a job is not held in high esteem, then the people who get it are going to be charlatans.

Nuclear arms are frightening the hell out of us. I think it's a bigger symptom than anybody realizes. It was really ingrained in us when we saw all our families building bomb shelters. The fact that this madness of nuclear arms proliferation can't be controlled is sickeningly depressing to me. That we can't stop doing something that's that bad for us is a bad symptom. I think it gives young people in this country a fatalistic and disgusted feeling about their participation in government.

The whole arms race seems totally insane—not only to build something that can't be used but to continue building it faster and faster all the time. And how many trillions and trillions of dollars do we have to dump in it before someone calls a halt? It looks like the profit of the world has gone into it. It's not just us—not just Americans—who pay for the arms race. It's really the whole world. It's the whole economy. Weapons are the main thing the world is building aside from houses and automobiles for Americans. It's a world that's building itself a really super firecracker.

The defense department insists that we need to keep abreast of the Soviets in the arms race. At the same time, they tell us we have an overkill factor of 40 or 50 or 400 . . . and that would certainly seem to be enough! Everyone seems to agree that a nuclear war would be unwinnable.

And what frightens me isn't so much that Americans and Soviets have nuclear weapons—because we're not desperate enough to use them. But I wouldn't want individuals to get their hands on them. And the danger of sell-

continued after next page

PETER SIMON



WHO KILLED KAREN SILKWOOD?

MARCH, 1975—Malignant Giant: The Nuclear Industry's Terrible Power And How It Silenced Karen Silkwood

—Howard Kohn

DECEMBER, 1975—Shoutdown At Oklahoma's Kerr-McGee: The End Of A Plutonium Relationship

—Howard Kohn

JANUARY, 1977—Nuclear Politics: Case of Karen Silkwood

—Howard Kohn

MAY, 1977—Plutonium For Sale; How The U.S. Opened The Market In Atomic Weapons To Almost Anyone

—Howard Kohn

OCTOBER, 1977—Karen Silkwood Was Right In Plutonium Scandal

—Howard Kohn

DECEMBER, 1977—How Israel Got The Nuclear Bomb

—Howard Kohn,
—Barbara Newman

DECEMBER, 1977—The Widening Gaps In Nuclear Safety

—Howard Kohn

MAY, 1978—Nuclear Power On Trial

—Howard Kohn

JUNE, 1978—Anti-Nuclear Petition: Rock Stars Warn Against Power Plants

—James Henke

JUNE, 1978—Anti-Nuke Spring Offensive

—Howard Kohn

MARCH, 1979—The Silkwood Case Goes To Trial

—Howard Kohn

MAY, 1979—Three Mile Island—What Really Happened

—Mike Gray

MAY, 1979—Plutonian Ode

—Allen Ginsberg

JUNE, 1979—Karen Silkwood Vindicated

—Howard Kohn

Rolling Stone

SWEET HONEY IN THE ROCK

Someday we will worship the sun. In New York, when the sun is shining, you see everybody looking up. The sun gives us life, that's what it's supposed to do. So why not call on it now to give us some help. It has a good record. It just stays there. And the price of energy will go down!

Cities are a major gauge of how close we are to shooting the balance—how close we are to death. People are beginning to fight to see the sun when it comes up in the morning, and to see the stars at night. City dwellers have to fight to get the smog cleaned up. Now the government is talking about changing environmental standards so they can burn coal and meet other energy deadlines faster. We've got to attack that. People *should* fight to see the sun. It's our right!

I think there's a real association between black people and the sun that I can speak of as an historian. Our black skin allows us to absorb the sun. In many cultures you will find black people referred to as sun people.

I went to Hiroshima on August 6, 1977—the 33rd anniversary of the dropping of the bomb. Fifty thousand people were there—it was a world conference against atomic and hydrogen bombs. I went over with Holly Near and many Americans were there who go every year.

I was amazed at the contrast between the city—which is a new city—and the story told by the museum. They have put a lot of energy into letting the world know what happened.

But no matter how much you read,



Sweet Honey in the Rock (Evelyn Harris, Tulani Jordan, Bernice Reagon, Yasmmeen Williams) titled their latest album "Believe I'll Run On, See What the End's Gonna Be" after their song about nuclear destruction.

it does not touch what happens when you walk through the park and then through the museum. When you realize the horror of that destruction, you walk out and say, "My God, human beings are extraordinary." The recuperation, the capacity to rebuild, to know how destructive we can be and also to know there's another extreme—of regeneration and re-commitment. And you can choose whether you're gonna feed on one or the other.

Afterwards I wrote a song called "Believe I'll Run On, See What the End's Gonna Be." It's a black preaching-style song, full of the destruction of the world. The first verse is about Noah, the second verse is about the potential for the second destruction. It ties in the development of the bomb with continual warfare.

I think the resources that are going toward the development of nuclear power and warfare should be directed to fighting for the kind of humanity we are capable of. I'm not against technology. I feel we could do incredible

things with the sun.

We decided to go to the moon and we went. We could make a decision about solar energy, or about wind-mills. But people who are making policy are having their direction shaped by power and systems not oriented toward the good of humanity—but only toward profits.

I think there's something we don't know about power and what it does to people. It makes them think they are outside the normal run of things.

The American system of perpetual advancement—what you have today can be outdone tomorrow—is not oriented toward setting up a balance between human beings and our environment. And we've just about reached the limits of our outer balance.

I believe people can make a difference. They don't lynch black people anymore, and we're not in chains. We got the U.S. out of Vietnam. If you understand what your potential is, you work toward it.

—Bernice Reagon of Sweet Honey in the Rock

JAMES TAYLOR *continued*

ing atomic reactors is that one of the first things that can come out of them is weapons-grade plutonium. That's what happened in India. Evidently the Israelis hijacked enough uranium to make their own bomb too. You wonder where the thing can end.

I say with my 1968 San Francisco mentality... what's needed is peace on earth. We need a SALT agreement that's a true limitation, and we need

communication between the peoples of the world—through the media, through rock & roll albums, through whatever we've got. I feel my own cynicism laughing at me for saying such a thing. It's such an overwhelming problem. It's so tempting to just get defeated by it all, to just have your own party, drink your beer, and sit back and watch the world destroy itself.

And I think people are really getting sick of this absurd, abstract, artificial economic system we're in.

There's some real fulfillment in simplifying and making your life smaller. If we're really serious about this, conservation is the obvious first step.

Economy is like a pretend ecology. But more and more as we use up the world, economy and ecology will become the same thing. Economy is a manipulation of the comings and goings, the flow of reality. Soon we're going to be so tightly packed on this island, this planet, that they'll be the same thing.

ANTI-NUCLEAR MARTYRS



Karen Silkwood

On the evening of November 13, 1974, Karen Silkwood, a 27-year-old union organizer, was driving along Highway 74, en route to an Oklahoma City motel. Waiting for her were a *New York Times* reporter and an official of the Oil, Chemical and Atomic Workers International Union (OCAW). For the previous six weeks she had taken on a special OCAW assignment, secretly gathering evidence of unsafe and illegal practices at her workplace, the Kerr-McGee plutonium factory 20 miles from Oklahoma City. The results of her espionage, a manila folder of incriminating documents, lay on the seat beside her.

She never reached her destination. Her car, a lightweight Honda, swerved off the road, hit a concrete abutment, lurched through the air and crashed, killing her instantly. The Oklahoma Highway Patrol ruled that she'd fallen asleep at the wheel, but an investigator hired by the OCAW found skid marks and dents in her car that he attributed to a hit-and-run assailant. Silkwood's folder of documents, seen blowing around the accident scene, mysteriously disappeared.

The FBI and two congressional subcommittees undertook investigations, but they gave up without a resolution. Finally, in 1979, four-and-a-half years later, Karen's family brought a lawsuit against Kerr-McGee to the federal court in Oklahoma City. U.S. District Judge Frank Theis refused to hear the family's allegation that company officials had violated Karen's right to travel freely on a public highway—the civil equivalent of murder—but he did order a trial on an equally deadly incident that oc-

curred a week before her death.

Somehow a small amount of plutonium escaped from the factory and contaminated Silkwood in her apartment. Kerr-McGee claimed she had done it to herself in an alleged scheme to embarrass the company during labor negotiations. The lawyers for her family argued that the company was at fault. On May 16, 1979, an Oklahoma jury of three men and three women decided in favor of her family, awarding them \$500,000 for Karen's suffering and making her the first officially recognized victim of low-level radiation in the U.S.

The jury, which heard hours of testimony describing the plant's operation, also fined Kerr-McGee \$10 million for "wanton and reckless" disregard for the safety of its workers, the largest such penalty ever handed out by a trial court. "We feel Karen has been completely vindicated," her father said afterwards.

The family is still hoping for a second trial to settle the issue of her death. So far, in pre-trial statements, a Kerr-McGee official has admitted he was involved in a scheme to take the documents from Karen's wrecked car the night of the accident, and the highway patrolman at the scene has conceded that she was not asleep as he originally concluded. The apparent cover-up of the events surrounding her death is slowly unwinding. Five years after she died, Karen Silkwood's struggle for justice continues.

Paul Jacobs

Paul Jacobs was a man ahead of his time. He was a brilliant investigative reporter, one of the first to call the government's bluff on radioactive fallout from atmospheric nuclear weapons testing.

In 1957 Jacobs toured Nevada investigating atomic weapons testing. Two decades later, when he was thin, pale and dying of cancer, Jacobs recalled how patches of earth around him glowed, and how they were hot to the touch. Jacobs said he believed he contracted cancer while on that assignment.

In 1977, Jacobs returned to the West, to Utah, where he interviewed people who had lost friends, relatives and loved ones to cancer in the years after the tests. In St. George, a Mormon community frequently dusted with fallout, Jacobs found a lot of bitter people who remembered how the government had lied to them about how "safe" the tests were.

Last year Paul Jacobs himself died after a prolonged, painful bout with cancer. In the spring of this year, Public Broadcasting Service television stations around the U.S. were poised to broad-



Paul Jacobs: Reporter who contracted cancer on a nuclear weapons story.

cast a documentary called "Paul Jacobs and the Nuclear Gang," which chronicled the legacy of suffering and death left by the atomic tests. The film focused on Jacob's work, and included interviews with him only a few months before his death.

But industry pressure blocked the show off the air in 96 cities. Paul Jacobs would not have been surprised.

David Comey

David Dinsmore Comey was a cherubic-looking gentleman who gave the nuclear industry fits.

He is widely credited with waging the first successful fight against a nuclear plant—New York State Electric and Gas's Cayuga Station—in the mid-1960s. He was a major force in more than a half-dozen interventions and legal struggles over nuclear plants: Sundesert (now cancelled) and Diablo Canyon in California; Palisades and D.C. Cook in Michigan; Bailly in Indiana; Zion in Illinois; and the Point Beach and Kewaunee plants in Wisconsin.

So successful and influential was Comey that the U.S. Environmental Protection Agency gave its first annual Environmental Quality Award to him in 1974 "for services that have immeasurably improved the design and safety review of nuclear reactors."

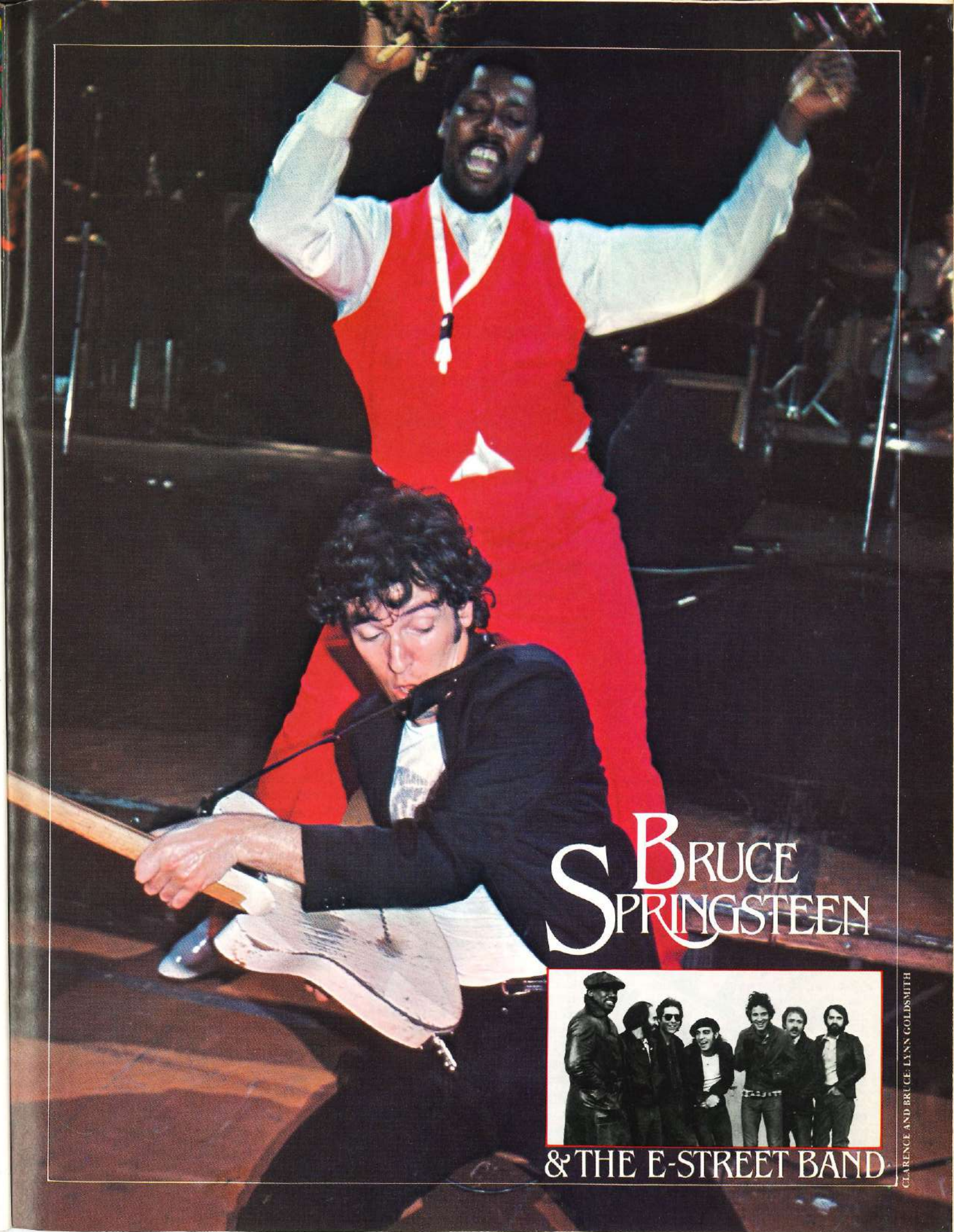
Comey was executive director of Citizens for a Better Environment, a respected Chicago-based environmental group. He was among the first to point out the economic liabilities of atomic investments. His articles were published widely in scholarly journals. He had also begun to move into non-nuclear fields. He was appointed to the Mid-America Solar Energy Complex and also did pioneer work in the field of toxic substances.

On January 5, 1979, David Comey was killed in a car crash in Wisconsin.

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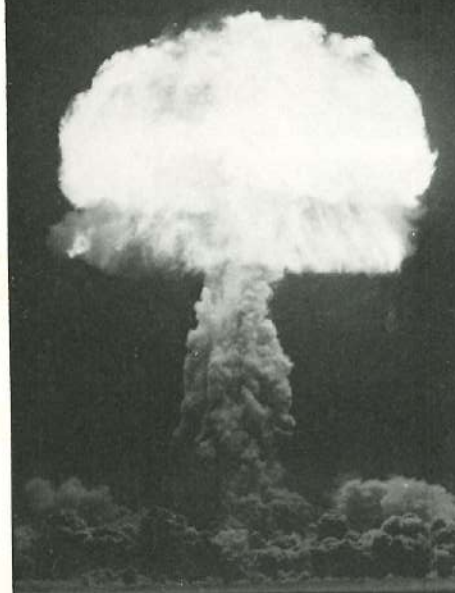
David Comey: He gave the nuclear industry fits.



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WPIX 102.1
NEW YORK'S ROCKNROLL

He was en route to visit a friend. He was 44.

Michael Eakin

On April 14, 1979, two weeks after Three Mile Island, Michael Eakin was shot and killed while getting into his car on a Houston side street. Eakin, 28, was a journalist and activist long affiliated with the Texas anti-nuclear movement. With him was Dila Davis, 46, a solar activist and mother of two children who was shot in the jaw. Michael died on an operating table several hours after being shot; Dila is now walking around with a bullet lodged near her spine.

Houston police have made no arrests in this shooting and claim they have no leads. They say there is no real evidence to prove this violence was aimed at the anti-nuclear movement.

But Texas activists believe otherwise. The shooting came amidst a long campaign of beatings, house breakings, car trashings and threatening phone calls aimed at nuclear opponents, particularly in the Austin area. Just prior to the Eakin shooting, Austin nuclear opponents barely lost a city-wide referendum that would have crippled the mammoth South Texas Nuclear Project (STNP) now under construction at Bay City, southwest of Houston. Another crucial referendum may be on the near horizon.

The Texas safe energy campaign has also been fighting a twin-reactor project under construction at Glen Rose, near Fort Worth. Both STNP and Glen Rose are being built by Brown and Root, a giant construction firm with close ties to the Johnson administration that reaped enormous profits from federal contracts during the war in Vietnam. Confirmed reports have leaked from both sites indicating shoddy construction, second-rate materials and even beatings of site inspectors who report slipshod work to the Nuclear Regulatory Commission. One former inspector fired from the site has reported that he and his co-workers played cards in a trailer on site for several months rather than risk violence while trying to do their job.

Michael Eakin was working in Houston as an investigative reporter, looking into oil and gas markets as well as the nuclear issue.

But the murder remains unsolved, the threats and beatings against Texas activists continue, and construction at Glen Rose and Bay City is still going on.

**THE MANHATTAN PROJECT:
Rally on Wall Street
October 29**

PETER TOSH

The special concert is on behalf of people universally, who have become the victims of the system, who would like to see something, but due to the Situation and the circumstances, they can't. So because of that, I speak universally for those who kyaan seh what they would like to see. And music is a thing that attract many people, so it's great to see the message in the music.

Everything is being used destructively by scientists of the Earth, to destroy humanity. And these things have been going on for ages—scientists been trying to

prove how modern they are upon Creation. And that's what I know about nuclear. That it can be dangerous, spreading radiation through the atmosphere. You see, sometime scientists invent something and they never know the after-effects that it carry.

Is the most dangerous thing since the Twentieth Century. It was prophesied about these times that it shall come into dispensation at a time when these things shall be taken place. And it shall be wars and rumors of wars—until Truth is revealed and Lies is totally diminished from the face of the Earth—it will be total wars and rumors of wars and nation fighting against nation.

Money is the root of all evil and money is the foundation of Corruption. What I know about this oil crisis is all these things were prophesied. There's a shortage, whether I think so or not.

Oil come from the Earth, and the people of the Earth been getting so dangerous, making things to destroy the Earth. So the Earth is rejecting to produce resources so that people can destroy



PETER SIMON

the Earth.

Solar energy is great, great energy. Is for those scientists again, to go research and to know which of these are more constructive for human consumption.

Is coming on, you know.

Ernest Sternglass

The accident at the Harrisburg nuclear power plant may have exposed about a million people to up to 130 times more radiation than the government has so far reported. The health effects of this exposure will be far more serious and long-lasting than the Nuclear Regulatory Commission (NRC) has so far acknowledged.

The NRC reported only the external gamma radiation doses received from passing clouds of radioactive gases. It failed to calculate the total dose received by critical organs and bones from inhalation of fission gases—which produce the greatest biological damage.

The NRC's claim that pure xenon and some traces of iodine 131 were the only radioactive gases released is misleading and certainly unproven by information available to the public. The government had no instrumentation in place to measure the precise composition of the radioactive steam that escaped into the atmosphere at the start of the Harrisburg disaster.

There is every reason to believe that this steam contained many of the radioactive chemicals normally produced in the fission process, of which the NRC's Dr. Allen Brodsky, an expert in the field, lists 21.

Gases inhaled when fission products pass by in a cloud of steam produce a dose about 130 times greater than the dose absorbed by the body from external gamma radiation, according to Dr. Brodsky's estimates. He based his calculations on data from releases during earlier nuclear accidents and during nuclear bomb tests carried out in the 1950s and early 1960s.

Krypton and xenon are the most common radioactive fission products. The NRC has told the public the emissions mostly contained these inert gases which do not necessarily produce the greatest biological damage. However, official statements have generally failed to point out that these elements decay into other more biologically hazardous materials, including cesium and strontium.

And, in the past few months, the NRC has issued new regulations that will no longer make it necessary to routinely report the level of strontium 90 in local soil and milk.

Failure to consider strontium 90 and other decay products emitted during the Harrisburg accident is tantamount to a coverup of the seriousness of the damage done. It is, I believe, further evidence that the Nuclear Regulatory Commission is primarily concerned with protecting the nuclear industry.

Repeatedly, officials have compared radiation doses at Harrisburg to those received during dental x-rays. This is a completely deceptive attempt to minimize the true nature of the exposure. A dental x-ray is confined to a couple of inches of relatively insensitive area. At Three Mile Island, the whole body is exposed. Furthermore, the dental x-ray is over in a fraction of a second while the inhalation of strontium 90 will irradiate the bone and bone marrow for many decades after the individual has been exposed. It will also affect an infant developing in the mother's womb, possibly years later. This is not true of dental x-rays.

The Harrisburg health hazard is far from over. There will be continued emission of radioactive gases from the plant over many months and possibly years as radioactivity is removed from the plant. The NRC has admitted this is unavoidable.

The only real protection is to prevent such accidents from recurring. We should work to convert nuclear power plants to conventional gas, coal or oil power plants. This was done in Sioux Falls, S.D., in 1968, when the Northern States Light and Power Company converted a leaking experimental nuclear plant into a natural gas plant. All but a fraction of the total cost of a plant can be saved in conversion.

Ernest Sternglass is a professor of radiological physics at the University of Pittsburgh School of Medicine. He is the author of Low Level Radiation (Ballantine). This article is reprinted from Pacific News Service.

A nuclear reactor doesn't have to be in your town or state to kill you. A radioactive cloud from Three Mile Island could have forced an evacuation of New York City, even though the plant is more than 150 miles southwest.

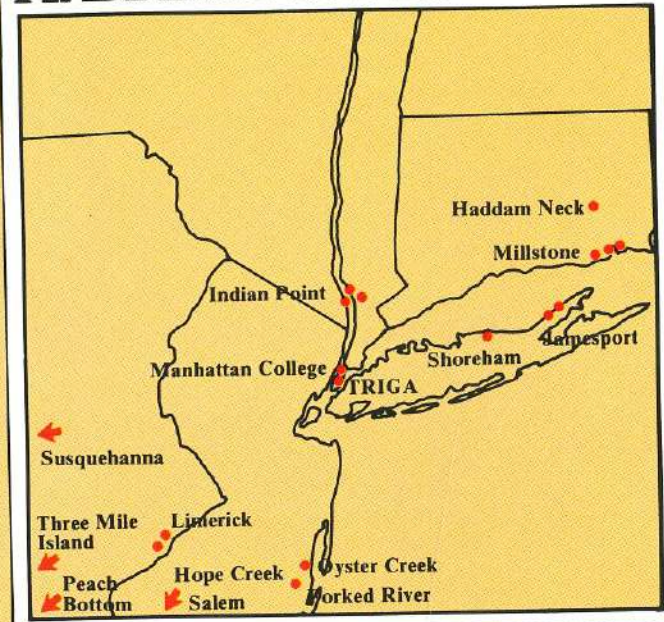
And the city is within meltdown range of at least 17 other reactors, including quite a few far closer than TMI. For example:

Indian Point at Buchanan, 35 miles north of Madison Square Garden. The three reactors there are located on an earthquake fault. The 265-megawatt Unit I operated from 1962 until 1974 without an emergency cooling system, the last safety catch before a meltdown. When the NRC finally made the system mandatory, Con Ed refused to install it and the plant was shut. But the radiation within lingers.

Unit II (873 megawatts) opened in 1976 and has recorded 146 unscheduled shutdowns. It is the site of the highest recorded level of worker radiation exposures in the U.S. Its twin, Unit III, has been described by ex-NRC inspector Robert Pollard as "an accident waiting to happen." When the project pushed Con Ed to the brink of bankruptcy, it "sold" the plant to the state in a move best described as "nuclear socialism."

Sixty miles east of the city is **Shoreham**, an 819-megawatt plant which is 80% complete, owned by Long Island Lighting Company and scheduled to open in 1981. A recent poll by *Newsday* showed a majority of area residents oppose nuclear power on Long Island, and on June 3, 1979, 617 people were

RADIATING THE BIG APPLE



arrested at the site. The reactor is an outdated model which has never been used; its containment is seriously flawed.

Not far from Shoreham is **Jamesport**, two proposed 1150-megawatt reactors whose fate is now being decided by the state Siting Board.

Meanwhile, right in the core of the Big Apple are two research reactors. One, at **Manhattan College**, is actually operating, though college officials insist it "doesn't produce enough power to heat a cup of tea."

TRIGA at Columbia University is a 250-kilowatt model that has provoked a decade-long fight. The community has kept it closed until now and is demanding it be entirely dismantled so any later lag in opposition won't offer its own-

ers a chance to open it.

In New Jersey, one 1090-megawatt reactor operating at **Salem** since 1977 has had 39 unscheduled shut-downs. Unit II, at 1115 megawatts, is 96% complete. Two 1067-megawatt reactors are under construction at neighboring **Hope Creek**. New York City is within meltdown range of all four of them. The 650-megawatt **Oyster Creek** plant has operated since 1969, and is 66 miles from NYC. **Forked River**, also 66 miles from NYC, is a 1070-megawatt project scheduled to open in 1983, but now delayed.

In Pennsylvania, Philadelphia Electric's twin 1065-megawatt reactors at **Peach Bottom** sit 135 miles from NYC and have been criticized by the NRC for poor management and lax security. Last June the plant

released quantities of xenon gas well in excess of federal limits. **Susquehanna**, at Berwick, is also a twin 1065-megawatt complex scheduled to be completed in 1981. The plant sits 120 miles from NYC, and has been delayed at least once due to questions about its cooling towers. At **Limerick**, two more 1065-megawatt units are scheduled for completion in 1983 and 1985. The plant is 109 miles from NYC (21 from Philadelphia) and its builder, Philadelphia Electric, concedes water shortages in the Schuylkill River may force the plant to close more than 100 days per year.

Meanwhile, the March 28 incident at **Three Mile Island** Unit II could have sent a radioactive cloud into New York City, Philadelphia, Baltimore, Washington, D.C., or even Boston. It did send 4000 gallons of radioactive water into the Susquehanna River. Now, 700,000 gallons of radioactive water and 2 million cubic feet of diluted radioactive krypton gas will have to be removed from the plant before scientists can enter it to find out what really went wrong.

New York is also threatened by Connecticut reactors at **Millstone** and **Haddam Neck**, as well as by scores of others across the United States, from **Trojan** on the Oregon coast to **Monticello** in Minnesota and **Bay City** in Texas.

In the fall of 1976, it took just four days for radioactive particles scattered into the air by a nuclear bomb test in China to turn up in Massachusetts milk. The only way to really be safe from unnatural radiation is to stop it at the source.

Friends of the Earth (72 Jane St., NYC 10014; 675-5911): A strong, world-wide organization; good local network and resources.
Harlem Fightback (1 East 125 St., NYC 10035; 831-6561): Opposes TRIGA and connects nukes with housing, electric rates and jobs.
Komonoff Energy Associates (475 Park Ave. South, NYC 10016; 686-4191): Analyzes energy economics.
Long Island Safe Energy Coalition (LISEC) (90 Pennsylvania Ave., Massapequa, 11758; 516-798-0778): Coalition of no-nukes and safe energy groups on the island; clearing-house for opposition to LILCO's rate hike.
National Council of Churches Energy Project (475 Riverside Dr., Rm. 572, NYC 10027; 870-2386): Has taken strong anti-nuke stand.

continued on page 48

JESSIE COLIN YOUNG

The first time I became aware of the threat of plutonium was in 1975, when I was watching *Dixie Lee Ray* on television, debating some defectors from the industry. They were talking about this incredibly dangerous stuff traveling up and down our highways in trucks.

Next day I got a call from Jeffrey Cain, a songwriter friend who was working for Ralph Nader. He asked if I would become involved.

Jackson Browne and I had done a *Redwoods* benefit for the Sierra Club with Tom Campbell (now co-director of MUSE). So I put Tom in touch with Nader's office. We did the first benefit at Cuesta College in San Luis Obispo, with David Bromberg. It was to stop *Diablo Canyon*. As I remember it, we had a full gym.

Nuclear power symbolizes for me the epitome of man's technology gone

mad—of the servant becoming the master, the destroyer—of the tool becoming the oppressor.

I'm afraid we'll live to see a terrorist attack with an atomic device in our own country.

Obviously there's plutonium to be had. And I'm afraid that just as we have given up our rights in the airports willingly, like sheep, so we won't be attacked—as soon as we see an atomic attack we'll gladly give up our individual rights again. I can see us being searched on the roads and anywhere near nuclear plants.

We've got to make some really basic, fundamental decisions about what we care about, about what our priorities are. If we care about the genetic survival of the race, and all the plant and animal life, about the quality of our lives and of our environment—then we just don't have any choice but to stop nuclear power.

We have to dispel the illusion that our leaders and our president are going to fight this battle. Part of what's destroying democracy is people saying, "If we can just elect the right guy, he'll take care of it." We cling to the illusion of the benevolent despot—benevolent senators and presidents.

But our problems start with handing over all our power to them. It almost seems a part of our makeup—inherited, like a tribal belief. It leaves us



totally exposed to special interest groups. It leaves power in a very few hands, instead of a little power in a lot of hands.

I think this is a great time. It's a time in which minorities are getting into taking back power. It can well be a time for all people to think about taking back the power, about making decisions over their own lives.

Individual involvement is our only hope. I don't see any room in our society anymore for people not to be involved.

Dr. Helen Caldicott



PETER SIMON

If there is a meltdown in a nuclear reactor, if the cooling stops working, the whole reactor core melts right down through the bottom of the reactor, half a mile into the earth. That's called the "China syndrome." But inside each nuclear reactor is as much radiation as in a thousand Hiroshima-type bombs. And if there's a meltdown, a tremendous amount of steam will be liberated. It will blow the reactor container vessel apart, and that radiation will escape. So it's like having a thousand Hiroshima-type bombs around if you live near a nuclear reactor.

There are two operating reactors near New York, called **Indian Point No. 2** and **No. 3**, which are terribly dangerous. If one of them burst open and there was a meltdown (and that's a possibility), thousands of people would die instantly. Two weeks later, thousands more would die from what's called acute radiation illness, where all the rapidly dividing cells of the body die. It was described after the Hiroshima bomb dropped: the hair falls out, the skin sloughs off in big ulcers, you get vomiting and diarrhea, and your blood cells die. So you die of infection and/or bleeding—like you die when you have leukemia. Five years later there will be an epidemic of leukemia. Fifteen to

forty years later, there would be an epidemic of cancers—breast, lung, bowel, etcetera. Generations hence, there would almost certainly be increased incidences of genetic and inherited diseases.

So that's the sort of thing you're putting in each city around this country. If you've got a nuclear reactor in your city, your enemy doesn't need a nuclear bomb anymore; all they need to do is drop a conventional weapon on your nuclear reactor. If Europe had been populated with nuclear reactors in the Second World War, it would be still uninhabitable right now.

Unless we get rid of all these nuclear plants, we probably won't survive. It seems such a pity. It's taken billions of years for us to evolve, and we're capable of such great love and fantastic relationships and great creativity and fantastic art. We're a magnificent species. Yet we're so smart we've learned how to wipe out the whole of life on earth. And we seem to be heading in that direction, like lemmings.

We are the curators of life on earth. We hold it in the palm of our hand. We're at the crossroads of time, right now. If nuclear power plants proliferate in this country and throughout the world, so will nuclear weapons. If we don't get rid of nuclear weapons we won't survive.

So you see, it is imperative that we rise up, each one of us, and take the load on our shoulders. We all have to say, "I have to take this responsibility." We've got to rise up for our children and save the human race.

Dr. Helen Caldicott is an Australian pediatrician living in Boston. She is the author of Nuclear Madness: What You Can Do. This article ©1979 by New Age Journal.

WHAT YOU CAN DO

Nuclear power can be stopped, and you can help. Citizen action has cancelled and shelved atomic reactor and weapons projects all over the world (including the borough of Queens). It's been done through political lobbying, legal intervention, grass-roots organizing, direct action and myriad other means.

Since 1957, when Con Ed got its permit to build **Indian Point Unit I**, the fight in the New York area has mushroomed to include environmental coalitions, community organizations, church and consumer groups and a wide range of others. You can find channels

and co-workers to suit your speed and tastes by contacting one or more of the following groups:

NEW YORK

Akwesasne (P.O. Box 103, Owl's Head, NY 12969; 518-483-2540): Powerful native community, now under siege. Publishes *Akwesasne Notes*.

Brooklyn Against Nukes Group (BANG) (15 7th Ave., Brooklyn 11217; 638-7626): Fights rate increases, red-lining and nukes.

Council on Economic Priorities (84 Fifth Ave., NYC 10011; 691-8550): Publishes solid information on energy, the military and corporate policies.

Energy Task Force (156 Fifth Ave., NYC 10010; 675-1920): A key resource on urban applications of alternative energy.

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THE ARTISTS PARTICIPATING IN
THE MUSE CONCERT SERIES
MADISON SQUARE GARDEN
SEPTEMBER 1979**



LOVEJOY'S NUCLEAR WAR—One of America's most successful documentaries, the story of the earliest major act of civil disobedience against atomic power, and one man's winning fight to warn his community of impending danger. **THE LAST RESORT**—Anti-nuclear "Roots"; the birth and growth of the mass citizen action campaign against the Seabrook Nuclear Power Station. **MORE NUCLEAR POWER STATIONS**—A brilliant journey into the eerie, awesome reality of the reactor core, this powerful film almost single-handedly stopped nuclear proliferation in Denmark and Norway. **SENTENCED TO SUCCESS**—The story of Europe's only nuclear

waste re-processing center, and the struggle of its work force to survive. **THE ACCIDENT**—The story behind one of the best kept secrets of the century, a catastrophic nuclear waste accident that killed or injured thousands of Russian civilians in 1957. **EARLY WARNINGS**—*New Release*—The anti-nuclear campaign achieves critical mass with 20,000 people at Seabrook, June 24, 1978; speeches and songs by Barry Commoner, Amory Lovins, Dick Gregory, Jackson Browne, Pete Seeger, John Gofman and a host of others. Write or call for our catalogue: Green Mountain Post Films, Box 177, Montague, MA 01351. (413) 863-4754; 863-8248.



Jackson Browne & John Hall—*Early Warnings*



Sentenced to Success



Dick Gregory



Sara Nelson



Sam Lovejoy

Poco

Nuclear power scares me to death. And the people operating the plants scare me too. I'm not sure they really know what they're doing. I think we saw from Three Mile Island that if something goes wrong, we're in big trouble. Add the radioactive waste issue, and you've got some real problems.

Something else that scares me is that the growth of the industry is leading to the growth of private armies to maintain security at the plants. It sounds real 1984-ish to me. Big corporations have more control than we know in running the government, and I don't think we want to take the chance of giving them more.

I think artists are just people, with the same obligations as anybody else. If you see something that's wrong—that forces you into a position of having to do something about it, of having to call some attention to it.

The nuclear issue is the first thing



Poco: (from left) Steve Chapman, Paul Cotton, Kim Bullard, Rusty Young, Charlie Harrison

that's really motivated me to political action. Even with Vietnam, I never felt it could be the end of everything. But the threat of radiation makes the nuclear issue unavoidable.

People can definitely stop nuclear

power. Everyone at these concerts is working to stop it. The industry can be stopped from building new plants, at the very least. We make the rules. We can change them. Anything is possible.

—Rusty Young, Poco

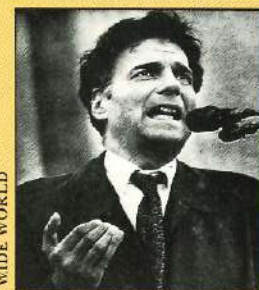
GREEN SEAL INC. FOR VICTORIA C. WOODHULL PRESENTS
MARGO ST. JAMES' SAN FRANCISCO



ROSELAND DANCE CITY
239 WEST FIFTY SECOND STREET,
NEW YORK CITY
TUESDAY OCTOBER 16 8 P. M.
TICKETS: TICKETRON

Ralph Nader

“There are tasks suited to nearly everyone's level of commitment”



Two energy pathways confront Americans today.

One pathway is run by Big Oil, the nuclear industry, and the utilities—a highly concentrated group of corporations which thrive on monopolistic practices, wasteful use of energy and buying politicians.

The other pathway can be to give consumers sovereignty to advance energy efficiency, solar power, and the prudent, cleaner use of fossil fuels during the necessary transition period to various forms of solar.

From virtually every perspective, the second pathway is preferable. Consumers, workers, future generations and the national interest are well treated by an energy agenda which places renewable energy and efficient energy use at the top of the list. These approaches lend themselves to more local decision-making and fewer authoritarian edicts by multinational corporations and their governmental allies here and abroad.

The risks to the global environment from the spread of nuclear power plants and the exponential growth of fossil and synthetic fuels reflect a race between plutonium and carbon-dioxide-caused heat buildup on the planet. Lo, the poor Earth and its peoples, if its peoples should let that macabre race continue.

Choosing the solar and efficiency pathways means choosing to build democratic control over energy policy in this country. It means every individual asking how much he or she is willing to contribute in time, dedication and funds. There are tasks suited to nearly everyone's level of commitment. Petitions need to be filled out and sent to members of Congress. Teach-ins need to be held to respond to the public's desire to know the facts. Local anti-nuclear citizens groups would welcome your support and involvement. And there are many other available opportunities to serve.

Today, the nuclear power industry is crumbling tech-

nically, economically and politically. But it is still a powerful lobby that will try to have the taxpayer, via Washington, bail it out. Moreover there are still 72 atomic plants operating. There are many transportation vehicles carrying radioactive materials over highways and railways. There are uranium tailings piled near mines and emitting radon gas 24 hours a day. Highly toxic radioactive wastes are in temporary storage waiting for a way to keep them from the human environment for a quarter-million years or more. Population evacuation plans for miles around nuclear plants are still largely on paper. And earthquake faults are uncomfortably near some plants and other nuclear-fuel-cycle installations.

Just one major plant catastrophe could destroy an area of hundreds of square miles—an area where none of the survivors could ever return home.

Stopping nuclear energy with its unacceptable risks of cancer to present generations and untold damage to future generations is patriotism, pure and simple. It is love of country and love of people. With the sun standing by, waiting for application of known and knowable engineering systems to put it to greater daily work in our economy, it is inexcusable that we do not have a national solar mission at least as large as the program which placed a man on the moon. We should not have to wait until Exxon owns the sun or until the utilities are able to place a meter on the sun before people benefit from the cleanest, most abundant and most accessible form of energy—sunlight, wind power, biomass and other solar derivatives.

Democracy means your involvement in this crucial struggle over which energy pathway to choose. If the people do not choose, the giant energy corporations will make the choice for them and their pocketbooks.

You have participated with your friends and neighbors in a call for a brighter future for our country. Achieving that future is more possible with each additional person believing that he or she can make a difference. Then, together, as an organized movement with determination and skill, we can build an energy future for the work and prosperity of the world.

Mr. Nader, the consumer advocate, is the co-author of The Menace of Atomic Energy (W.W. Norton Press, 500 Fifth Avenue, New York, N.Y. 10036). In 1974 he established the Critical Mass Energy Project which publishes the monthly Critical Mass Journal reporting on nuclear energy and alternatives. For a sample copy of the Journal, send your request with 15¢ in stamps to Critical Mass, P.O. Box 1538, Washington, D.C. 20013.

LOCAL GROUPS

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New York Mobilization for Survival (135 W. Fourth, NYC 10012; 673-1808): Coalition of anti-nuke, disarmament, peace, environmental and labor groups doing research, education and direct action. Open meetings every second Tuesday at 7:30 p.m.

New York Public Interest Research Group (5 Beekman St., NYC 10038; 349-6460): Naderite lobbying, research and action group; has print shop.

New Yorkers Against Columbia's Nuclear Reactor (250 West 106th St., NYC 10025; ask for Janet Mulkeen at 866-4332 or 889-3050): Community people fighting TRIGA.

People Outraged With Energy Rates (POWER) (297 Park Ave. So., NYC 10010; 475-2121 x537): Fights against nukes and for public ownership of utilities and energy corporations.

People's Power Coalition (196 Morton Ave.,

Albany 12202; 518-449-7444): Statewide clearinghouse for groups pushing public utility ownership.

Safe Energy Coalition of New York State (P.O. Box 2029, Albany 12220; 518-462-0891): Brings together groups working statewide against nukes and high-voltage power lines and for conservation.

SHAD Alliance (339 Lafayette St., NYC 10012; 475-4539. On Long Island: 333 Terry Rd., Smithtown; 516-360-0045. In Westchester: 255 Grove St., White Plains 10601; 914-682-0488): Grass-roots coalition dedicated to stopping nukes through non-violent direct action. Operates in decentralized local groups, with consensus decision-making.

Sierra Club's Radioactive Waste Campaign (800 Second Ave., NYC 10017; 687-7666): Information on wastes from a strong international group.

Syracuse Peace Council (924 Burnet Ave., Syracuse 13203; 315-472-5478): Publishes

"The People's Energy Primer" for 25¢ per copy; activist clearinghouse.

War Resisters League (338 Lafayette St., NYC 10012; 228-0450): Now in its 53rd year, source for anti-nuke and anti-weapons activism; trains organizers for nonviolent work and publishes "Nuclear America Map" for \$1.00; has 30 international affiliates.

Westchester People's Action Coalition (WESPAC) (255 Grove St., White Plains 10601; 914-682-0488): Broad-based coalition. Key movers at Indian Point. Bi-monthly newsletter available for \$5/year, or free if you can't afford it.

Women's Strike for Peace (799 Broadway, NYC; 254-1925): lobbying, public information; stages demonstrations against nuclear power and weapons.

NEW JERSEY

SEA Alliance (324 Bloomfield Ave., Montclair 07042; 201-744-3358): Fighting N.J. nukes.

The MUSE Foundation

The MUSE Foundation has been organized by musicians and energy activists as an innovative step in movement funding. We have used a precise and simple application form to actively solicit proposals from over 1500 regionally dispersed groups. Grant decisions will be made by a board of directors designed to constitute a regional, racial, and sexual balance of movement activists from various segments of the anti-nuclear/pro-solar campaign. An advisory board has also been formed to provide technical and legal expertise.

Concert proceeds will be divided among grass roots organizations (a set percentage has been earmarked for NY area groups), national efforts, and a coordinated media campaign to educate the public about the feasibility of safe, renewable energy sources. We hope that the funds from these concerts will mark a major step forward in movement self-sufficiency and public awareness of the real energy crisis. Our process, our financial statements, and our hearts are open.

MUSE Foundation Board

Obie Benz, *Pacific Alliance and Funding Exchange*
Jose Barreiro (Ismaelillo), *Black Hills Alliance and Akwesasne Notes*
Gary Delgado, *Institute for Social Change*
Becky Hardee, *Palmetto Alliance*
Tom Hayden, *Campaign for Economic Democracy*
Howard Kohn, *writer*
Sara Nelson, *Labor Task Force, National Organization for Women and Karen Silkwood Fund*

Diana Ortiz, *American Indian Environmental Council*
Richard Pollock, *Critical Mass Energy Project*
Valerie Pope, *San Bernardino West Side Community Development Corporation*
Bonnie Raitt, *musician*
Lorna Salzman, *Friends of the Earth*
John Hall, *musician*
Kitty Tucker, *Health and Energy Learning Project (HELP) and Supporters of Silkwood (SOS)*
Harvey Wasserman, *activist, writer*

MUSE Foundation Staff: Steve Biddle, Susan Kellam, Pam Lippe, Sam Lovejoy, Ken Jordan, *intern*.

Special thanks to the following people who helped to make the shows possible:

Obie Benz, David Crocker, Lucy Crocker, The Evergreen Fund, Jay Harris, Penny Gerbode Hopper, David Hunter, (The Stern Fund), Max and Anna Levinson Foundation) Maryanne Mott, Stewart Mott, George Pillsbury, The Samuel Rubin Foundation, Stanley Weiss, The Youth Project.

Will all the money raised tonight go for nothing?

If you're here tonight more for your love of good music than your passion for safe energy, that's okay. But it's not enough.

Safe energy has to be everyone's concern. And even more important than your money tonight is your involvement tomorrow. If you do no more than just become aware of the problems, that's a start.

Stop skipping over those energy articles in your newspapers and magazines.

Give more of a listen to what they're saying about energy on the evening news.

Learn. Form opinions. Maybe even come up with solutions.

The musicians on stage tonight donated their talents and helped organize these concerts because of their deep concern about the energy problems that face all of us. And they know that getting you concerned is the first step in getting these problems solved.

So tonight, sit back (or rock out in the aisles) and enjoy the music. But tomorrow, get involved. Get your friends involved. After all, it would be a shame to see all that money you spent on tickets tonight go to waste.

the village **VOICE**