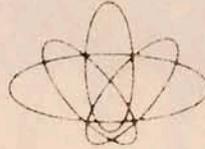


# rwc Waste Paper

radioactive  
waste  
campaign



Spring  
1989



An estimated 1000 people turned out for a march and rally in Albany, New York, against the proposed "low-level" waste dump for the state. (See story on page 4.)

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MARVIN RESNIKOFF

## RWC'S RESNIKOFF RESIGNS

Dr. Marvin Resnikoff resigned as Radioactive Waste Campaign's Research Director on April 22 to work full time in his consulting business, Radioactive Waste Management Associates (RWMA). Marvin co-founded RWC with Mina Hamilton in 1978. Since then his uncanny insights into nuclear issues have helped the Campaign to be prepared well in advance for every shift in strategy of the nuclear industry.

Marvin, who holds a Ph.D. in high energy physics from the University of Michigan, turned his attention to nuclear wastes in 1974 when with 4 others he started the movement that shut down the notorious West Valley Plant, the only commercial nuclear fuel reprocessing facility ever to operate in the United States. He suffered the indignity of repeatedly being called an outside agitator by many of the plant's proponents (Marvin was from Buffalo, New York, 35 miles away). With his formidable research skills, his organizing ability and his commitment to a fully informed citizenry, he helped deal a ruinous blow to the nuclear industry at West Valley.

Except for two years leave of absence from RWC, when he wrote a book on nuclear waste transportation, *The Next Nuclear Gamble*, for Council on Economic Priorities, Marvin has held key posts at RWC since the beginning alternately as Research Director, Staff Scientist and Director. Marvin has researched, written, spoken, organized, testified and, through the lean times, worked hard for RWC. Even in his two year hiatus at CEP his influence was strongly felt and welcomed by the Campaign, and his wit and humor.

Dave Pyles  
RWC Board of Directors



Marvin at party closing the Buffalo office of the Campaign in 1985.

CLYDE MUNZ

### YOU MAY BE DROPPED!

During the last few years our expenses for publishing and mailing the *Waste Paper* have skyrocketed. It has been our policy to give a trial subscription to any citizen who is interested in our research. Of course, our members are already subscribers.

Due to rising costs we will be forced to drop individuals from our mailing. Therefore if you have not responded to letters sent to you in the last six months this will probably be the last issue of the *Waste Paper* you will receive. If this concerns you please use the enclosed envelope to send in the coupon on page 15. Our basic membership is \$20.

We hope we will not be forced to drop you from our list. Please seriously consider becoming a member of the Radioactive Waste Campaign today.

### rwc Waste Paper

Vol. 11, No. 1 Spring 1989

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The Radioactive Waste Campaign promotes greater public awareness of the dangers to human health and the biosphere from the generation of radioactive waste. The Campaign's programs include research, information dissemination and public education.

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### ADDRESS CORRECTION

If we have your name or address spelled incorrectly, please let us know your correct address or spelling of your name.

Also, if you have moved or plan to move, send us your new address and a copy of the address label used on this *Waste Paper* so that we can make the appropriate changes.

If you no longer want to receive mailings from the Radioactive Waste Campaign, send us the label with your request to be removed from our list.

Thanks.

## DUMPING ON NEW YORK

# A Small Town Tragedy

By Laura Babcock Fiore

On December 20, 1988, a Federal Express envelope leaning against the door at the Coventry Town Hall was picked up by the town clerk. The return address read "New York State Low Level Radioactive Waste Siting Commission." The contents did not hold seasons greetings for the residents of Coventry. The information contained within would, however, transform a rural town of 1600 individuals in upstate New York into a town of environmental activists.

Coventry had been selected as one of 10 areas in New York State being investigated as a dump for all of the state's "low-level" radioactive waste.

As a town, Coventry was quick to

(sometimes 2 or 3), do telephone networking, and hold informational meetings in surrounding areas. (See page 5.)

People were often stretched to their limits and consequently emotions ran high. The energy which allowed our neighbors to maintain this pace seemed to be fueled by the anger that we all felt towards the government and the nuclear power industry, who were imposing risks upon our community without our consent.

In addition to anger, we felt a wide range of emotions including frustration, powerlessness, and fear. Each day we had to deal with the added stress that "being sited" placed on our lives. Our jobs, our personal and social relationships weakened at times from the strain of this.

After not seeing my husband, Joe, for several days, due to what seemed to be an unending series of task force meetings, we began communicating by leaving notes, as it appeared to be the only medium of communication available at the time. After several

frustrating days of this, I began signing my messages "the nuclear waste widow." It seems humorous now, but at the time the impact and disruption this brought to our lives was not humorous.

A neighbor was recently approached by his 2½ year old daughter who announced, "Daddy, I'm having a meeting in my room now," took his hand and led him down the hall into her room. The message he felt was painfully clear: that meetings were the only forum under which his daughter felt she could compete for daddy's attention.

He, like all of us with children, was torn between spending precious time with our families or working on issues related to radioactive waste, both of which are obviously a valuable investment in the future.

We have a beautiful little girl who has just turned one year old. At a meeting last month, the Health Department told us that our children would grow up living with a higher level of radiation because of the

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*Due to what seemed to be an unending series of meetings, I began signing my messages "the nuclear waste widow."*

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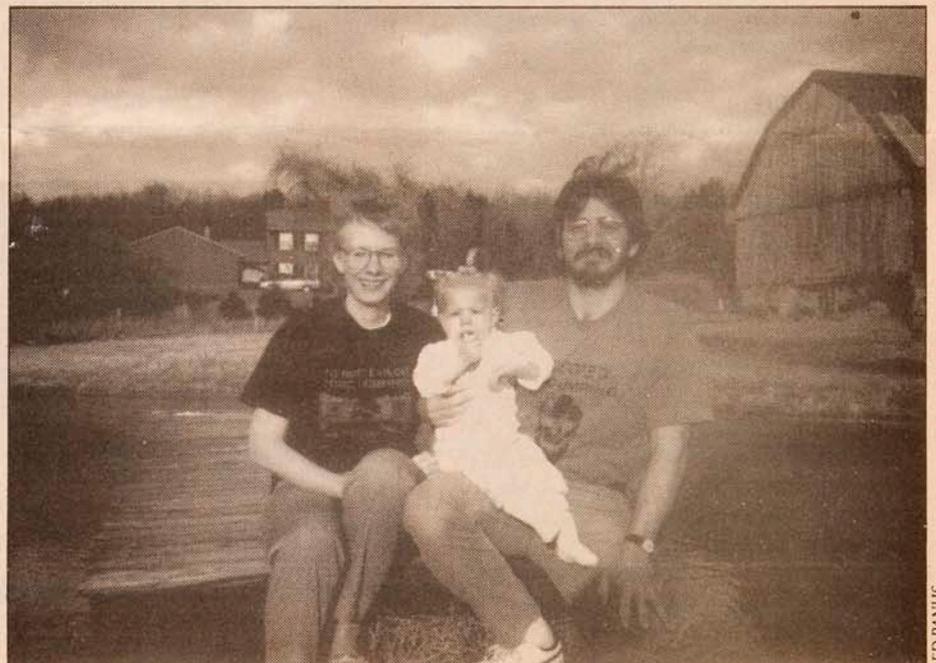
mobilize. By January 7, 1989, the first meeting of the Coventry task force took place. The task force is a citizens' group whose purpose is to oppose the siting of a dump.

Within weeks we watched as the lives of most Coventry residents changed drastically. Individuals who once busied themselves with their daily routines were now devoting vast amounts of time, out of an already too busy week, opposing the siting process.

Many residents were spending 3 to 5 nights a week—or more—away from home to attend weekly general meetings, participate on committees

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*Laura Babcock Fiore is a psychiatric social worker at a county mental health clinic.*



Laura, Kelsey, and Joe Fiore.

dump, but that we shouldn't worry. Even though they stated that there was no safe level of radiation exposure, they intimated that statistics would insure the safety of our children as they grow. Earlier the Siting Commission urged us to trust them because they have learned from past mistakes.

For our daughter Kelsey's birthday we bought her a personalized story book entitled, *My Birthday Surprise*. The book begins, "It was a wonderful day in Coventry, New York, for Kelsey Fiore . . . as Kelsey excitedly opened her eyes she was surprised to see an enchanted unicorn at her bedroom window." What is in Kelsey's window is a blazing orange poster which proclaims "no nuclear dumping."

As parents, our involvement in the opposition has brought to the surface a feeling of responsibility for what we will pass on to our children. Making them clean up an environment which we have poisoned and mismanaged is unfair. By allowing the government and industry to dump their radioactive waste, we allow them to continue

producing it, thereby perpetuating the problem.

There is, we believe, a positive side to this nightmare we have been living. In New York State there have been 10 candidate areas chosen as possible sites. Within these areas thousands of people have been touched by the threat of radioactive waste. We have all had consciousness raised by the State of New York. We are all now far better educated about radioactive waste, its health effects,

and its producers.

Personally, we have always passively opposed nuclear power, however, from this point forward we will actively oppose it. It has become evident that rural, agricultural, politically weak areas, like Coventry, will continue being the targets to receive societal wastes, regardless of the risks or harm it may present. We, as individuals or as a society, can no longer afford to be complacent.

### New Yorkers Rally Against LLW Dump

Ten coffins were carried through the streets of Albany, New York, on April 29 in a mock funeral service for the 10 New York state "low-level" waste dump candidate sites. An estimated 1000 members of Don't Waste New York converged at the steps of the capital building and walked to the governor's mansion.

The protestors caught the attention of Governor Mario Cuomo, who seized the opportunity to mix with the crowd, ask questions, and defend his position.

Standing on one of the coffins to address the demonstrators, Cuomo asserted a willingness to meet with representatives of the 10 site areas if they were willing to discuss the issue. He also stated that he will answer all questions that are submitted in writing. However, past efforts by concerned citizens using this means have proved fruitless.

Cuomo admitted that the "nuclear industry is a disaster." But when pressed for ways to resolve the problem, the governor repeatedly reminded the crowd that it was *their* elected legislators who *unanimously* voted for the bill which laid out the siting procedure. Cuomo maintained that those concerned about nuclear waste are a minority.

However, at one point after the hour-long session, Cuomo spoke with RWC director Patrick Malloy. As a result, the governor agreed to consider submitting a letter to the National Governor's Association in Washington calling for the redefinition of some radioactive waste such that the federal government would have to assume responsibility for its "disposal."

### New Subscribers?

The Radioactive Waste Campaign needs your help to reach new people. If you send us names and addresses of those you think might be interested in the RWC, we will mail them information.

Name \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Name \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_

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Name \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_



Demonstrators at the April 29 rally in Albany, New York, against the "low-level" waste dump.

MARVIN RESNIKOFF

## ORGANIZING AGAINST THE DUMP

# Don't Waste New York

By Jean Fazzino

Last December, the New York State Low Level Radioactive Waste Siting Commission gave people in 10 counties around the state reason for grave concern. The Commission put these counties on notice as the potential host for a "low-level" radioactive waste dump.

Coinciding with this announcement, regional, state and national environmental groups issued a state-

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*People began planning the defense of their communities.*

---

ment criticizing the Commission's process, demanding reduction of the "low-level" radioactive waste stream and offering assistance to people in the site areas.

Initially, grassroots response focussed on participation at the Siting Commission hearings and later the Department of Health meetings held in each site community. These hearings were attended by concerned, vocal citizens who numbered well into the thousands.

Having survived the hearings, the Commission returned to Albany to decide the fate of residents in the site areas. People throughout the state began planning the defense of their communities and "digging in" for what will unquestionably be a long struggle (see article on page 3).

From the outset of this radioactive siting experiment, activists worked on developing a statewide strategy. This process has evolved into "Don't Waste New York." The name was chosen in solidarity with "Don't

Waste Michigan" with an eye toward the possibility forming a "Don't Waste US" organization to unite communities across the country.

On Saturday April 8, the town of Cincinnati hosted the latest statewide meeting. As with previous meetings, a person from each site area gave a report highlighting organization structure, tactics, goals and events in that county. This process revealed interesting variations in approach.

While some groups target elected officials, others focus on the legal aspects of the process, and still others collect site-specific technical data. Some groups concentrate on community outreach using all forms of media. Some deal with the international aspects of radioactive waste and while others demand a baseline health study. Some groups are run by volunteers and others have a paid staff funded by the local government.

Members of Don't Waste New York set up several committees to accomplish the monumental amount of work that needs to be done. Each site area will ultimately have representation on every committee, though at the moment some counties need more people to become involved.

The *steering committee* oversees the other committees and coordinates efforts and resources. They will publish a calendar of events for the state.

The *political committee* will contact elected officials to demand they take a stand against the dump. They have drawn up sample letters to encourage people to participate in this project.

The *legal committee* will look into the legal aspects of interim storage, reclassification of "low-level" waste, and other issues in the siting process. They will work with the state assembly, the senate and local officials.

The *health committee* will call for a baseline health study, and press the Department of Health for an official position clarification.

The *outreach committee* will make sure that literature is available at all the hearings, contact school boards,

civic organizations and surrounding counties and towns to encourage involvement.

The *public information committee* will maintain a video exchange, collecting and dispensing recordings of public meetings that take place in each site community.

The *technical committee* will compile independent research and work at finding flaws in the state data. They will grid coordinates, and use the 13 criteria of the state to demand site exemptions.

The *action committee* will coordinate events across the state to facilitate a collective show of force against the potential disaster of radioactive waste transport and storage. A march on Albany is set for April 29 to demonstrate concern for each other, and to become visible to officials in state positions as a unified force. There will be a bike trip through the state, going to each site and ending in Albany.

The Don't Waste New York meeting began with an underlying sense of all being in this together. Frequently during this April 8 meeting,

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*People pledged to work against the dump even if their own county is removed from the site list.*

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people pledged to work against the dump even if their own county is removed from the site list.

The ideas and energy were empowering, and the strength in combining talents and resources was astounding. The power of this group will prove formidable to even the hardest of siting commissioners and health officials!

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*Jean Fazzino is the Radioactive Waste Campaign's organizer.*

## NEW TREND

## Volume of "Low-Level" Waste Declines

By Marvin Resnikoff

The volume of "low-level" waste shipped to radioactive landfills in 1988 declined by more than 22 percent compared to the previous year.

This continues a downward trend begun in 1981, following institution of new Nuclear Regulatory Commission regulations, 10 CFR Part 61. In all, the three operating landfills in South Carolina, Nevada and Washington, received 1.4 million cubic feet, down from a peak of 3.8 million cubic feet in 1980.

**"Low-Level" Waste in Texas**

The leader in radioactive waste sent to municipal landfills is the state of Texas. A new law allows generators to send waste with half-lives of less than 180 days to municipal landfills. As a result Texas "low-level" waste declined from 12,000 to 4,000 cubic feet, about four truckloads. Waste from recently started Comanche Peak and South Texas Project reactors has not yet been felt.

The Texas Low-Level Waste Authority is in the process of siting a radioactive landfill in Hudspeth County. In a Texas-sized battle, adjacent El Paso County is opposing the landfill. Because of the declining

waste volume, Texas, a "go-it-alone" state, is searching for partners. Vermont, and Maine are presently negotiating with Texas for the right to send waste to Hudspeth County.

**Amount of Radioactivity Remains Constant**

For citizens concerned about health and safety, the radioactivity of waste—not volume—is the key indicator. This has remained approximately constant since 1980.

"Low-level" waste volumes have declined due to a variety of causes:

- Increasing costs have encouraged waste generators to use operating techniques which generate less waste.
- Waste is often held at the point of generation to allow for decay. Thus waste with short half-lives can be disposed of directly into municipal landfills.
- New Commission regulations have allowed hospitals and research institutions to pour waste with low concentrations of carbon-14 and tritium down the drain or into municipal landfills. The Commission is presently considering whether to allow whole classes of waste with low radioactive concentration to be dumped into municipal landfills. These waste classes, called "below regulatory concern," represent about 40 percent of "low-level" waste volume.

**Nuclear Industry Uncertain About Compacts**

Along with declining waste volumes, the nuclear industry is beginning to question the need for 12 to 15 new waste facilities. When these new facilities go into operation in 1993, the disposal cost is expected to increase by a factor of six, to \$300 a cubic foot. This rise in cost will encourage further volume reductions and new regulations placing other classes of "low-level" waste out of bounds to regulators. The trend is disturbing to envi-

ronmentalists because more waste radioactivity will be accessible to the public.

**The "One Hundred Book" Brigade**

(The following is Roz Spier's account of the recent effort by the Connecticut Campaign for a US-USSR Nuclear Arms Freeze to spread the findings of the Radioactive Waste Campaign's book, *Deadly Defense*, which describes the radioactive pollution caused by the production nuclear weapons.)

Freeze supporters here have met with editorial writers, elected officials, librarians, teachers, and at least one high school principal to give them copies of *Deadly Defense*. These meetings have been extremely cordial with a good sharing of views and an offer of the book as additional information for them to have at their fingertips.

We have delivered the book in face-to-face meetings with our new Senator, Joe Lieberman, and with two of our Representatives. Others were delivered in meetings with Congressional aides during the Department of Energy Lobby week in early April.

We have met with editorial writers at the *Hartford Courant*, *Bristol Valley-Press* and *Danbury News-Times*. In addition, we have met with high school librarians, teachers, and principals. We have met with head librarians of two libraries and with local elected officials. The goal is to deliver 100 books before our spring State Meeting on May 20.

**SPECIAL EDITION  
OF RWC 10th  
ANNIVERSARY BOOK  
NOW AVAILABLE**

The Radioactive Waste Campaign has just published a special edition of *Radioactive Waste Campaign—The First 10 Years*. This edition has a stiff 2-color cover with photos and text reproduced on quality paper. To order, send \$5 to the Radioactive Waste Campaign, 625 Broadway, 2nd Floor, New York, NY 10012, and ask for "the special edition" of The First 10 Years.

## UPDATE

# The Queens Radium Chemical Company

By Jean Fazzino

During the summer of 1988, the Attorney General's office for New York State declared the Radium Chemical Company building in Queens, New York, an abandoned radioactive waste site. This action ended more than 5 years of legal effort by the state Department of Environmental Conservation to force the company to remove the radium at its own expense thus allowing the Environmental Protection Agency (EPA) to initiate Superfund\* action. (See the Fall 1988 issue of *the RWC Waste Paper*.)

Radium Chemical had failed to comply with repeated requests to correct emissions, remove the inventory and decontaminate the site. Because the company is bankrupt, it was judged unable to maintain the site safely. The abandoned building is considered a potential hazard because of the possibility of theft, vandalism, accident or fire, any of which would cause release of radioactivity to the environment. Thus, the Superfund designation.

The site contains approximately 140 curies of radium in the form of 10,000 quarter-inch long needles—an amount that is one and a half times the New York state limit for storage in any one place, and represents the largest commercial inventory of radium in the United States.

Once under Superfund, the project is categorized in terms of removal or remedial. Removal involves limiting the imminent hazard; remedial action is a less urgent environmental danger. In this case, removal of the radium-tipped needles is the urgent first step. After removal, a survey will be taken to see if it is necessary to decontaminate the building and the surrounding area. Under Superfund there is a \$2 million spending cap for removal. This

has already been waived since the cost is expected to exceed \$3 million.

From the outset, the Environmental Protection Agency expressed concern about publicity. Because of fear that misinformation could lead to public hysteria, the Agency has kept a tight rein on the information it will release to the public.

The EPA has orchestrated a series of briefings for local residents, businesses, civic and church groups. The format has been to hold over a dozen smaller meetings—*avoiding large community meetings*. A “public information center”—a few large trailers surrounded by cyclone fences—has been set up across the street from the building.

EPA officials contend that the project is routine, something they have handled before. They are now involved in the part of the process known as “mobilization,” which includes all of the planning. The Agency is finalizing the work plans and moving in personnel and equipment. The contractor, Chem Nuclear

must still submit its work plan to the Agency for approval. A company from North Carolina is monitoring the site for radiation.

The entire removal process is expected to take 3 to 4 months, from May to July of this year. The actual loading and removal of the radium-tipped needles may take only 2 days after they have been repackaged and put into barrels.

At this point, the EPA says they are unsure of the method of handling the radium for repackaging. The options are robots or personnel in protective gear. They also claim they do not know *where* the radium will be shipped and are clearly very sensitive on this point. Interim storage on-site is not considered an option.

The RWC, however, believes the most likely dump sites will either be a Department of Energy facility (such as Hanford or the Nevada Test Site) or a commercial site (such as Beatty, Nevada, managed by US Ecology or Clive, Utah, managed by Envirocare).

But wherever the radium travels,



Jean Fazzino interviewing EPA information officer Richard Cahill across the street from the abandoned Queens radium factory.

\*Superfund monies are available to address 2 types of pollution. The first is pollution caused by the release of substances which are hazardous to people and the environment—an immediate danger, such as the oil spill of the coast of Alaska. The second category is for the threat of release which would cause an environmental disaster. The Radium Chemical building falls under the latter category.

## UPDATE

## The Container "War" Heats Up

By Marvin Resnikoff

Following rejection of polyethylene high integrity containers by the Nuclear Regulatory Commission in December, divisions among container manufacturers broke out into the open at the end of February.

For container manufacturers, a lot of money is riding on which container is acceptable. For environmentalists, important safety issues are at stake. Based on documents obtained from the Nuclear Regulatory Commission, the Winter 1988/89 issue of *the Waste Paper* reported that high integrity containers, used for the disposal of classes B and C "low-level" waste, could crack open under a heavy earth load.

In December 1988, the Nuclear Regulatory Commission issued a Technical Evaluation Report concluding that polyethylene high integrity container designs will not be structurally stable for 300 years, as required in Commission regulations.

The basic problem is that these plastic containers, designed to manage ion exchange resins, concentrated liquids and irradiated non-fuel reactor components, would buckle under a heavy earthen load. Further, the plastic would become brittle, a condition exacerbated by radiation.

Consequently, without additional structural support, the plastic containers will fail. Thus, trench water would mix with the radioactive contents.

Manufacturers, such as Chem-Nuclear Systems who produce these plastic containers, strongly criticized the Commission's findings. However, their technical arguments, like their containers, would not hold water.

While rejecting the plastic containers, the Commission approved containers with additional structural integrity, such as combined stainless steel/polyethylene containers manufactured by LN Technologies and polyethylene impregnated concrete containers manufactured by Chichibu. These containers are more expensive than the simple plastic ones.

Despite the Commission's negative findings, the South Carolina Department of Health and Environmental Control allowed Chem-Nuclear to continue accepting these flawed containers at the Barnwell facility.

In any case, the decision favored Chem-Nuclear, the manufacturer of cheaper containers, over LN Technologies, the manufacturer of improved—but more expensive—containers.

To reconcile burial in faulty containers, *South Carolina actually altered the*

*regulations to fit the containers, rather than altering the container to fit the regulations!*

To lessen the earth load, containers with class B contents had heretofore to be buried within 10 feet of the earth's surface. Containers with class C contents had to be buried within deeper underground concrete vaults. This procedure generated other problems which were ignored, such as, what would happen if additional earth was required to improve and recontour the trench cover at some later time? Would heavy equipment be allowed on the trench cover? How will these operational conditions be passed down to the next generation of caretakers?

The decision by the South Carolina Department of Health and Environmental Control has clearly upset manufacturers of the better containers, who were placed at a clear economic disadvantage. After all, why would a utility buy a better container if a less expensive container were available and allowed for use?

At the Waste Management '89 Conference in Tucson, Arizona at the end of February, Regan Voit, President of LN Technologies, openly expressed his displeasure at South Carolina's decision. His paper detailed the history of the controversy and suggested that waste generators who use faulty containers may ultimately be liable for damage under the Resource Conservation and Recovery Act.

In March 1989, the Nuclear Regulatory Commission summarized which containers were acceptable to the Commission and which were acceptable to each of the three states still accepting radioactive waste.

Since Agreement States have the licensing authority for disposal sites, the Commission apparently cannot impose its conditions on the states, short of lifting their Agreement States status. Both Washington and Nevada have now agreed to the Commission conditions, leaving Chem-Nuclear and South Carolina in one camp versus the rest of the industry.

officials assure us it "will be transported in the same manner as Brookhaven waste. That is, escorted by health, fire, and police personnel,

through the city highway and bridge system, during off-peak traveling hours."



The abandoned radium factory in Queens.

ED HEDELMANN

## THE MARSHALL ISLANDS

# Japan's Proposed High-Level Rad Dump

By Jennifer Tichenor

Japan is considering plans to dump its nuclear waste in the Pacific Ocean, according to activists in the Marshall Islands.

By 1990, Japan will have a million drums filled with nuclear reactor waste. If ocean dumping is allowed, Japan expects to jettison as much as 100,000 curies of waste each year.

For years, Marshall Islands' president Amata Kabua has proposed storing U.S. and Japanese nuclear wastes in either the Bikini or Enewetok lagoons. Both of these islands were used for early U.S. nuclear weapons testing, and are still uninhabitable because of high radiation levels.

The Marshall Islands are a collection of small islands and tiny coral atolls, about 2,000 miles west of Hawaii. These islands are self-governing, freely associated states under a

1986 treaty with the United States. Yet the Marshalls are largely funded by the United States (they even have a zip code!) and are home to a top secret U.S. missile testing range.

A similar Japanese facility near the Bikini Islands, scheduled to open in 1982, was delayed after massive local protest. The Japanese Union of Scientists Against Nuclear Power also stated that, "the full-scale dumping [of nuclear waste] will have a danger of having as many as 6,000 people die of cancer every year in Japan and the Pacific Islands."

The U.S. Secretary of the Interior Manuel Lujan says that he has no objections if the president of the Marshall Islands wants to use some of his islands as a nuclear waste repository. He said, "If Amata Kabua wants it, it would be their business and we

would not interfere." As Wilfred Kendall, the Marshalls' chief of mission in Washington, said recently, "The

### History of Nuclear Dumping in the Ocean

In 1984, the U.S. Navy entertained the notion of scuttling 100 old nuclear-powered submarines in the Atlantic and Pacific Oceans. These submarines contained 50,000 curies of radioactivity in each sub: dumping 100 of them would have put 5 million curies in the ocean. When the release of only 1 *millionth* of a curie is cause for concern, 5 million curies is almost too much to comprehend.

During the 1950's and 1960's nearly 50,000 barrels of radioactive waste were dumped in the ocean west of San Francisco near the Farallon Islands. The Farallon area has been a very rich salmon fishing ground, and is jeopardized by the dumping of radioactive wastes. Tests by the Environmental Protection Agency (EPA) in the 1970's showed elevated levels of radioactivity in the ocean floor around waste barrels off San Francisco. The EPA concluded it was still safe to eat fish caught in that area, but they later confessed that they didn't know what was in the barrels.

Twelve of the ships used in the original Pacific atom bomb tests were too contaminated to use again, so they were all sunk off the coast of California.

In September of 1983, a Poseidon nuclear submarine collided with barrels of British radioactive waste in the North Atlantic Ocean, contaminating the outside of the sub. The U.S.S. Sam



A Marshallese woman showing a scar from her thyroid removal surgery as a late effect of hydrogen bomb fallout.

DENNIS O'ROURKE

Jennifer Tichenor is the director of the RWC's radiation health effects project.

poisons are there already. The uninhabited islands are forever contaminated. Why not turn a liability into an economic asset?"

However, the Marshalls are not suited for storage of waste. They are located in the typhoon belt, and the highest point in the Islands is only 30 feet above sea level. In 1980, a tidal wave covered the capital city of Majuro with 5 feet of water. The city is still rebuilding. Also in 1980, a storm broke open nuclear waste bunkers on

Rayburn, which itself carries 16 nuclear missiles, collided with the British nuclear bar

Over 90,000 barrels of nuclear waste were dumped along with radioactive military gear off the coast of California and into the Atlantic from the Carolinas to Massachusetts. The government admits that several thousand of the containers have broken open, and tests show that much of the leaking nuclear waste does not dissolve, but instead sticks to the ocean floor. Some nuclear waste containers wound up in commercial fishing grounds, with some even being caught in trawlers' nets.

Ocean currents can carry radioactive materials thousands of miles. In the North East Atlantic and the North Sea, at least 100,000 curies of radioactive waste are dumped every year from plants in Belgium, Great Britain, Holland and Switzerland—the only countries that officially ocean dump radioactive waste. The North East dumpsite, 300 miles off the coast of Spain, has been in operation since 1967, but has never been monitored. Instead, they use computer models.

As of 1982, it was estimated that land disposal of the existing 30,000 tons of low-grade nuclear waste would cost well over \$100 million, while ocean disposal would run less than \$10 million. The Department of Energy has been studying the feasibility of sinking high-level nuclear waste below the seabed, according to Energy Department and nuclear industry documents.

JT

one of the Marshalls' atolls, where the French test nuclear weapons. The storm smashed canisters in the bunkers, dumping high-level waste into a nearby lagoon.

In 1985 the London Dumping Convention agreed to an open-ended moratorium prohibiting the "disposal at sea" of high-level nuclear wastes. Nevertheless, the U.S. and Japan among other "nuclear" countries insist that seabed emplacement should not be covered by the Convention. It is estimated that if the subseabed emplacement method of nuclear waste is allowed, the United States may dump as many as a million canisters of high-level waste.

Another obvious source of concern to local activists is the implication of global warming, which experts warn may elevate sea level 3 feet over the next century.

After the recent disastrous Exxon oil spill of the Alaska coast, the specter of human error raises itself over every shipment by sea. Nuclear waste is dangerous enough, even if it stays where it was generated; how can we take a chance with our oceans?

As land becomes scarce and citizen opposition to nuclear landfills grows, nuclear countries are desperately seeking new sites for their waste. They are increasingly looking at Third World countries as their wastebaskets.

## RWC SLIDE SHOWS

The Radioactive Waste Campaign has 3 slide shows available for purchase or rental. Citizens around the country will find these shows valuable tools for educational and organizing purposes.

**NEW!**

### HERE TODAY . . . HERE TOMORROW The Dilemma of "Low-Level" Nuclear Waste

The nuclear industry would like us to believe that the "low-level" waste is harmless. The Campaign's new slide show, "Here Today . . . Here Tomorrow," puts the record straight.

The show defines "low-level" waste, examines options for management, reviews the track record of dumps, and discusses alternatives. The written script allows activists to insert slides and information about their local situation. The show lasts 30 minutes.

### CRITICAL CHOICES The Transportation and Storage of Nuclear Waste

The build-up of irradiated fuel at nuclear reactors is driving utilities to dangerous solutions. Cooling pools for the fuel are nearly packed to capacity and highly radioactive waste is being transported in improperly tested containers throughout the country. "Critical Choices" is excellent for emergency preparedness teams as well as general audiences. The show runs 15 minutes.

### A PROBLEM FOR CENTURIES The Decommissioning of Commercial Nuclear Reactors

As old nuclear power plants are retired from operation, a whole new set of problems arise. Should the reactors be dismantled? Should they be left standing as modern Stonehenges? If dismantled, where should they be sent? These questions and others about decommissioning of reactors are detailed in the program which lasts 15 minutes.

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Decommissioning	\$25/week	\$75

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## UPDATE

# Nuclear Weapons Facilities Traumas Continue

By Jean Fazzino

Information about the reckless operations in the Department of Energy's nuclear weapons facilities continues to surface. On January 22, an accident at the **Savannah River Plant** was alarmingly similar to the one which had occurred in August, that was the catalyst of the subsequent investigations.

This latest accident, which caused several valves to rupture, went unreported for 48 hours and included 2 dozen serious procedural errors. On March 7—more than a month later—the Energy Department revealed that much more damage had been done than was originally reported.

On April 1, after 38 years, Westinghouse took over management of the Savannah River Plant from DuPont assuring that the focus will be on safety rather than production. The Energy Department has scheduled Reactor Restart Public Hearings during the month of April. Several environmental groups are suing to force the Department of Energy to develop an Environmental Impact Statement before the plant is allowed to restart.

In February, the Environmental Protection Agency barred its employees from the **Feed Materials Production Center** in Fernald, Ohio, after at least 2 Agency inspectors were found to have been contaminated with uranium. The inspectors did not enter the parts of the plant where uranium was processed. They were only in the offices and meeting areas at Fernald. This move, in effect, forbade the guardians of the site to enter, because it is too contaminated, while workers at the plant were not notified.

On February 14, a U.S. District judge in Ohio ruled that Fernald residents could take their \$300 million class action suit before a jury. The judge concluded "that Fernald created a high degree of risk to neighbors, their land and belongings."

The Radioactive Waste Campaign held a press conference in Cincinnati

on February 24 and presented findings of increased health risks to residents near the Fernald plant. (See article on page 16.) Ohio Senator John Glenn used this occasion to announce that the Centers for Disease Control was taking over a study of uranium releases from the Fernald plant.

At the **Hanford Reservation** in Washington state, the Department of Energy committed \$2.8 billion to pay for the first 5 years of clean-up at the site. Hanford holds more than 60 percent of the high-level radioactive waste generated by weapons production. About 350 of the 1500 contaminated locations on the Reservation

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*"The closer we look, the more problems we find."*

—John Ahearne  
DOE advisor

---

have been nominated by the Environmental Protection Agency for Superfund monies.

This agreement represents a small positive step because the government has finally acknowledged that the wastes pose an environmental threat. However, skeptics say there are no assurances that the money will be appropriated and that this will become an early test of Congressional resolve and President Bush's promise to address the pollution problems in the nuclear weapons production complex.

On February 23, Idaho Governor Cecil Andrus partially lifted his ban and allowed nuclear waste into the **Idaho National Engineering Laboratory**. He stipulated that only waste from Rocky Flats would be permitted to enter, only for 6 months and only 2 boxcars a month. Rocky Flats normally produces 4 boxcars of nuclear waste a month.

## Congressional Legislation

In response to the crisis at these

nuclear weapons facilities, several members of Congress have sponsored remedial legislation. One bill guarantees the rights of states to hold appropriate federal agencies accountable if they violate the Resources Conservation and Recovery Act (RCRA). Formerly, federal agencies were granted immunity from lawsuits.

Another bill will establish a national commission to review the clean-up of hazardous waste. This commission will be charged with recommending a plan to clean-up Energy Department facilities so that no site will become a "national sacrifice area."

Finally, a bill has been introduced in Congress calling for a continued halt in the production of weapons-grade plutonium and uranium until and unless the U.S. proposes negotiations on a fissile-material cutoff treaty with the Soviet Union.

## The Tritium Question

Tritium, an isotope of hydrogen which provides the fusion reaction in nuclear weapons, remains an important player in this drama. Citing the lack of tritium production as a threat to maintaining the stockpile of America's nuclear weapons, the Department of Energy continues to push for start-up of the tritium production reactors.

However, it was reported in the February 13 *New York Times* that the U.S. is continuing to sell tritium on the domestic and international markets (Canada, Japan, Switzerland, and Britain). In Canada a plan was outlined to encourage the export of tritium and some news editors went so far as to suggest it was Canada's duty as part of NATO to supply the United States.

In a moment of candor, John Ahearne, Chairman of the DOE Advisory Committee on Nuclear Facilities Safety, noted that the biggest problem with the weapons production facilities is the whole operating philosophy. He went on to add that "the closer we look, the more problems we find."

## RADSCOPE

### Nuclear Weapons Production for Shoreham?

Under the did-you-catch-this-one? category, a March 13, 1989, editorial in *The New York Times* entitled "A Wiser Fate for Shoreham" suggested that rather than shutting down the Shoreham nuclear power plant it would be "wiser" to open it as a tritium-producing plant!

Tritium is used in the manufacture of nuclear weapons. Currently, the nation's tritium production has come to a grinding halt because of problems with the tritium production reactors at the Savannah River Plant in South Carolina (see article on page 11).

### Radiation Accident in El Salvador

While getting killed in El Salvador is not particularly unusual, getting killed by irradiation is.

On February 5, three employees of the Delmed Company, which operates a medical sterilizer in San Salvador, received whole body radiation doses on the order of 400 to 600 rads, enough to cause acute radiation sickness and probable death. More individuals may have been exposed.

The 3 workers were transferred to a Mexico City hospital for treatment. As of March 17, the white blood cell count of two had stabilized, but the third was still dropping. Two of the patients developed bacterial infections in their feet, which will have to be amputated.

At the Delmed facility, medical instruments pass on a conveyor under a 17,000-curie cobalt-60 source. The source had been supplied by Atomic Energy of Canada Limited in 1974. One component of the radiation source had fallen out of the source rack and was lying unshielded in the irradiation room. Since the radiation monitors had been disabled, workers entering the room unknowingly received a high radiation dose. These workers—unknowingly serving as human radiation detectors—developed acute radiation sickness.

On February 13, Nordion International, Inc., successor to AECL's Ra-

diochemical Co. Division, arrived at the plant. The Nordion team drilled a 4-inch hole through concrete, picked up the source with a lasso, and dropped it into the water pool.

In 1981, a similar incident occurred at an irradiation facility operated by Benton-Dickinson in New Canaan, Connecticut. A medical instrument carrier knocked some sources loose in passing under the radioactive source rack. Since that incident, all U.S. irradiation machines have been covered to protect the source rack. But no such modifications had been made in El Salvador.

### IT DOES HAPPEN!

#### Nuclear Company Officials Jailed

It's rare that nuclear industry management gets thrown into jail, but that's what happened to officers of Radiation Technology, Inc.

The company operates four irradiators, two in New Jersey, one each in North Carolina and Arkansas. The irradiators use radioactive sources from high-level wastes generated from nuclear bomb production at Hanford to sterilize medical supplies, spices and certain food products. Because of lax safety practices, workers at Radiation Technology also were threatened with becoming sterile themselves.

In 1984, a Nuclear Regulatory Commission inspector observed that safety interlocks, designed to prevent workers from entering the irradiation chambers while a source was unshielded, had been *purposely bypassed*. An inspection in 1986 revealed similar safety violations.

But worse, according to the Commission, the President of Radiation Technology *lied* to federal inspectors, hampered the Commission from learning about these violations and got caught.

The company's license was suspended in June 1986. On March 18, 1988, a U.S. Grand Jury returned indictments against the President, two former Operations Manager and the company. The crimes—conspiracy to defraud the United States, lying to

Commission inspectors, and intentionally violating the Atomic Energy Act.

On October 11, 1988, the company was fined \$100,000, the two Operations Managers were each sentenced to three years probation and assessed fines of \$10,000 and \$2,500, respectively. The former President was sentenced to two concurrent sentences of two years and assessed a \$50,000 fine.

### Michigan Plays Nuclear Chicken

Michigan Governor Jim Blanchard, reacting to pressure from activists, halted work on locating a waste facility in Michigan.

But then, just when the 3 operating waste facilities were ready to pull the plug on Michigan and other states in the Midwest Compact, Governor Blanchard pulled back from the brink claiming victory.

It's called nuclear chicken.

This is what happened: Blanchard informed other states in the Midwest Compact—Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin—that he was halting work on locating a "low-level" waste facility. He cited the lack of financial assurance from other states in case of an accident.

In response South Carolina, with Washington and Nevada ready to follow suit, denied Michigan access to the Barnwell facility beginning March 1. Other states in the Midwest Compact were to suffer the same fate beginning April 1.

However, after receiving the written promises he sought from the other states, the Governor withdrew his objections at the beginning of March and continued the siting work.

But the concessions Blanchard says he won—joint liability in case of an accident—are highly questionable. As the *Detroit Free Press* put it, "Instead of being responsible for just one site that will be under its control, Michigan will, in due time, assume part of the liability for a number of dumps run by others."

Clearly the Governor was feeling

pressure from the nuclear utilities in Michigan and elsewhere.

Lost in the brouhaha was Michigan's announcement of potential "host" counties for the waste facility. That list was to have been released at the end of February, but will probably be issued in April or May. Then the real fireworks will begin.

## British Nuclear Waste Generators in Retreat

Unable to locate a low- and intermediate-level radioactive waste facility at 4 locations in Great Britain, waste generators are now taking a different tack.

Nirex, the consortium of waste generators, feels that its best strategy is to locate a facility where there is likely to be local support. Consequently, it now intends to build a deep underground disposal facility at one of the government's installations.

Rather than a surface facility, the new Nirex plan calls for mining out a facility 1000 feet underground capable of holding almost 50 million cubic feet of nuclear waste beginning in the year 2005.

The problems began in 1986 when the government announced a \$30 million search and located 4 sites to receive "low-level" waste in a surface facility.

Fierce opposition by environmental groups, local residents and politicians

brought the process to a halt. The government then pulled back into its nuclear oases, the reprocessing facility at Sellafield and the Atomic Energy Authority's research establishment at Dounreay.

Whether the ploy works remains to be seen. Already at Dounreay, the Scottish Nationalist Party has objected to being the dumpyard for England's waste. Local officials and citizens have opposed the plan as well.

## Americium-241 Problems

The depressed oil and gas industry is causing more than financial problems for well-loggers\*. What happens to all the americium-241 sources used by well-loggers who are now bankrupt?

Good question.

Under federal law, americium-241 cannot be sent to commercial "low-level" waste facilities because it is *transuranic*, a radionuclide heavier than uranium which emits alpha radiation.

No "disposal" facility is presently available for transuranic material, though the Department of Energy is hopeful that the Waste Isolation Pilot Plant in Carlsbad, New Mexico will be operating shortly.

*\* well-loggers use these radioactive sources in wells to characterize geological strata*

Until then, the Nuclear Regulatory Commission says that well-loggers holding americium-241 sources should either store the source, pass it on to another licensee, or return the source to the manufacturer, if it will accept returns.

Americium-241 is obtained from obsolete nuclear weapons. It is also used in *ionization* smoke detectors (*photoelectric* smoke detectors do not use radiation). Sales of americium-241 allow the Department of Energy to solve their waste problem and make money.

As a possible protest, some activists have suggested sending the radioactive source back to the Department of Energy, the original supplier of americium-241. Their address is Department of Energy, Washington, D.C. 20585.

## UPDATE

### Colorado Dumps Running Into Local Opposition

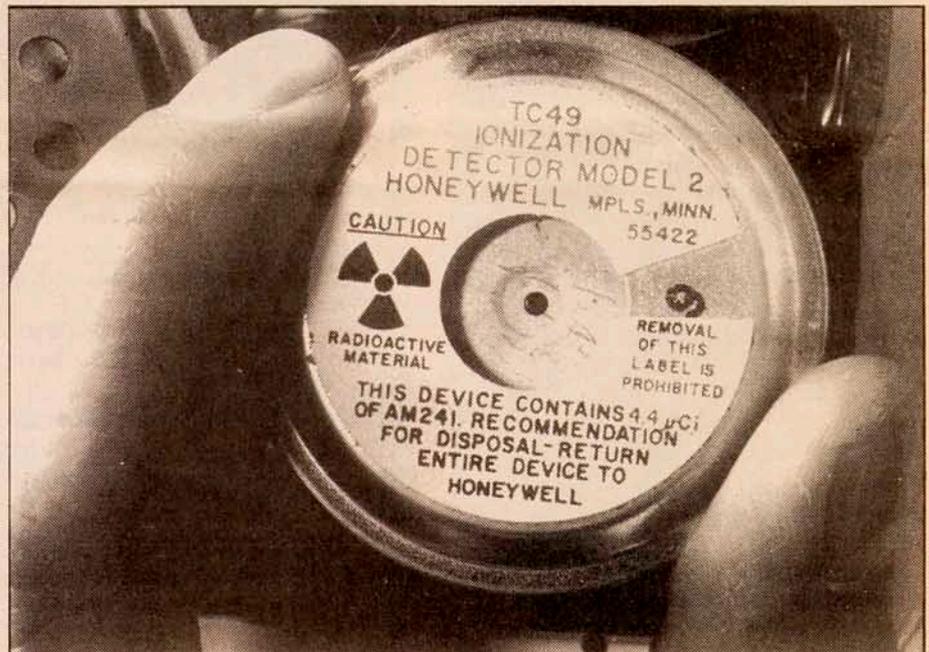
Environmental groups in western Colorado have been impressive with their resourcefulness in halting one, maybe two, radioactive dumps, slated for the region.

The state has promoted Uravan in Montrose County, for a dump for radium-contaminated waste located in Denver. This waste is left over from

## CANCER REGISTRY

Ohio environmental groups have called for the establishment of a "cancer registry" in the state to keep track of all cancers statewide. A registry would make it easier to do studies seeking to determine the impact of Ohio's 4 Department of Energy facilities and 2 nuclear power plants on the health of nearby residents.

Some activists around nuclear facilities have done informal registries in their immediate neighborhoods. But a more systematic and farther-reaching registry is needed to provide reliable figures.



The americium-241 source in an ionization smoke detector.

radium processing which occurred in Denver during the 1920's. In addition, the Rocky Mountain Compact has eyed an adjacent site for a "low-level" waste facility.

Licensing hearings before the Colorado Department of Health for the Denver radium site ended, not surprisingly, in approval at the end of January. That decision is now being contested in the courts by Western Colorado Congress, the prime environmental group in the area.

The County has also approved the facility, though two County Commissioners who favored the site last December were replaced in the election last Fall.

The state approval was for 200,000 cubic yards of Denver waste, and the Environmental Protection Agency, responsible for Denver clean-up, has said the latest volume is 250,000 cubic yards. This prompted a demonstration by Western Colorado Congress before the Rocky Mountain Compact Board in mid-March, and another flurry of motions before the state agency and the courts.

In addition to questioning whether the site can accommodate the extra waste volume, Western Colorado Congress is opposing transfer of land from the federal Bureau of Land Management to the state.

Furthermore, a request by Western Colorado Congress for an Environmental Impact Statement by the Bureau was denied. But U.S. Representatives Ben Campbell and Morris Udall have also called on the Department of the Interior to stop "dodging the hard question" and to do an impact study.

As a condition of the contract from the Environmental Protection Agency to clean-up and transport wastes from Denver, a company must have a legal disposal facility. Envirocare, operator of a mill tailings site in Clive, Utah, is competing with Umetco for the contract. Permits must also be obtained from the state Air Pollution Control Division.

Western Colorado Congress is fighting Umetco on all these fronts at once.

## Michigan Produces Excellent Resolution

Feeling pressure from their con-

stituents, the Michigan House and Senate passed an excellent resolution regarding "low-level" waste and sent it along to Congress.

"Resolved, That the United States Congress be urged to:

1) Consider the inclusion of the environmental impact of a low level radioactive waste facility as a critical factor in its siting.

2) Review the liability problems and the availability of liability insurance coverage.

3) Address the issue of the disposal of mixed wastes.

4) Address the issue of naturally occurring, accelerator-produced radioactive material.

5) Consider providing a funding mechanism for the construction and long-term maintenance of low level radioactive waste facilities."

Copies were sent to the House, Senate and Michigan Congressional

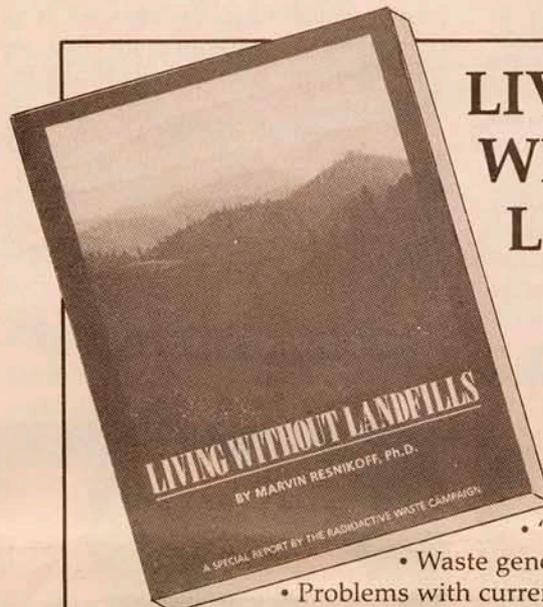
delegation, and can be obtained from the Campaign by sending a stamped, self-addressed envelope.

## "LOW-LEVEL" WASTE Propaganda War Heats Up in Nebraska

Following the announcement of three possible "host" counties for radioactive waste, the pot has started to boil in Nebraska. The counties, Boyd, Nemaha and Nuckolls, are all coincidentally located on the border with neighboring states. The expected propaganda war for the hearts and minds of citizens has already begun.

US Ecology is the operator selected by the Central States Compact, which includes the states of Nebraska, Kansas, Oklahoma, Louisiana and Arkansas.

The company has done its home-



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work with the local press, who uncritically accept statements by the industry. But statements by environmentalists are called "irresponsible" and "scare tactics."

The *Omaha World Herald* claims "How to handle radioactive materials is no secret. Scientists and engineers have been doing it for years in research laboratories." The editorial was not referring to Oak Ridge National Laboratory where strontium-90 leakage caused public water intakes to be briefly shut down in nearby Kingston, Tennessee.

Citizens for the Future of Nemaha County, a pro-dump group in Nemaha County, states that "US Ecology has been operating sites safely for 35 years. All of that experience will be available to benefit Nebraskans."

The statement will come as a surprise to citizens near Sheffield, Illinois and Maxey Flats, Kentucky, where US Ecology landfills are presently leaking. The Maxey Flats site is on the Superfund list.

US Ecology has been running half-page advertisements in local papers, and publishing the "US Ecology Progress." As the one-two punch, ads by Nebraska Public Power District, the state-owned utility, also appear.

To counter this steady onslaught, citizens in Nemaha County now produce the "Nemaha County Voice," and sponsor talks by national experts.

If you would like to get involved, write Concerned Citizens of Nemaha County, 1903 N Street, Auburn, NE 68305, or call 402/274-5242.

## Whoops!

The following information is taken from Nuclear Regulatory Commission Information Notice No. 89-35, dated March 30, 1989:

- In November 1988, a hospital reported the loss of a one-curie gadolinium-135 source. The device was stored in an unlocked hospital laboratory. The sealed source was never found.

- In July 1988, a radiation safety officer discovered the loss of a 0.8 millicurie cesium-137 radiation source. The sealed source was never found. Also during July at the same institution, a 10-millicurie sulfur-35 source was lost and never located.

- In May 1988, an academic research

laboratory inadvertently dumped 0.5 millicuries of phosphorus-32 and less than one microcurie each of tritium, carbon-14 and iodine-125 into normal trash. The radioactive material was sent to the municipal landfill.

- Also in May 1988, an industrial licensee lost a moisture density gauge containing 40 millicuries of americium-241 and 8.3 millicuries of cesium-137. The gauge was being carried in a pickup truck and fell out when the tailgate opened. A part of the transport case was found at the intersection of two roads. Up to 100 people searched for the radiation source, which was found the next day by the Sheriff's Department, about 5 miles from where it was believed to be lost.

## Dumping Outside of the Compact System

A new means of forming an interstate compact—completely bypassing the Low-Level Radioactive Waste Policy Amendments Act, public participation and vote of state legislatures—is taking place with the Rocky Mountain States Compact.

Because of their non-compliance with the Low-Level Waste Act, New Hampshire, Vermont, Maine, the District of Columbia, and Puerto Rico were denied access to the Beatty, Nevada site by the Rocky Mountains Compact on March 16.

However, at the very same meeting, the Executive Director of the Rocky Mountain Compact was authorized by the Board to negotiate contracts with those states as well as Rhode Island—at much higher rates!

These contractual agreements would allow access to Beatty until the end of 1992. Including transportation and non-compliance fees, the cost would be about \$200 per cubic foot, about 4 times the going rate.

Without this out-of-compact waste, the Rocky Mountain Compact waste facility would not be economically feasible because the 4 Rocky Mountain states themselves generate only 4,000 cubic feet of radioactive waste a year or about 4 truckloads.

Unidentified sources tell us that the Rocky Mountain Compact is negotiating for use of the Richland, Washington site after 1992, when the Beatty site is expected to be closed. If all this

comes to pass, the above 6 states, plus the 4 in the Rocky Mountain Compact, and 5 in the Northwest Compact will form an effective 15-state compact, tied together with contracts rather than legislative-approved agreements.

This backroom deal effectively bypasses the Low-Level Radioactive Waste Policy Amendments Act of 1985. Perhaps someone should alert citizens in the State of Washington.

## MEMBERSHIP & SUBSCRIPTION

Become a member of the Radioactive Waste Campaign, and join us and citizens worldwide in the battle to stop generating nuclear waste. Members receive an annual subscription to *the Waste Paper*.

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Please check this box if you would like to become a member, as indicated above, but do not want to receive *the Waste Paper*.

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## RWC PRESS CONFERENCE

## High Lung Cancer Rate Predicted for Fernald

A major report released February 24 by the Radioactive Waste Campaign predicted a high number of lung cancers for individuals living near the Feed Materials Production Center in Fernald, Ohio, as a result of uranium releases. Fernald is a Department of Energy facility

*The RWC study was the first independent estimate of such lung cancers.*

which processes uranium for nuclear weapons.

The study, authored by the Campaign's Research Director Marvin Resnikoff, was the *first independent estimate* of such lung cancers.

It recommended an immediate health survey of local residents and environmental restoration clean-up measures at the plant. The report also evaluated extensive contamination of groundwater at the site and the Great Miami aquifer.

Accompanying the report was a statement by Senator John Glenn announcing that a study of uranium releases from the Fernald plant and the attendant dose to the public was be-

ing transferred from the Department of Energy to the Centers for Disease Control.

According to Glenn, "the most recent study by the Radioactive Waste Campaign, suggesting that doses to nearby Fernald residents may have been quite large has raised even more questions . . . The people of Fernald deserve to know the impacts this facility may have on their health and that of their children by an agency that is not encumbered by a conflict-of-interest.

The report, released by Resnikoff and RWC Executive Director Patrick Malloy at a Cincinnati press conference on February 24, incorporated recently revised Department of Energy estimates of uranium emissions from Fernald. On February 14, the Department admitted that a poorly designed air cleaner at the Fernald Plant Refinery was responsible for a 30 percent increase in uranium emissions.

The projected lung cancers due to the inhalation of uranium particles in the air were estimated by the Campaign using computer programs developed by the Environmental Protection Agency. Other forms of cancer, as well as other radioactive materials in the air, were included in the Campaign's report.

For a person who resided 1 kilome-

ter north of the site from 1951 through 1987, the Campaign study estimated the total cumulative lung dose would be over 80 rems, or the equivalent of 8,000 chest X-rays. In contrast, present regulations limit the lung dose to 2.7 rems over the same period (or 0.075 rems a year).

The Campaign projects up to 185 *additional*, that is, above the expected number, cancers to nearby residents. These cancers will primarily occur within five miles of the plant.

In addition to the press conference which was covered extensively by local media and the *New York Times*, a separate meeting was held with FRESH (Fernald Residents for Environmental Safety and Health) on February 23.

*Copies of the Campaign's Fernald report, "Uranium Releases at Fernald, Radiation Doses to Nearby Residents," can be obtained by sending \$5 to the Radioactive Waste Campaign, 625 Broadway, 2nd Floor, New York, NY 10012, (212)473-7390.*

## Locating Marvin

Marvin Resnikoff can be reached at RWMA, 306 West 38th Street, #1508, New York, NY 10018. His phone number there is (212) 629-5612.

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# Radioactive Waste Campaign

# EDUCATIONAL RESOURCES

## TRANSPORTATION

### 101. Transporting "Low-Level" Radioactive Waste

**NEW!** An in-depth analysis of the transportation of commercial "low-level" radioactive materials. Reviews historical experience, radiation exposures during normal transport, and potential economic and health effects due to an accident. Useful for all communities and citizen groups near highways and rails used for nuclear transport. Available July 1989. 8 p. \$3; 25 or more \$.50 each.

### 102. Three Mile Island Shipments

Evaluates safety of 125-B shipping container, and hazard and necessity of shipping wastes from the damaged Three Mile Island reactor to a federal facility in Idaho. 1986. 4 p. \$2 each; 25 or more \$.50 each.

### 103. Nuclear Transportation Map

A 17" x 22" four-color map showing routes for transport of military nuclear materials. The map comes with *Deadly Defense*, but copies are available separately. 1988. \$4 each; 10 to 49 are \$2 each; 50 or more are \$1 each.

### 104. Transporting High-Level Radioactive Waste

**NEW!** (available August 1989)

## "LOW-LEVEL" WASTE

### 201. Living Without Landfills

A comprehensive analysis of commercial "low-level" waste. Discusses what is "low-level" waste, "disposal" experience, and preferable alternatives to landfills. A must for citizens threatened by radioactive waste dumps. 1987. 120 p. \$15 each; for citizen groups, 10 or more copies are \$9 each.

### 202. Living Without Landfills—Executive Edition

Includes the above mentioned study plus an 80-page executive summary with documentation and spreadsheet calculations of radioactivity and hazard of individual waste streams. The spreadsheets are easily adapted to calculate radioactivity and hazard of each waste stream for individual States or Compact regions. Full documentation is included to perform these calculations. 1987. \$90; for the spreadsheets on diskettes, the total cost is \$140.

### 203. Review of NRC Critique of Living Without Landfills

Response by Campaign staff to the Nuclear Regulatory Commission's detailed critique of *Living Without Landfills*. 1988. 12 p. \$3 each.

### 204. Insecure Landfills: The West Valley Experience

Detailed discussion of the solid radioactive waste dump, the so-called "low-level" waste burial ground at West Valley. Exposes the underground migration of water into the burial trenches. Seven lessons and warnings of that experience that can be utilized nationwide. 1981. 8 p. \$3 each; 25 or more \$.50 each.

### 205. "Low-Level" Nuclear Waste: Options for Storage

With the current push to reopen old burial grounds and site new dumps across the U.S., this fact sheet explores other storage methods for radioactive waste. Experiences in Canada, Tennessee and New Hampshire are discussed. 1985. 8 p. \$3 each; 25 or more \$.50 each.

### 206. A "Low-Level" Nuclear Waste Primer

**NEW!** What is "low-level" radioactive waste? How much comes from nuclear power reactors? These and other typical questions about radioactive waste are answered. Updated version available in July 1989. 8 p. \$3 each; 25 or more \$.50 each.

**207. Radioactive Waste: Buried Forever?**

Profiles the 6 commercial radioactive landfills citing generic problems and history of radioactive leakage with brief discussion of alternatives. Updated in 1987. 6 p. \$3 each; 25 or more \$.50 each.

**208. What Is the Health Hazard at West Valley?**

An in-depth resource paper on the entire West Valley site: high-level and "low-level" wastes, and the reprocessing building. Good discussion of health threats posed by "low-level" waste dumps on site. Can be used by citizens fighting proposed landfills. 1980. 17 p. \$5 each.

**209. Exhumation of Radioactive Waste Burial Grounds**

Details the experience of exhuming radioactive and toxic chemical waste, and proposes exhumation as an option to remedy problems at existing nuclear dumps. 1982. 21 p. \$5 each.

**211. Transporting "Low-Level" Radioactive Waste**

(see item 101 in Transportation section above)

**HIGH-LEVEL WASTE**

**302. Salt Will Not Work**

Review of the problems associated with disposing of high-level waste in an underground geologic salt formation, the nuclear industry's favored solution to the radioactive waste problem. 1979. 6 p. \$2 each; 25 or more are \$.50 each.

**303. What Is the Health Hazard at West Valley?**

(see item 208 in "Low-Level" Waste section above)

**304. Transporting High-Level Radioactive Waste**

(see item 104 in Transportation section above)

**MILITARY WASTE**

**401. Deadly Defense**

The first independent study of the environmental impact of the nuclear weapons complex. Site-by-site profiles of waste build-up and local environmental dangers. Includes dozens of diagrams, photos and other graphics and features a separate 17" x 22" four-color map showing routes for transport of military nuclear materials. 1988. 170 pages. For institutions, \$25; for citizen groups, \$20 each (more than 10 copies are \$12 each plus 10% for postage and handling).

**402. Congressional Briefing on Deadly Defense**

Presentation before Congressional legislative assistants by Campaign research director on July 8, 1988. Critiques site-by-site cost estimates by the Department of Energy to clean up nuclear weapons facilities. 1988. 12 p. \$2 each.

**403. Nuclear Transportation Map**

(see item 103 in "Transportation" section above)

**404. Collection of New York Times Clippings About the Bomb Plants**

Accidents and other problems at nuclear weapons production plants opened these notoriously secret facilities to unprecedented exposure by the media. From the fall of 1988 through the spring of 1989 the *New York Times* generated an extensive series of articles. This collection represents a valuable resource for researchers and concerned citizens. 150 p. \$25.

**405. Uranium Releases at Fernald, Radiation Doses To Nearby Residents**

Findings released by the Radioactive Waste Campaign on additional lung cancers expected at the Feed Materials Production Center in Fernald, Ohio, as a result of uranium discharges. Also examines contamination of the Great Miami Aquifer under the Fernald plant. 1989. 19 p. \$10.

**406. The 2010 Report: U.S. DOE Nuclear Weapons Complex Modernization Report**

Reprint of the report by the Department of Energy about the shutting down and cleaning up of several facilities within the nuclear weapons complex because of radioactive waste problems. December 1988. 54 p. \$8

## **INCINERATION**

### **501. Burning Radioactive Waste: What Comes Out of the Stack?**

This fact sheet assesses the radiological and other health hazards of incinerating radioactive wastes and considers types of waste burned, dioxins, trouble areas and alternatives. 1986. 8 p. \$3 each; 25 or more \$.50 each.

### **502. Burning Radioactive Waste: Is It Safe? Can It Work?**

Commercial, centralized incinerators have been proposed in Bladen County, North Carolina, and Parks Township, Pennsylvania. Detailed critiques of each facility discuss waste sources, incinerator design and accidents, health and environmental hazards, and alternatives to incineration. Specify which report. 1985. 23 p. \$5 for each report.

## **ORGANIZING AIDS**

### **601. Speaker Training**

Tips on how to become an effective public speaker, especially on nuclear waste issues. 1980. 2 p. \$.50 each.

### **602. Religious Community: Ways of Expanding Support**

Useful nine step guide for mobilizing the religious community around the problems that radioactive waste creates. 1979. 6 p. \$2 each; 25 or more are \$.50 each.

## **GENERAL INTEREST**

### **701. RWC Basic Brochure**

This handy brochure explains the purpose and history of the Radioactive Waste Campaign. 1988. Single copies free; quantities of 100 or more are 10 cents each.

### **702. Nuclear Wastes—The Myths and Realities**

Reprints of an article which appeared in *Sierra*. Important information about nuclear waste. Useful for nuclear debates. 1980. 4 p. \$1 each.

### **703. Desechos nucleares: los mitos y la realidad**

Spanish translation of "Myths and Realities" concerning nuclear waste. Printed in the Argentinian publication *Mutantia*. 1981. 8 p. \$2.50 each.

### **704. The Waste Paper**

The quarterly newspaper of the Radioactive Waste Campaign, the world's first newspaper to specialize in radioactive waste issues. Not a rehash of the news you've seen elsewhere, but hard-hitting, original reporting. The latest news on breakthroughs or failures in waste technology. Up-to-date reports on citizen battles all over the country. Tips on resources and organizing. Write us for a free sample copy. Subscription is \$8 a year or \$14 for two years.

### **707. Cumulative Index of the Waste Paper**

Articles in *the Waste Paper*, published since 1979, have been indexed for easy reference. Index will be updated, theoretically, each year. Single copies are \$2.

### **708. Medical Radioisotopes—The Environmental Dangers**

A nuclear reactor and chemical processing plant in Tuxedo, New York, operated by Cintichem produces radionuclides for medical applications. Discusses the environmental impact of Cintichem, including a radioactive plume that may be causing a rise in cancers near the plant. 1988. 5 p. \$2 each.

### **709. The Radioactive Waste Campaign—The First 10 Years**

History of the Radioactive Waste Campaign. Features many stories of the Campaign's activities with environmental grassroots groups and activists. This edition has a stiff 2-color cover with photos and text reproduced on quality paper. 1988. 24 p. \$5 each.

### **710. Back Issues of the Waste Paper**

Some issues of *the Waste Paper* are still available for \$2.

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