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# the Waste Paper

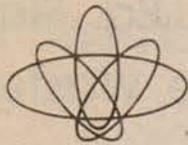
Volume 6 Number 2



This pastoral scene and countless other rural areas in America are being threatened. Nuclear utilities want these beautiful communities for radioactive landfills. Find out how you can stop them. See story on page 5.

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# the Waste Paper

Volume 6 Number 2  
Summer 1984

## Brookhaven, L.I. Waste Shipments No Megacuries for Manhattan

Rebuffed by the courts, New York City (NYC) continues to hold the line on keeping irradiated fuel off its streets. Forty or more truck shipments of the fuel which were originally scheduled to travel from Brookhaven National Laboratory on Long Island, through Queens enroute to a government facility in Idaho, in January 1983, are now delayed until the end of 1984.

In the meantime, the City is pursuing legal actions within the federal Department of Transportation (DOT) to route the shipments by barge around NYC. The delay in these highly dangerous nuclear shipments is a victory for citizens, won by tremendous pressure put on Congress and the revelation of previously undisclosed problems with Brookhaven shipping containers.

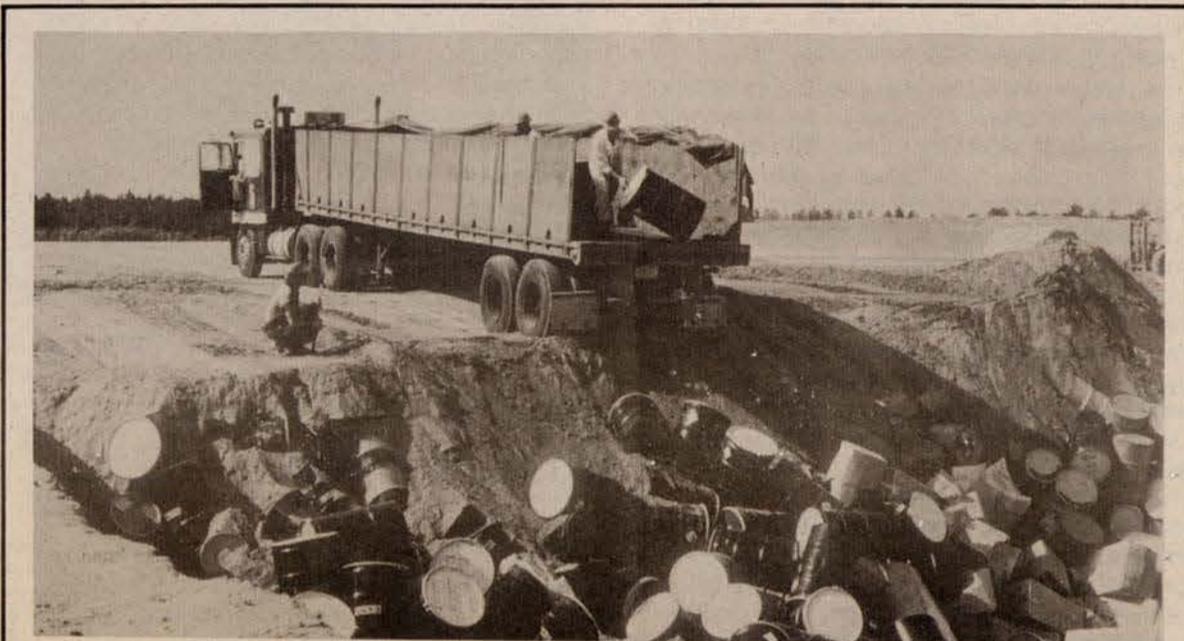
**Extortion Money?** The delay, won by the City through the intervention of New York Congressional representatives with the Department of Energy (DOE), allows the City to complete a study on the relative safety of barging nuclear fuel around NYC rather than moving it through Queens. The proposed shipments would pass over the Throgs Neck Bridge into Northern Bronx and Westchester County, and over the Tappan Zee Bridge, eventually following I-80 to Idaho. The City has hired the Boston engineering firm, Arthur D. Little, Inc. to do the study and has agreed to pay Brookhaven for the cost of six months storage of the nuclear fuel, what NYC Mayor Koch labelled "extortion money."

Under the federal Hazardous Materials Transportation Act (HMTA), a local community may request that its ordinance not be preempted if it can show that the ordinance increases safety and is not an unreasonable burden on interstate commerce. The A.D. Little study, which will investigate barging nuclear fuel directly to the Savannah River Plant in South Carolina, instead of Idaho, is expected out by the end of 1984. The City will then submit it to DOT who must decide if barging is reasonable and safer than trucking megacurie amounts (each shipment would contain four times the long-lived radioactive released by the Hiroshima bomb) through NYC.

Immediately after the NYC ordinance was overturned by the U.S. Appeals Court in 1983, but before the Supreme Court had decided not to hear NYC's appeal, Brookhaven began planning in earnest for the nuclear shipments to begin March 1984. The Laboratory intended to once again use their 20-year old shipping casks. In public, Brookhaven and DOE officials put on a confident show about the safety of the casks, but "behind the scenes" correspondence recently obtained by Lindsay Audin, NYC engineer and longtime transportation activist, tells a different story.

• In an interview this spring with Warren Liebold on radio station WBAI, in New York City, Mr. Schweller, DOE area manager at Brookhaven, called the cask "leak proof." Yet in a letter to Mr. Schweller dated January 9, 1984, informed him that the cask was out of compliance because of faulty seals. When the cask was pressurized to 20 pounds per square inch, the air leaked out in less than one minute.

• While Brookhaven's public relations office babbled about casks surviving train wrecks of 80 m.p.h., they neglected to inform the public and news media about the serious safety questions raised by the Nuclear Regulatory Commission regarding the cask. DOE even acknowledged, in internal correspondence, that these concerns were valid. As a result of the numerous safety questions, the NRC withheld certifica-



**Kick and Roll?** This is how Chem-Nuclear used to get rid of nuclear waste shipped to the Barnwell dump from all across the U.S. Now the barrels are neatly stacked in the trenches to decrease the slumpage of the trench covers. See story page 4.

tion of the casks. Brookhaven now intends to use a newly certified cask.

• Brookhaven misled the public by stating that the fuel had to go to Idaho by truck because the pool at the Savannah River Plant was full. Barges cannot travel the entire route to Idaho. Internal correspondence shows that it was DOE's choice to send the fuel to Idaho, to satisfy their own "program needs."

• Brookhaven's public relations office has painted a smokescreen of confusion regarding the weapons connection. Brookhaven denies that the uranium in the irradiated fuel will be used in the Savannah River reactors to produce plutonium and tritium for nuclear warheads. Yet, Congressional testimony by high-ranking DOE officials state otherwise. New York peace

groups have begun to work on this aspect of the shipments.

**200 Communities** How New York City and its transportation ban fare in this showdown with federal agencies is being carefully monitored by the more 200 communities that followed the City's lead in adopting transportation safety ordinances. Prior to 1976, when the NYC ban on irradiated fuel shipments first went into effect, Brookhaven annually sent ten truckloads of nuclear fuel up 3rd Ave in Manhattan (what Fred Shapiro, author of Radwaste called the "Bloomingdale's Route.") After the ordinance, shipments through NYC stopped. Over 200 localities, encouraged by NYC "chutzpah" (translation: nerve), passed similar ordinances.

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# Radscope

## Nuclear Submarine Hits Waste Barrels Poseidon is Contaminated

In an incident sure to discount former Environmental Protection Agency director Ann Gorsuch Burford's recent claim that ocean dumping of radioactive waste should resume since it is truly safe, the *USS. Sam Rayburn* collided with radioactive waste barrels in the North Atlantic Ocean, contaminating the outside of the nuclear powered submarine.

The *Waste Paper* discovered the accident through the *Scottish Campaign to Resist the Atomic Menace (SCRAM) Journal*. The entire incident has been kept quite a secret. Only through the probing of the *New Statesman*, a British weekly magazine, has some of the details of the mishap been made public.

The Poseidon submarine, which carries 16 missiles, ran into the underwater waste 150 miles from shore in September 1983. Abnormally high levels of radiation were coming from the submarine. Fearing there had been damage to the ship, it waited in seabed for three days until support arrived.

Navy divers discovered the sub had no damage but that the barrels around the ship were leaking. At the Holy Loch dock, on the southwest corner of England near the English Channel, the *USS. Sam Rayburn* was decontaminated. Paint and barnacles were scrapped off while water was sprayed over the hull to prevent radioactivity from becoming airborne. The work took nearly a month and the National Press did not carry the story until April 1984.

It is interesting to note that the England's low-level radioactive waste dump in the ocean is 500 miles from Lands End. But the Poseidon sub rammed the waste barrels only 175 miles from the shore. Did the barrels drift 300 miles? Did the dumpers unload the barrels closer to land than permitted? The *New Statesman* has also reported that the US Navy may have

dumped highly radioactive resins overboard and a report prepared by the U.S. Fund for Constitutional Government confirmed that in at least two incidents "the resin had been swept onto the sub's hull, contaminating paint and marine debris."

This incident makes clear the need for an international ban on ocean dumping of radioactive waste. Only a few countries still practice this horrendous policy. Since the U.S. moratorium on ocean dumping expires next year, citizens should make Congress aware of the opposition to any reinstating of this past practice.

Special thanks to SCRAM for providing the information.

## New Pa. Law Taxes Waste Shippers

The Radiation Protection Act, passed by the General Assembly of Pennsylvania and recently signed into law by Governor Richard Thornburgh, has far-reaching provisions on the nuclear waste transport front. The law taxes nuclear waste shippers, and the money goes into the Radiation Transportation Emergency Response fund, to be used to train and equip state and local agencies and volunteer organizations according to a transportation emergency response plan.

Waste haulers must pay \$1,000 per shipment in advance and must also pay for escort services by the State Police. The charges for escort services, which can be adjusted for inflation, are \$20 per hour per officer (\$25 per hour per officer for rail shipments) and 50¢ per mile for highway shipments. According to the act, all shipments of irradiated fuel through Pennsylvania must be escorted by the State Police.

Diane D'Arrigo, former staffer of the Radioactive Waste Campaign, testified before the Pennsylvania General Assembly in support of these transportation provisions, which were introduced by Assembly representatives from Erie, Dombrowski and Cappabianca.

For a copy of the Pennsylvania Radiation Protection Act, send \$2 to the Radioactive Waste Campaign, 78 Elmwood Ave., Buffalo, New York 14201.

## Disaster on the Tracks? Northern States Power Co. Plans Waste Shipments to Illinois

Northern States Power Company (NSPC) of Minnesota plans to ship 1058 irradiated fuel rods from its Monticello reactor to General Electric's Morris, Illinois waste storage pool as early as December 1984.

The highly radioactive waste is scheduled to travel on the Burlington Northern tracks, following the Mississippi River before turning east toward Illinois. The shipments would move right through the Twin Cities of Minneapolis and St. Paul, Minnesota.

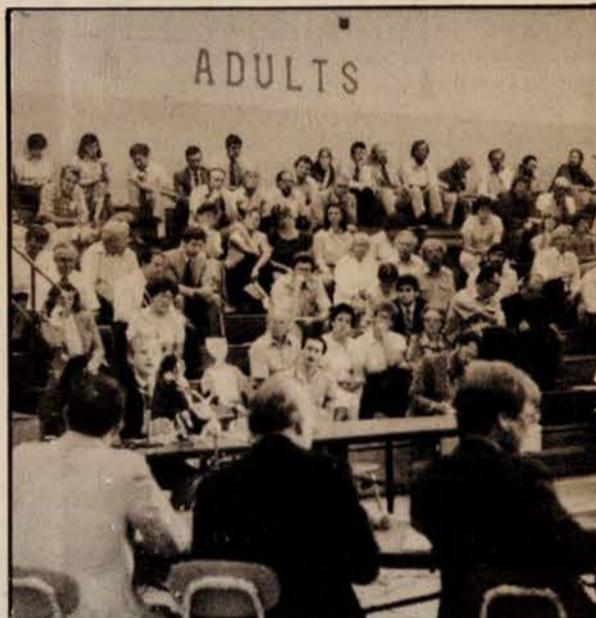
The containers which hold the dangerous material, called casks, weigh 67 tons and have not been designed or physically tested to withstand an accident. Many organizations including the Sierra Club, the Minnesota Public Interest Research Foundation and the Northern Sun Alliance are calling for the waste to remain on site until a waste repository is available. Since the Morris fuel pool is only temporary storage, these fuel rods will move again to a fi-

## Renovo, Pa. Slated for Nuke Waste Site

Renovo, Penn., a small town in Clinton County, North Central Pennsylvania, is being eyed by Westinghouse for a waste "facility". Local really interests are strongly behind the waste "facility" as a way to bring business to this rural community.

Westinghouse has paid at least two visits to this community of 2,000 residents. The County Council of Local Governments has endorsed the Westinghouse plan which calls for packing "low-level" waste into hexagonal concrete containers, buried in unlined trenches. The waste facility would accept a potporri of "low-level" waste materials including short-lived hospital and research wastes and highly radioactive and long-lived reactor wastes. Renovo is not located on an interstate, but it is only 125 miles from Pennsylvania Power and Light's Berwick reactor.

Though Governor Richard Thornburgh recently announced (June 29) that Pennsylvania will unite with West Virginia and handle its own waste rather than join the Northeast Compact, it is unclear how the Renovo scheme fits in with the Governor's plans. Westinghouse has kept the Governor's office apprised of Renovo developments. Pennsylvania does not have a state siting law for "low-level" waste facilities, so it is unclear who, other than the Nuclear Regulatory Commission and Clinton County, must approve the plans. For further information, contact Rob Fisher, 717/748-7648.



Prescott, Wisconsin Ted Miner of the Badger Safe Energy Alliance testified against the proposed high-level radioactive waste shipments scheduled to move from the Monticello reactor in Minnesota to the Morris storage pool, outside of Chicago, Illinois. Over 100 people from this rural area turned out to oppose the shipments.

photo by Will Fantle

## the Waste Paper

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The *Waste Paper* is published quarterly by the Sierra Club Radioactive Waste Campaign in Buffalo, New York. Materials from the *Waste Paper* may be reprinted with credit given. Back issues are available for \$5.00. Letters to the editor are encouraged and should be sent to the Buffalo address. Guest writers should inquire or submit copy or ideas to the Editor.

Special thanks to all the volunteers who contribute their time and energy to the *Waste Paper*.

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## South Dakota Still Fighting Coalition Gears Up For Nuclear Waste Referendum

The South Dakota Nuclear Waste Vote Coalition has been successful in collecting 24,000 signatures for a referendum on low-level radioactive waste. When South Dakota voters go to their polling places this November, they will vote on whether or not statewide voter approval will be required on the questions of low-level radioactive waste disposal and joining a compact.

As reported in *the Waste Paper* (Volume 5 No.4) South Dakota only produces 35 cubic feet of radioactive waste per year, but Chem-Nuclear is eyeing a site in Edgemont for a new waste dump. Edgemont, a tiny town of 1,300 in the southwest corner of the state, was once host of a uranium mill. Now, with the cessation of uranium mining in the area, Edgemont is looking for a new economic base. Enter Chem-Nuclear, also looking for more business because their Barnwell, S.C. nuclear dump will close in 1992 according to the Southeast compact agreement.

The Dacotah Chapter of the Sierra Club along with labor unions, farmers, the League of Women Voters, the Black Hills Alliance, religious groups and many others make up the coalition.

According to Jim MacInnes, chair of the Dacotah Chapter, Chem-Nuclear's public relations campaign helped the petition drive for the referendum. The company sponsored TV programs, newspaper supplements and "independent" economic studies. A television program led to a Fairness Doctrine challenge, resulting in the broadcast of 85 thirty-second announcements supporting the Nuclear Waste Vote Coalition's initiative. The intensity of the confrontation has increased. . . . Chem-Nuclear is now planning a \$600,000 "public education" campaign to defeat the November referendum.

The South Dakota controversy will have national implications since Chem-Nuclear sees the Edgemont site as possibly a Midwest or national burial ground for low-level radioactive waste generated mostly by nuclear power plants but also from medical and research institutions. There have been wire stories across the U.S. about this issue and a *Life* magazine story with a photo of the Edgemont mayor with a piece of uranium in his mouth. Still, the struggle goes on for the Nuclear Waste Voter Coalition.

## Northeastern Pa. Community Wins No Nuclear Waste Incinerator in Freeland

Citizens in northeastern Pennsylvania have beaten back a proposed radioactive waste incinerator and collection operation in Freeland, about 10 miles from the intersection of Routes 80 and 81 in the Township of Foster.

Radiation Services Organization (RSO) of Maryland applied for a zoning permit to use 46 acres of a site now housing a metal recycling plant, to store radioactive waste which would have come from industry, medical and research institutions throughout the East.

Local groups like the Susquehanna Alliance, the Northside Civic League of Freeland and Greater Hazelton Area 924 Citizens Committee led the community to victory. Many area residents had already been active in opposing the Susquehanna nuclear power plant and a toxic chemical dump, marked for Superfund clean-up. The area is rich in wildlife and wilderness and surrounding communities joined the Freeland citizens in stopping the nuclear waste firm from setting up shop there.

In less than two months, the issue was settled. Public meetings brought out 300-500 people and state Senator Raphael Musto and Representatives Thomas Tigue and Corry Stevens joined the opposition.

On May 17, 1984 the Foster Township Zoning Board denied a permit to RSO after it was discovered that the company did not have a permit to conduct business in Pennsylvania.

Although RSO will probably not appeal the decision, this may be only the first of many attempts to operate incinerators and temporary storage sites throughout the country. As the Congressional deadline by which new low-level radioactive waste sites are to be operating approaches (January 1, 1986), and with no clear answers to this problem in site for many regions, waste collection and disposal companies will try to open up shop in rural areas. *The Waste Paper* encourages readers to inform us about low-level waste plans in their areas.

## Compact Soft Sell in New Jersey

Snake oil salesmen, who were old time hustlers of elixirs to cure what ails you, would travel from town to town in the old West, selling their potions out of the back of wagons. Arthritis? Back Pains? You name it, snake oil could cure it. It was an obvious scam, much before the days of the Food and Drug Administration. The stuff didn't help or hurt anyone, except for the few cents lost. By the time you realized you'd been taken, the snake oil salesman was long gone.

The Northeast Compact is being sold this same way in New Jersey. The "compact" is an agreement among four states in the Northeast (New Jersey, Delaware, Maryland and Connecticut) to locate a common waste facility for the region. The site would handle radioactive waste from hospitals, research institutions, and industry, including utilities, taking in what is called "low-level" waste.

But, you can ask, what will happen to radioactive waste from Manhattan Project sites such as Wayne, Maywood and Middlesex, New Jersey; Lewiston and Colonie, N.Y. and Canonsburg, Penn.? According to federal and waste compact definitions, these uranium residues from building the first atomic bomb, are not considered "low-level" waste and would be excluded from the compact waste facility.

No matter. Despite this exclusion, officials of the New Jersey Department of Environmental Protection (DEP) have promised citizens a thorough clean-up of Manhattan Project sites, such as Wayne, N.J., once the Northeast compact goes into effect. With citizen support for the four state agreement waning, DEP officials are selling the compact like snake oil. Questioned in depth by Wayne citizens at a June 11, 1984 meeting, DEP scientist Jeanette Eng insisted that the compact would resolve Wayne's waste problem. Questioned later by *Waste Paper* staff, Ms. Eng backed off stating that the "working relationship," developed at compact meetings between state officials, would resolve the Manhattan Project waste dilemma. "It's logical, isn't it?" she stated. Logical, yes, but is it legal? And who's buying?

## Shipments Rerouted from Unstable Bridge

Fiendishly radioactive waste currently being shipped from West Valley, New York to Two Rivers, Wisconsin and Morris, Illinois has been rerouted due to the deterioration of a 16-foot high bridge in the rural town of Gowanda, N.Y.

The New York State Department of Transportation (DOT) claims that the bridge was inspected prior to the shipments beginning in October, 1983. But a private consultant recently recommended that the DOT put a 5-ton weight limit on the approximately 16-foot bridge.

Opponents of nuclear waste shipments know that containers holding the irradiated fuel, called casks, weigh well over 5 tons, more in the range of 20 tons. Could the bridge have deteriorated in less than one year since the shipments began or was the DOT's inspection slipshod?

Now other communities in Western New York are at risk from these dangerous nuclear waste shipments enroute to the reactors which own the fuel.

Another near disaster occurred last December when the cab and the trailer carrying the irradiated fuel separated on the Indiana Turnpike on the way to Illinois. Again, DOT officials supposedly check every truck before it leaves the West Valley site but the problem went undetected.



**Standing Room Only** In a rural North Carolina community, citizens came out by the hundreds to voice their opposition to a radioactive waste incinerator proposed by Chem-Nuclear. Later that night, the Bladen County Commissioners passed a resolution against the plan. See story page 7.

courtesy of the Fayetteville Times, Dick Blount

# Barnwell Leaks

## South Carolina Nuclear Landfill Headed for Trouble?

Tritium and cobalt have been detected seeping from the nation's most utilized radioactive landfill at Barnwell, S.C. Prior to these findings, the Barnwell dump had been praised as the state-of-the-art waste site in the country, supposedly operating without the leakage problems experienced at closed dumps.

But in 1982, a United States Geological Survey (USGS) report entitled, "Hydrology of the Low-Level Radioactive Solid Waste Burial Site and Vicinity Near Barnwell, S.C." (Open File Report 82-863) by James Cahill told a different tale.

Below the *Waste Paper* and its guest researcher Nancy Fusco investigated the Barnwell dump and the radioactivity migrating from it. Citizens can use this article to refute industry claims which portray Barnwell as a gleaming star in waste management business.

Barnwell, operated by Chem-Nuclear Systems, is only one of three nuclear dumps still open in the U.S., but it accepts over 80% of the nation's so-called "low-level" radioactive waste. This waste ranges from highly radioactive control rods which are used to stop a nuclear reaction in the reactor core to the less contaminated gloves and research test tubes. These control rods measure 100,000 rads per hour, will be radioactive for hundreds of years and would give a person a lethal dose in less than one minute. Most waste, on the other hand, is radioactive for a few days, a few months or a few years.

**Site Borders Savannah River Plant** The site is roughly 300 acres and located in the southwest corner of South Carolina, approximately 40 miles from Augusta, Georgia. The dump borders the southeast corner of the Savannah River Plant, a military complex which reprocesses nuclear fuel to be used in making new weapons. With an average rain fall of 46" per year, combined with permeable soil, it's no wonder that the landfill is leaking.

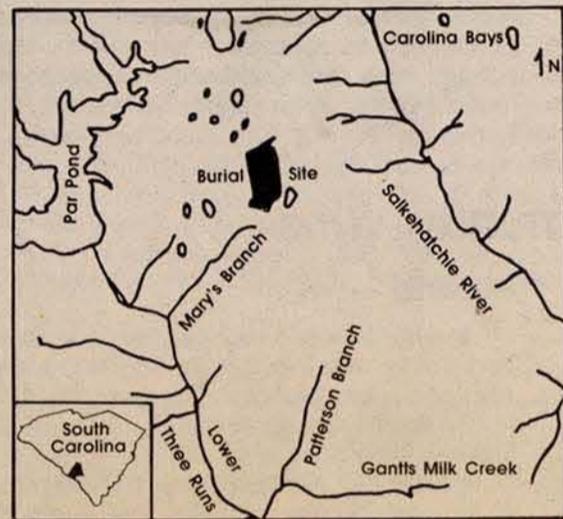
There are 32 trenches at the site, 21 feet deep, 50-100 feet wide and 500-1,000 feet long. That's two to three football fields per trench filled with radioactive waste. The geology of the area is primarily sandy clay and clayey sand, underlined with more sand. The USGS revealed sand as a main constituent of the soil, a primary pathway for migration, allowing radioactive leachate to disperse rapidly.

Several creeks, a river and about one dozen ponding areas, called Carolina Bays, surround the site. Some of these bays are increasing in size. The trenches inevitably fill with water which percolates out through the sandy bottoms.

A recent study conducted by the Savannah River Plant shows that the Tuscaloosa Aquifer has been contaminated by nuclear activities there. Further research needs to determine whether the contamination is due to leakage from the nearby Barnwell dump or the Savannah River Plant. Communities in parts of Georgia and Florida as well as South Carolina rely on the Tuscaloosa for their water supply.

The USGS divides the Barnwell dump into four water-bearing zones. The first zone extends from the water table to 70 feet below. Zone 2, composed of mainly fine sand, is about 100 feet thick. Zone 3, also composed of sand, is between 170 and 350 feet deep. Zone 4 is about 650 feet of sediment.

**Tritium Detected** High levels of tritium, a suspected carcinogen, have been detected in several core drillings, 15 feet below the surface, 200 feet southwest of the trenches.



**Barnwell, South Carolina** this map shows the many streams, ponds and creeks which surround the Barnwell, South Carolina nuclear landfill. The inset depicts the location of Barnwell County on the border of Georgia. The 32 trenches occupy about one-half of a square mile on the 300 acre site.

Steel pipes driven through the buried waste past the bottom of the trenches indicated millions of picoCuries per liter of tritium and high cobalt-60 levels found about 5 feet beneath the trench bottom or 27 feet below the land surface.

Lateral migration of tritium exist 10 feet south of trench 8 in zone 1 below the water table. Since the survey in 1982, the leachate has also been found in zone 2. It had previously been estimated by the USGS that it would take 10 years for seepage to reach zone 2, but sand pockets have speeded up the process to eight years. Most of the ground water contribution to Mary's Branch Creek, comes from zone 2.

The leachate will reach the creek before it reaches zone 3 and then will probably continue on to the Lower Three Runs, a nearby stream. The Savannah River then will carry the radioactivity to the ocean.

It is interesting to note that a layer of sand placed at the bottom of the trenches before burial is supposed to prevent waste containers from resting in standing water. But, in fact, water has never collected in the trenches, as at West Valley, because the soil is sandy at Barnwell. Water, entering through the trench covers, mixes with radioactivity in the trenches, and immediately leaks out. In addition, the USGS found that tritium migrates upward as well as downward from the trenches and may enter the atmosphere by evaporation.

Another problem, not mentioned in the USGS report, involves the settling of trench covers. Because waste barrels were initially buried in a haphazard way, the older trench covers have shifted and cracked as barrels rust and corrode. The State of South Carolina has required Chem-Nuclear to re-contour the trenches, but this maintenance problem, expected to continue indefinitely into the future, will be taken over by the State after Chem-Nuclear leaves the site in 1992.

These migration and ponding problems at Barnwell may well be the beginning of a long list of dangers at the landfill. *The Waste Paper* has profiled many other radioactive landfills and not one in regions of average rainfall has proven leakless. Communities faced with the possible threat of a radioactive landfill in their area should order our new fact sheet, "Low-Level Nuclear Waste: Options for Storage," which discusses alternatives to leaky landfills. Write: Sierra Club Radioactive Waste Campaign, 78 Elmwood Avenue, Buffalo, New York 14201. Enclose \$1.00 each; 25 or more, 20¢ each.

Nancy Fusco, who received her B.S. in biology and chemistry from Marymount College, recently finished an internship with the Audubon Society at *AUDUBON* magazine and *Audubon Action*. She is presently employed as a nature educator.

# DOE Plans More Burial at West Valley

In our last issue of the *Waste Paper*, we briefly reported that a major leak of radioactivity was discovered from one of two burial grounds at the closed West Valley nuclear waste dump, 30 miles south of Buffalo in late November 1983. Although this type of accident confirms environmentalists' objections to landfilling radioactive waste, Westinghouse Corp., under the encouragement of the U.S. Department of Energy (DOE), is planning to bury more at West Valley.

*The Waste Paper* has found that the migration of plutonium mixed with tributyl phosphate and kerosene, is also laced with americium-241, cobalt-60, strontium-90 and iodine-129. This contamination was discovered 60 feet from its burial point by the United State Geological Survey (USGS) during its final day of yet another study to model the geology and hydrology of the site. It has also been revealed that the radioactive liquid has risen to the surface as well as moved 6 to 10 feet below the surface.

**No Hazard?** At the time of the accident, Westinghouse public relations people were calling the leak "barely detectable," and "the

same amount of radioactivity as in a household smoke detector." But a careful look at the concentrations recently obtained by the Campaign are quite alarming. Far from being "barely detectable," the levels of iodine-129 and strontium-90 were over 800 and 30 times respectively, the maximum permissible off-site concentration levels, or so-called "safe" levels set by the Nuclear Regulatory Commission.

**The real clincher is that whatever leachate is pumped out of the burial ground will be mixed with cement and reburied in the same area!**

Amazing as it may seem, Westinghouse has no plans to exhume or completely pump dry the source of the leak, one of the 1,000 gallon tanks which were buried in the 1960's. Though only one tank has rusted through so far, all parties agree that it is only a short matter of time before the remaining tanks, holding a total of

11,000 gallons of radioactive solvent, rust and leak out plutonium and iodine. Plutonium is extremely toxic material, an amount the size of a grain of sand, if inhaled, could cause lung cancer. Iodine can cause cancer of the thyroid.

Other practices of Nuclear Fuel Services (NFS), which operated the reprocessing plant at West Valley, may lead to similar hazards in the future. Liquid solvents were routinely buried after being mixed in 1,000 gallon tanks with kitty litter in an attempt to solidify these by-products of reprocessing irradiated fuel. From 1966-1978, 550,000 curies of assorted radioactive debris from reprocessing were buried on one acre of what used to be prime farmland in Western New York. In addition, highly radioactive ruptured irradiated fuel assemblies from the N-reactor at Hanford, Washington, used in the production of nuclear weapons, were encased in concrete and buried 50 feet below the surface at West Valley.

So, what will Westinghouse do now? Beginning May, 1984 (six months after the leak was

*continued on page 7*

# A Utility Scam . . . .

## or Why Your Community Needs a Landfill

There was a time when utilities just supplied electricity, but they're showing inordinate concern about your health lately. Have you noticed? They're asking questions like, "What will happen to cancer patients when hospitals can't dispose of "low-level" waste?" Utility slide presentations on radioactive waste show laboratories and children sliding in playgrounds, but little talk about nuclear plant waste, and none about leaking radioactive landfills at West Valley, N.Y., Maxey Flats, Ky., and Sheffield, Ill. What's behind this utility focus on health care?

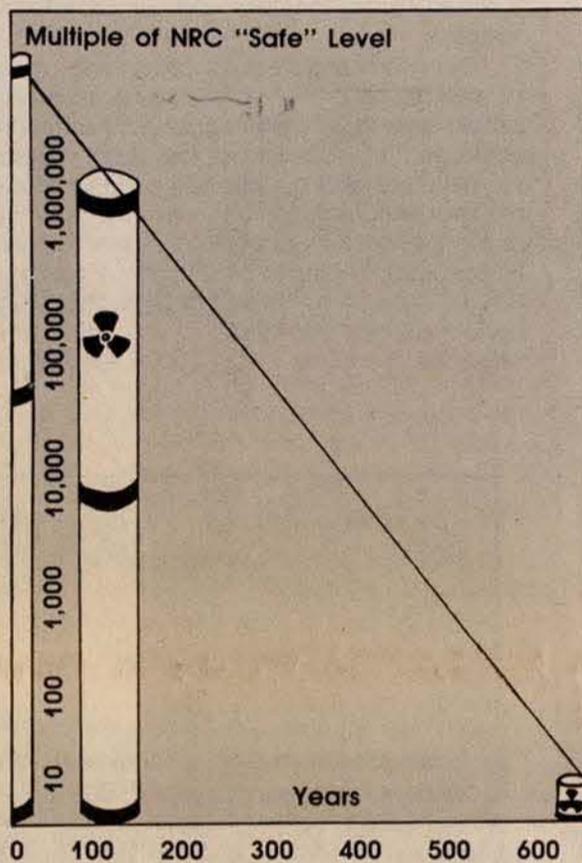
A scam is at work — a coverup of the facts — reactor wastes are much more radioactive and long-lived than medical and research wastes, and on average, *thousands of times more radioactive*. It takes hundreds of years for reactor waste to decay to levels considered "safe" by the Nuclear Regulatory Commission (NRC) (though no levels are truly "safe" — each exposure to radiation increases the probability of cancer or a genetic defect).

**At Least 600 Years** Reactor "low-level" waste comes from contaminated booties, gloves, clothing and trash, but the much more radioactive source arises from cleaning reactor coolant. Reactor water is passed through resins in an operation similar to Culligan hard water softeners. Radionuclides such as cesium, cobalt, manganese and iron are filtered out. Some of this radioactivity comes from the pin holes in the fuel assemblies in the core of the reactor; some from the pressure vessel surrounding the reactor. About 1/3 of the radioactivity is due to cesium-137, with a half-life of 30 years. Half-life is the time for one-half of original amount of cesium to decay. As Figure 1 shows, at the end of 100 years, this waste still has radioactive concentrations 10,000 times greater than permissible concentrations set by the NRC. After 600 years, reactor resins finally decay to "safe" NRC levels. *Six hundred years* — had the reactor resins been produced 150 years before Columbus "discovered" America, the resins would still be radioactive today and just approaching "safe" NRC levels.

The question is, who will monitor these so called "low-level" wastes for 600 years? Who will guard and maintain these landfills? New NRC regulations address these questions by requiring states to take over these dump sites for 100 years after operation. Though reactor wastes will continue to be extremely radioactive for much longer, the NRC regulations make no provision for monitoring and maintaining these utility wastes after that time. Of course, if you were a utility, why not push this waste product problem off to the state, and to the distant future?

The NRC regulations (Title 10, Code of Federal Regulations, Part 61) allow all "low-level" waste to be placed into the same landfill, though not necessarily the same trench. Landfills are the least expensive options for the utilities. After 100 years, the radioactive trash from medical and research institutions becomes es-

entially non-radioactive, but the reactor resins remain highly radioactive, assuming the cesium in the landfill had not already leaked out. Rather than place long-lived radioactive waste into a leak-prone landfill, a much safer alternative is possible. No landfills are needed. For example, dry trash, essentially short-lived radionuclides on clothing and paper would be placed into monitored, retrievable above-ground storage bins. Reactor resins, on the other hand, would be treated as a high-level waste, and sent to a repository when a safe one is developed 1000' to 3000' below the earth's surface. After 100 years, the monitoring period for the now non-radioactive trash on the earth's surface would end. Reactor resins would still be radioactive, but it would be deep below ground.



**Figure 1. Radioactive concentrations of cesium-137 reactor resins as a function of time. After 100 years the radioactive concentrations in reactor resins are still 100,000 times the NRC "safe" levels.**

**At 600 years, the radioactive concentrations of reactor resins are just approaching the NRC "safe" levels. The NRC "safe" level is set at  $2 \times 10^{-5}$  microcuries per milliliter.**

**Sites Become More Manageable** Removing reactors resins from a "low-level" waste facility means that only short-lived radioactive trash would be stored above-ground. This means that "low-level" waste facilities would be much less dangerous; the problem becomes much more manageable. These above-ground

storage facilities could be located at reactors, or in centralized storage facilities in each state. This environmental plan obviates the need for regional agreements, or compacts, to locate and manage waste facilities that can accommodate reactor resins. These compacts, strongly pushed by the utilities, overturn state laws and citizen rights, and are opposed by many public interest groups.

Well, if the idea is better than buttered popcorn, who opposes the plan? Opposition comes from the waste generators who are unhappy with the increased costs. Above-ground storage facilities cost more than landfills, though compacting hospital and research wastes into a small volume will reduce this cost penalty. Utilities are unhappy about paying the additional cost of space in a federal repository for reactor resins. But since the volume of resins is small — less than 6%, but heavily concentrated, the increased waste disposal costs to utilities will be miniscule and will be essentially invisible compared to the cost of running a nuclear reactor.

**No Landfills Needed** To the states who must monitor these waste facilities, the choice between leak-prone landfills and monitored, retrievable above-ground storage facilities is obvious. Continually repairing and maintaining a landfill can be very expensive. New York State is saddled with the prospects of pumping dry and treating trench water for the indefinite future. The trench covers at the three closed landfills, Maxey Flats, Ky., Sheffield, Ill. and West Valley, N.Y., must be recontoured and seeded, whenever erosion and settling create cracks and holes on the earthen trench covers. The State of Illinois has sued U.S. Ecology for \$97 million, and is requiring the company to maintain Sheffield waste dump for the indefinite future.

Pierce through this utility scam, in which they use the medical community to force open leak-prone landfills. If utilities are showing this uncommon concern about your health, they can stop raising rates to pay for expensive nuclear plants. Or, if they want to make a genuine contribution to resolving the "low-level" waste problem, they can store medical wastes in above-ground storage bins at the reactor sites. Make that suggestion, and then you'll see the excuses fly.

#### What to Do:

- Order the fact sheet, "Options for Storage," which lays out an environmental plan for managing "low-level" wastes. Send \$1.00 to the Buffalo office.
- Press state officials to change the definition of what "low-level" wastes are acceptable at state storage facilities. Make sure that only wastes whose hazardous life is less than the monitoring time of the facility are accepted. This means that the definition of "low-level" waste must be sharpened to distinguished between reactor resins and research and medical wastes.



## Brookhaven . . . . .

continued from page 1

Clearly troubled by this patchwork quilt of local regulation and the threat that the nuclear industry would be brought to a halt, utilities, suppliers and shippers pressured DOT to pre-empt these local ordinances.

In February 1981, during the changeover in administrations from Carter to Reagan, DOT regulation HM-164 was adopted, directing all irradiated fuel shipments onto Interstate highways and through the heart of densely populated cities if no bypasses were available. All ordinances which were inconsistent with HM-164 were summarily pre-empted. Since all land routes from Long Island must go through NYC, DOT thereby pre-empted the NYC ordinance. In March 1981, NYC took federal DOT to court. While the U.S. District Court ruled in

favor of NYC, saying DOT's actions were "arbitrary and capricious, and an abuse of discretion," this decision was overturned on appeal in August 1983, setting the stage for the present actions. Over eight years of backlogged waste, equivalent to over 40 shipments, are in the cards for citizens along the 2500 mile route to Idaho.

#### WHAT TO DO:

• Donald Manes, Queens Borough President has scheduled public hearings for September. Call his office at 212/520-3078 for details. Plan to come and make a statement. Bring your friends and neighbors.

• Write the Sierra Club Radioactive Waste Campaign at 228 East 45th Street, New York 10017, for a copy of a fact sheet on the Brook-

haven shipments. If you would like to work with the Sierra Club to mobilize for these hearings, send your name and phone number to Marvin Resnikoff, at the above address.

• Urge your Congressional Representative to oppose these shipments and to support the Weiss Bill, HR. 4297, which rewrites the Hazardous Materials Transportation Act. It places the burden on DOT to prove that an ordinance is an unreasonable burden on interstate commerce and does not increase the public safety, before the ordinance can be overturned.

• If you'd like to work on the weapons connection of the Brookhaven shipments, call Tom DeLucca at NYC Mobilization for Survival, 212/673-1808. ☸

# Resources

graphics by Michael Ripple



## Citizens' Nuclear Waste Manual

The *Citizens' Nuclear Waste Manual* written by Laura Worby for the Nuclear Information Resource Service (NIRS) is a most comprehensive compilation of information for communities surrounding proposed high-level radioactive waste repositories.

It is a must if you live in Texas, Louisiana, Mississippi, Washington, Minnesota, Michigan, Utah or Vermont. The binder, thick with documentation, provides citizens with plenty of data from technical problems with geological formations to community organizing. Each of the seven sections provides the reader with references as well as national and local environmental organizations working on radioactive waste issues.

If you don't understand the structure of the Department of Energy, if you want to know the licensing procedures for choosing a waste site or if you want to learn about media access, order the *Citizens' Nuclear Waste Manual* from Nuclear Information Resource Service at 1346 Connecticut Ave. NW 4th Floor, Washington, D.C. 20036 for \$20.00.

## A Citizens' Guide to Lobbying

by Marc Caplan  
\$6.95 paperback, 208 pp.  
Red Dembner Books, 1983

*A Citizens' Guide to Lobbying* by Marc Caplan, prefaced by Ralph Nader, is an upbeat, positive "how-to" book on working in the public interest movement. Caplan, who spent six years as the Director of the Connecticut Citizen Action Group, has many anecdotes of victories, losses and compromises within the Connecticut General Assembly to tell to his readers.

There are chapters on organizing, gaining access to the press, on legislative committees, public hearings, lobbying and whatever else you need to understand the state legislative process and work successfully within it. Even for the seasoned activist, it is a refreshing reminder of the basic "do's and don't's" that we sometimes forget. Written in plain, clear language, *A Citizen's Guide to Lobbying* is available from Red Dembner Enterprises Corp., 1841 Broadway, New York, New York 10023 for \$6.95.

# RALPH NADER

A  
CITIZENS'  
GUIDE  
TO  
LOBBYING  
By Marc Caplan

## T-shirt Sale!

Buy one,  
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the second one.



It's our end of the summer exclusive sale for Waste Paper readers and subscribers. If you buy one t-shirt before October 1 at our regular price, \$6.95 for adults, \$5.50 for kids, we'll take \$2 off the second shirt and each shirt thereafter.

Our Hanes' 100% white cotton shirts with an extraordinary 4-color design are comfortable, hand silk-screened and made with non-toxic dyes. They won't shrink or run. Great gifts for runners or activists! Statement reads "You Can't Run From Radioactive Waste." Please add 85¢ postage per shirt (NY residents add 7% sales tax). Send orders to: Sierra Club Radioactive Waste Campaign, 78 Elmwood Avenue, Buffalo, New York 14201. Sizes S (32-34), M (34-36), L (38-40), XL (42-44). Kids 4-6, 8-10 12-14. Order Now!

photo by Clyde Munz

The utility company in your area wants to ship irradiated fuel from a nearby nuclear power plant through your neighborhood.

State legislators are ready to endorse siting a "low-level" nuclear waste dump just five miles from your farm.

Although the old, worn out nuclear reactor 50 miles from your home has been permanently shut down, the utility has not yet announced its plan to decommission the plant. As a ratepayer and concerned citizen, you want to know the future plans.

What do you do? Start by having the facts. The Sierra Club Radioactive Waste Campaign's three new slide shows can help. They are great to show your study group, local firefighters, state legislators, church groups and schools. Order one today!

- **Hidden Legacy: A profile of "low-level" nuclear waste dumps.** Discusses problems at past dumps and alternatives to burial of waste.

- **Decommissioning Nuclear Reactors: A problem for centuries.** Case in point, Indian Point I, which has been shut down since 1973.

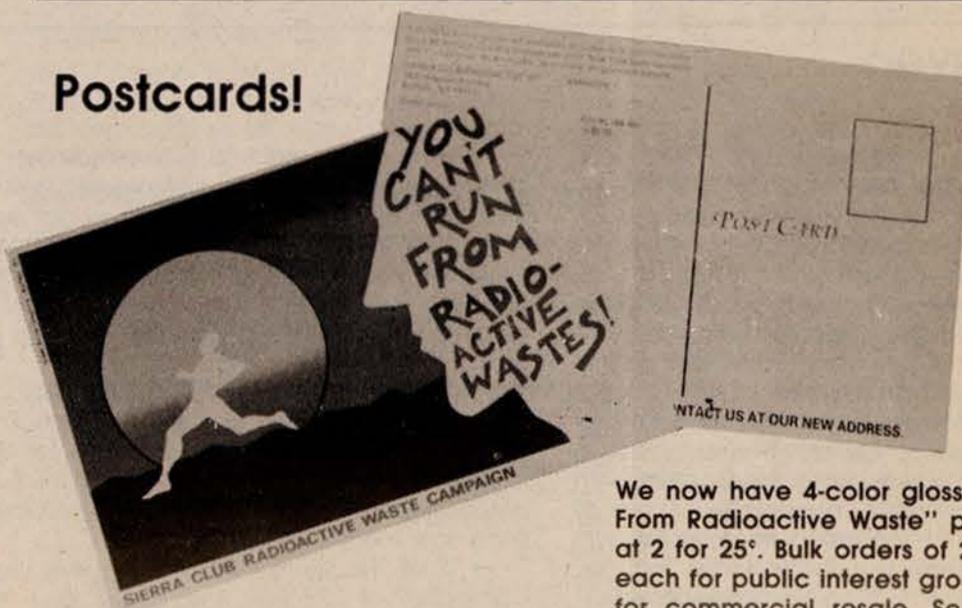
- **Critical Choices: The storage and transport of nuclear waste.** Discusses hazards of transport and alternative storage methods for irradiated fuel.

All programs available from the Radioactive Waste Campaign, 78 Elmwood Avenue, Buffalo, New York 14201, (716) 884-1000. Programs each have 80 slides and come with taped, automated script and typewritten script.

\$20 per week rental for public interest groups, \$30 for government and industry.

\$65 for purchase for public interest groups, \$100 for government and industry.

## Postcards!



We now have 4-color glossy "You Can't Run From Radioactive Waste" postcards available at 2 for 25¢. Bulk orders of 25 or more are 8¢ each for public interest groups and 10¢ each for commercial resale. Send them to your friends! Plenty of space to write. Order from the Sierra Club Radioactive Waste Campaign

## Nuclear Truck Overtakes in Virginia

Crazy as it sounds, the first nuclear truck accident of the year took place in Cuckoo — Cuckoo, Virginia, that is. On June 29, 1984 at 6:15 in the morning, a flat bed trailer carrying seven new pressurized water reactor (PWR) fuel assemblies ran off a narrow two-lane country road in Louisa County, turning over in a cornfield. The driver was slightly injured, but no radiation released. The fresh, slightly radioactive fuel was being shipped by Westinghouse Corporation to the North Anna reactor operated by Virginia Electric Power Corporation (VEPCO).

The accident has fueled the controversy regarding proposed shipments of irradiated nuclear fuel from VEPCO's Surry to North Anna reactors. Irradiated fuel, fuel that has been in the reactor, is millions of times more radioactive than the fresh fuel involved in the accident, and is shipped in heavy, lead-lined containers, one to a truck. The Louisa County citizens group, Concerned Citizens of Louisa, which opposes the Surry to North Anna shipments, has called for a full-scale investigation of the Cuckoo truck accident.

According to Jerry Rosenthal, head of the group, "This accident points out the risk involved in the transportation of any kind of nuclear fuel. Just because no one was hurt, it shouldn't give us a false sense of security." The group has proposed instead that the Surry irradiated fuel remain in dry storage on the utility property until a permanent disposal site is

The cause of the truck accident is still under investigation. Apparently, the driver of the truck, owned by C & H Transportation Co. of Dallas,

Texas, attempted to avoid an accident with an oncoming car driving on the center line of US 522 by pulling onto the shoulder. According to Doris McCray, who saw the accident from her kitchen window, "It all just happened in slow motion. The truck eased over to the side of the road and slowly turned over in the cornfield. It didn't make much noise."



**Cuckoo, Va.** Virginia Electric Power Co. employees attempt to turn a nuclear fuel truck back over onto its wheels. The driver was slightly injured in the accident and some of Doris McCray's corn was lost. *courtesy of the Central Virginian*

Despite the fact that two VEPCO officials were coincidentally following the truck when the accident took place, and the North Anna reactor was only five miles away, it was two hours before VEPCO checked for radioactivity. Three hours later the State Health Department's

Bureau of Radiological Health came on the scene. The official in charge of the Richmond office of the Department of Transportation expressed little interest in the accident. "Just about anybody can carry unused fuel assemblies who can operate a truck," William Savage, agent in charge stated.

This accident comes at a key time in the transportation battle of this rural Virginia county. VEPCO had requested that US 522 be designated the preferred shipping route between Surry and North Anna reactors. Earlier this year, the State Department of Health rejected this request, citing the narrow shoulders and tight turns. The State Health Department chose instead a longer route through neighboring Spotsylvania County, setting off a battle between the two counties. Spotsylvania has formally asked for a reconsideration of the Health Department decision.

On April 26, Louisa County and VEPCO signed an agreement allowing VEPCO to ship limited quantities of irradiated fuel from the Surry reactor. This is the first reactor to fully compact its full pool and exhaust its storage capacity. VEPCO agreed to vigorously pursue licensing of dry storage at Surry. However, Concerned Citizens of Louisa attacked the agreement because it could really allow an unlimited number of shipments. About 500 irradiated fuel shipments through Louisa County had been planned by VEPCO over the next five years. As a result of the accident, the Louisa citizens group will push to have the County Board of Supervisors rescind the agreement. A County Supervisor called the timing of the accident "ironic."

## Will North Carolina Allow A Nuclear Waste Incinerator?

### Rural Bladen County Says "NO"

About 450 people jammed a Bladen County Commissioners meeting in Elizabethtown, North Carolina recently to protest a planned radioactive waste incinerator in their area. The incinerator would serve not only the southeast but possibly the entire country.

U.S. Ecology, formerly Nuclear Engineering Company, of Kentucky has filed for a permit from the North Carolina Department of Human Resources to operate the incinerator in a rural area, 23 miles south of Fayetteville. The company, which changed its name as a public relations gimmick, has run several problem-ridden radioactive landfills in Kentucky, Illinois, Nevada and Washington state. The State of Illinois and U.S. Ecology is currently embroiled in a \$97 million lawsuit over the Sheffield, Illinois dump which has severe erosion and off-site migration problems.

At the town meeting, the Bladen County Commissioners as well as their neighboring County of Robeson Commissioners went on record opposing the incinerator. The company

has an option to buy property in Bladen County but is also eyeing a site in Wayne County, north of Fayetteville. The Bladen County site is favorable since it is already zoned for industrial use.

Bladen County residents are not alone in their struggle to protect their health and the environment. As the January 1, 1986 deadline when landfills in South Carolina, Washington and Nevada can close their doors to out-of-region waste draws closer, waste generators are desperately searching for new ways to get rid of their waste. In fact, the Barnwell, S.C. dump will close permanently in 1992. Waste mongers like U.S. Ecology and Chem-Nuclear are looking for sites for new incinerators and landfills, the two most dangerous waste disposal methods, to fill this void.

Unfortunately, North Carolina citizens do not have the endorsement of some of their state officials. Governor Hunt's Waste Management Board as well as the State Department of Hu-

man Resources support the incinerator and believe it will keep the state from becoming the next nuclear waste dump in the southeast. When the Barnwell, S.C. landfill closes in 1992, North Carolina ranking second behind South Carolina in waste generating was expected to "host" the next site.

North Carolina residents are faced with an impossible choice, an incinerator or a landfill — Airborne radiation versus migration into groundwater and onto farmland. Questions still remain about where the radioactive ash from the incinerator will be disposed of and whether incinerators can be operated without releasing radioactivity. One alternative to incineration, waste compaction, has also not been explored by state officials. Stay tuned for more citizen battles to prevent landfills and incinerators from cropping up all across the country.

For more information on storage options of radioactive waste, order our new fact sheet, "Low-Level Nuclear Waste: Options for Storage," for \$1 each; 25 or more 20¢

## DOE . . . . .

*continued from page 4*

discovered) it began pumping out the contamination in depressions and voids between the weathered and unweathered till where the radioactive kerosene seems to be gathering. In addition, Westinghouse will drill some wells to pump out more of the liquid. But the real clincher is that whatever leachate is pumped out of the burial ground will be mixed with cement and reburied in the same area. By deciding not to immediately exhume or pump dry the tanks, Westinghouse is merely conducting band-aid remedial action.

**Clean-up Means More Burial** If you thought that was bad, the DOE has added insult to injury. In July 1984, the Buffalo News reported that cesium will be partly removed from the 500,000 gallons of radioactive liquid still stored at the West Valley, and the still contaminated liquid

will be mixed with cement and buried as well. The project which is estimated to cost \$1.5 million and is part of a joint DOE-New York State funded project to "clean-up" West Valley could begin in 1986. This liquid waste contains mostly cesium and is sitting in the top of a huge carbon steel tank. Underneath the liquid is radioactive sludge, mostly strontium, which will be made into glass and shipped off to a federal repository if and when one is available. This is the first time high-level liquid radioactive waste from both the commercial nuclear industry and weapons-manufacturing will ever be made into a solid form in the United States. It is the nuclear industry, and the DOE's most cherished experiment to prove that there is no radioactive waste problem in this country. (See "The Experiment," Vol. 3 No. 4, *The Waste Paper*)

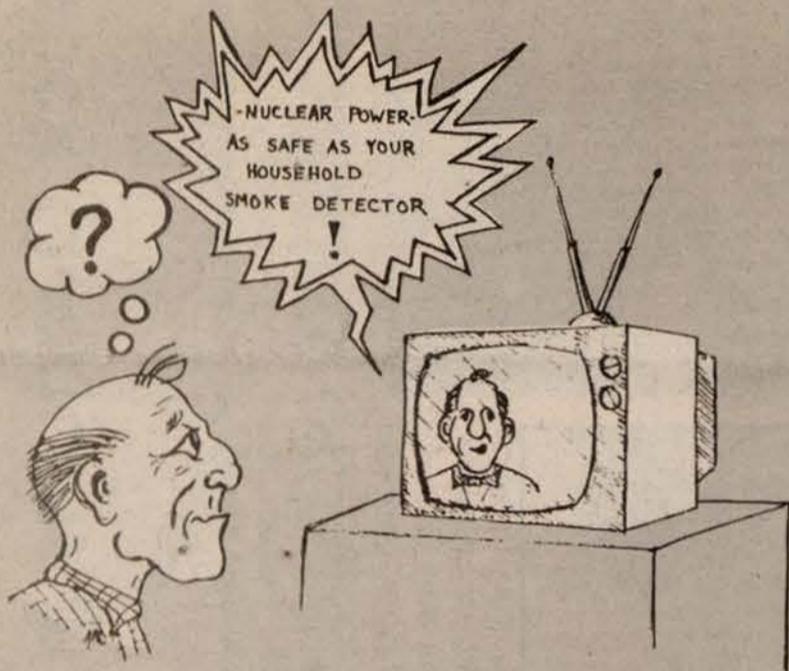
Citizens throughout the country are urged to write to the DOE since federal and New York State tax dollars are being used at West Valley. In New York, write to the Attorney General as well. Tell them both that radioactive landfills are

dangerous and that other options are available for the radioactive waste produced at West Valley. Furthermore, when the DOE and Westinghouse leave the site sometime in the 1990's, New York will be stuck holding the waste bag once again, just as when NFS walked off the site in 1981. As more landfilling is permitted, more radioactivity is dispersed into the atmosphere, the water and the food chain.

"West Valley area residents have lived through 20 years of environmental damage from buried waste in their community. They don't want or need anymore. The DOE and Westinghouse clearly have no concern for public health or the environment by choosing to bury radioactive waste mixed with cement in the ground," stated Carol Mongerson of the Coalition on West Valley Nuclear Wastes.

Write James Turi, U.S. Department of Energy, West Valley Program Office, Mail Stop NE-GTN, Washington, D.C. 20545 or the New York State Attorney General Robert Abrams, NYS Department of Law, Executive Office, the Capitol, Albany, New York 12224

Curious about whether pro-nuclear advertisements on television and the radio are telling the truth about nuclear power and nuclear waste?



Interested in learning the facts about the hazards of nuclear reactors and nuclear waste?

Then subscribe to *the Waste Paper*, the world's only quarterly on radioactive waste — exclusive interviews, investigative research and reporting, citizens' battles and more! We've got the facts and the figures for you. Only \$8 for this important quarterly.

- Enclosed is \$8 for a year's subscription to *the Waste Paper*, or \$12 for two years.
- I want to stop generating nuclear waste. Here is my contribution to the Campaign.
- I would like to volunteer time for the Campaign. I can help with research, clerical, public speaking, writing or visual arts. (Please circle your interest.)

Clip and mail to: The Sierra Club Radioactive Waste Campaign, 78 Elmwood Avenue, Buffalo, New York 14201.

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