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the Waste Paper

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Late Fall 1983

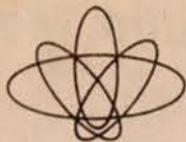


photo by Clyde Munz

Highly toxic nuclear waste in unsafe shipping containers has already begun moving down our roadways from New York to the Midwest. Rural communities are especially threatened since shipments avoid densely populated areas. See story page 4.

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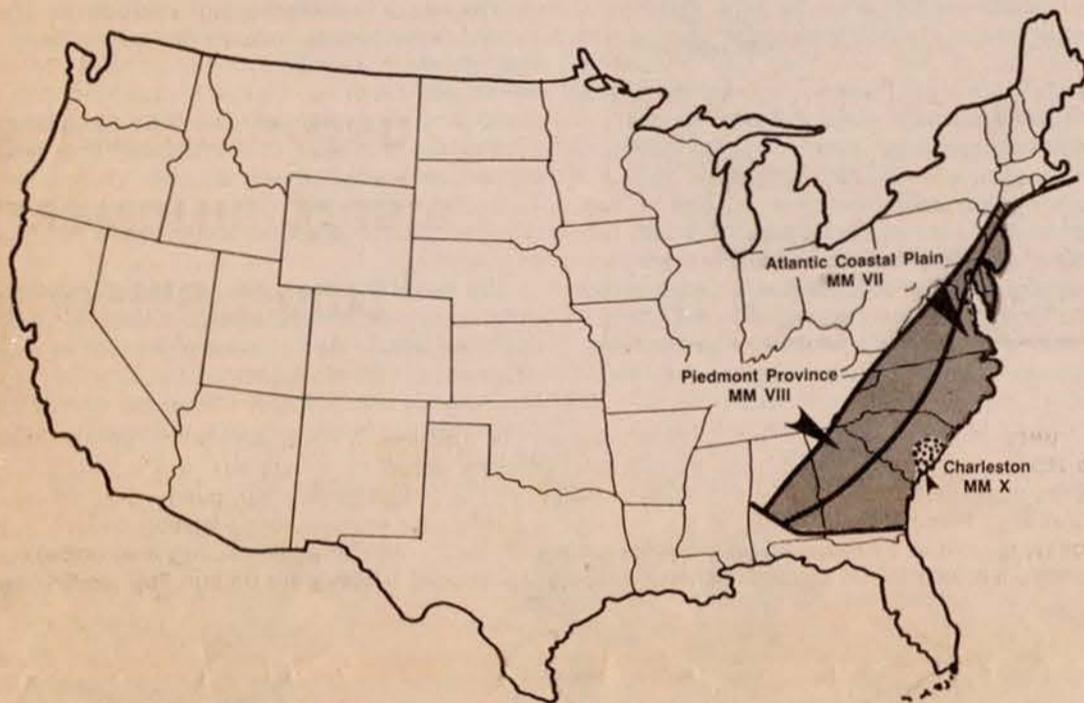
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Waste Paper Exclusive

Severe Earthquake Possibility Shakes Nuclear Plant Design on Eastern Seaboard



Geological Regions on the Eastern Seaboard Under previous interpretations of geologic data, only the region near Charleston would have a severe earthquake, MM X on the Modified Mercalli (MM) scale. The Atlantic Coastal Plains and the Piedmont Province regions would have earthquakes of maximum intensity MM VII and VIII, respectively. The USGS now believes that all regions in gray could have an MM X earthquake. The standards for the Barnwell reprocessing plant and 73 operating or under construction reactors on the eastern seaboard will have to be upgraded, or better yet, shut down.

In a development sure to shake the foundations of the nuclear industry, the U.S. Geological Survey (USGS) now postulates that a severe earthquake could happen anywhere along the eastern seaboard. This information, which will affect the Barnwell nuclear reprocessing plant and 73 commercial nuclear reactors, both operating and under construction on the eastern seaboard, has not yet been reported in the new media. A key USGS letter and Nuclear Regulatory Commission (NRC) memos were recently made available to *the Waste Paper*.

The upwardly revised earthquake potential for the eastern seaboard is based on a reanalysis by USGS of the Charleston, South Carolina earthquake of 1886. Though the region affected was not large, the 1886 earthquake was quite severe, registering X on the Modified Mercalli (MM) scale in the immediate Charleston area. An MM X earthquake destroys most masonry and frame structures and causes the ground to crack, rails to bend and landslides. In terms of ground motion, the Charleston earthquake is thought to be more severe than the San Francisco earthquake of 1909.

The USGS previously believed that any future earthquake as severe as that of 1886, could only be localized near Charleston and could not occur elsewhere. It is this understanding which has now changed. After several years of intensive study in the Charleston region, the USGS could identify no geologic structure as the source of the Charleston earthquake. More disturbing, the USGS found that other regions along the eastern seaboard had the same geologic structure. Thus, the USGS could not rule out the possibility of an MM X earthquake occurring in other regions (see map). It is most interesting to note the same USGS geologist, James F. Devine, who in 1955 developed this initial interpretation of the Charleston earthquake, signed the Nov. 18, 1982 letter reversing the USGS position.

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Appeals Court Overturns Waste Shipments Ban

by Lindsay Audin

The see-saw battle to keep irradiated fuel shipments out of urban areas has shifted again; shipments are now cleared to move by truck, even through New York City, as a result of a recent court decision.

In January 1982, the U.S. Department of Transportation (DOT) attempted to impose HM-164, a rule overturning local restrictions against irradiated fuel shipments. One month later, in a case surrounding the New York City law restricting such shipments, that rule was blocked by a federal District Court decision that declared DOT's regulation to be "arbitrary and capricious." For the next year and a half, shipments remained in a state of limbo and shippers avoided any urban area with a ban in effect.

On August 10, 1983, however, the U.S. Court of Appeals overturned the District Court and re-instated HM-164. Shipments can now move anywhere in the United States despite local or state laws restricting them. Nuclear Regulatory Commission (NRC) security regulations still require extra guards when moving through 110 urban areas designated in NUREG-0561 and routes must still be approved by NRC, but a great deal of latitude is now in the hands of the shippers of nuclear waste.

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Highlights of What's Inside

On Transportation of Nuclear Waste

The Appeals Court in New York State has recently overturned a 1982 ruling which allowed cities to pass restrictions on nuclear waste transport. Find out what this means for stopping irradiated fuel from travelling down our highways and railways *page 1*

The Sierra Club Radioactive Waste Campaign has recently found out through a Freedom of Information Act request that a Nuclear Regulatory Commission contractor found standards for transport casks for irradiated fuel to be inadequate *page 5*

Hundreds of nuclear waste shipments have begun travelling through the Midwest from West Valley, New York. Citizens in Pa, Ohio, Indiana, Illinois and Wisconsin are fighting to stop the toxic waste shipments. Read about their struggles *page 4*

On Low-Level Nuclear Waste

Has your state legislature and Governor agreed to join an interstate compact for low-level waste? Find out on *page 6*

The Housing and Urban Development Agency refuses a grant due to nuclear dump in New Jersey *page 5*

On Nukes

Corroding nuclear fuel has been found in the reactor pool at Prairie Island in Red Wing, Minnesota. The Nuclear Regulatory Commission has decided this is not a generic problem at power plants. Staff scientist Marvin Resnikoff disagrees *see page 3*

A Waste Paper exclusive . . . Recently the United States Geological Survey postulated that a severe earthquake could happen anywhere on the eastern seaboard. What does this mean for nuclear power plants on the east coast? *page 1*

Resources

Book reviews *Reweaving the Web of Life and Despairwork from New Society Publishers* . . . New Campaign slide shows are introduced *page 6*

Radscope

Chem-Nuclear Sends Wary South Dakota Citizens to View Barnwell Dump

South Dakota is currently embroiled in two nuclear waste debates. One is whether it should allow Chem-Nuclear to open a "low-level" nuclear waste dump in the southwest corner of the state in Edgemont; the second is whether South Dakota should join the Midwest Compact to site a regional nuclear dump site.

The *Waste Paper* finds neither proposal favorable for South Dakota. There are no electricity producing reactors in South Dakota, which generates only 35 cubic feet of "low-level" nuclear waste each year. This waste comes from medical institutions and industries like smoke detector manufacturers.

That's why Chem-Nuclear, now a subsidiary of Waste Management, Inc., recently sent a contingent of South Dakota citizens to view its Barnwell dump in South Carolina. The company spent \$600 per person, which included six media representatives, 12 state legislators, three Edgemont town officials and a League of Women Voters representative. The group's itinerary included a cocktail party and dinner with Chem-Nuclear executives, a visit to the Barnwell dump and talking to workers and citizens around the site.

After the trip, South Dakota citizens remain skeptical about the dump. Organic farmers near Edgemont do not like the idea, neither does a Reverend of a Local Baptist Church.

This small quantity of South Dakota-generated waste could be stored on the site where it is generated in above ground storage warehouses. This way, waste can decay to non-hazardous levels. This method also allows for better monitoring of the waste and lengthens the life of the containers.

South Dakota residents intend to continue fighting the proposed dump in Edgemont, as well as the Midwest compact. The alternative is to become the Midwest's nuclear waste dump.

Quote of the Quarter

"There's nothing more natural than radiation. The universe was born in radiation and the universe will die in radiation."

Paul Shutt, president of the nuclear waste shipper, Nuclear Assurance Corp., testifying against a restriction on nuclear waste shipments in Athens, Georgia. The City Council ignored Shutt's remarks and passed a resolution asking the State not to allow irradiated fuel shipments through the city.

Diver Bumps into Irradiated Fuel

While installing new racks in the Indian Point 2 nuclear power plant's fuel storage pool, a diver bumped into an irradiated fuel assembly. The diver received an exposure of 8.7 rems to the head, considerably higher than the three rem per quarter limit set by the Nuclear Regulatory Commission (NRC). Natural background radiation is 0.125 rems per year. The Indian Point nuclear power plants are located just north of New York City.

A range of excuses cloud the issue. Apparently, the water was murky and underwater lighting was not available. A fuel assembly was mistakenly placed near the diver. Dosimeters inside the diver's helmet failed to alarm at the 0.2 rem set point. A prior-to-work radiation survey by Consolidated Edison, performed with an underwater radiation detector, failed to detect the misplaced fuel assembly. Since the radiation levels from an irradiated fuel assembly register upwards of one million rads per hour, hardly unnoticeable, could it be that Con Ed forgot to turn on their radiation detection instruments? For the multitude of errors and excuses, Con Ed was not even reprimanded by the NRC.

Landfills Mean Leakage, Scientists Agree

The Congressional Office of Technology Assessment (OTA) has recently released a three-year study entitled "Technologies and Management for Hazardous Waste Control" on the safety of burying toxic waste in landfills. Finally the word is out . . . landfills are insecure. Below are some interesting quotes from experts working in the toxic waste field.

"Long-term effectiveness of landfilling can be seriously questioned. Our report will substantiate people's worst fears about land disposal." Joel Hirschhorn, director of the OTA study.

"The federal Environmental Protection Agency (EPA) should be required to develop regulations phasing out the burial of toxic waste." Resolution approved by the National Governor's Association.

"The use of landfills is not the way to go. They are not really secure. In fact, they are impractical and unsafe." Samuel Epstein, professor of Environmental Medicine, University of Illinois Medical Center and author of *Hazardous Waste in America*.

"Last fall, 11 out of 12 liners tested under field conditions leaked in six months." Kirk Brown, Texas A & M professor of Social Science. EPA now requires that landfills be lined before waste is emplaced.

"We found that four state-of-the-art landfills in New Jersey developed leaks within one year. I think the whole idea of secure landfills is really a figment of optimistic imaginations." Peter Montague Princeton University Center for Energy and Environmental Studies, heading a research project on toxic waste.



Seneca Army Depot - Romulus, New York Buffalo activist Kevin Kresse helps decorate the fence at the Seneca Army Depot rally on October 22, 1983. About 7,000 people attended the rally to protest the storage of Cruise and Pershing II missiles which are to be sent to Europe for deployment in December. Romulus is located just southeast of Rochester, New York.

the Waste Paper

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Nuke Garage Goes Uninspected for Years

Question: Who knows where the Nuclear Assurance Corporation, a nuclear waste shipper, garages its trucks?

Hint: It's not the Nuclear Regulatory Commission (NRC).

Answer: Reporter Chris Pummer of the *Wilmington, Delaware Morning News*.

On August 17, 1983 *Morning News* reporter Chris Pummer revealed that Nuclear Assurance Corporation (NAC) garaged its nuclear fuel trucks in Wilmington, Delaware. Maybe this isn't news to you, but it was to the NRC who, it turns out, had not inspected the garage for four years. The NRC

thought these trucks, which carry highly radioactive fuel in 22-ton casks, were garaged in Atlanta, Georgia, not in a Justinon Street warehouse in Wilmington.

The basis for the confusion was a glitch in NRC record-keeping. Apparently, when NAC bought shipping casks from NL Industries of Wilmington, it told the Atlanta NRC inspection office about the garage arrangement, but the Atlanta office of the NRC neglected to inform the Region I office of the NRC which includes Delaware. As a result, Region I never knew the garage existed.

Does this mean that there are other uninspected nuclear sites? Perhaps. One month after the Pummer article, the NRC began an audit of over 9,000 licenses to see who else has escaped their vigilant eye. As Campaign co-director Dr. Marvin Resnikoff told the *Morning News*, "It looks like the NRC is asleep at the switch."

Nuclear Waste Tradeoff for Missile Deployment?

The U.S. Department of Energy (DOE) has agreed to bailout a private Belgian corporation by taking over its nuclear waste currently stored at Lewiston, New York and Fernald, Ohio.

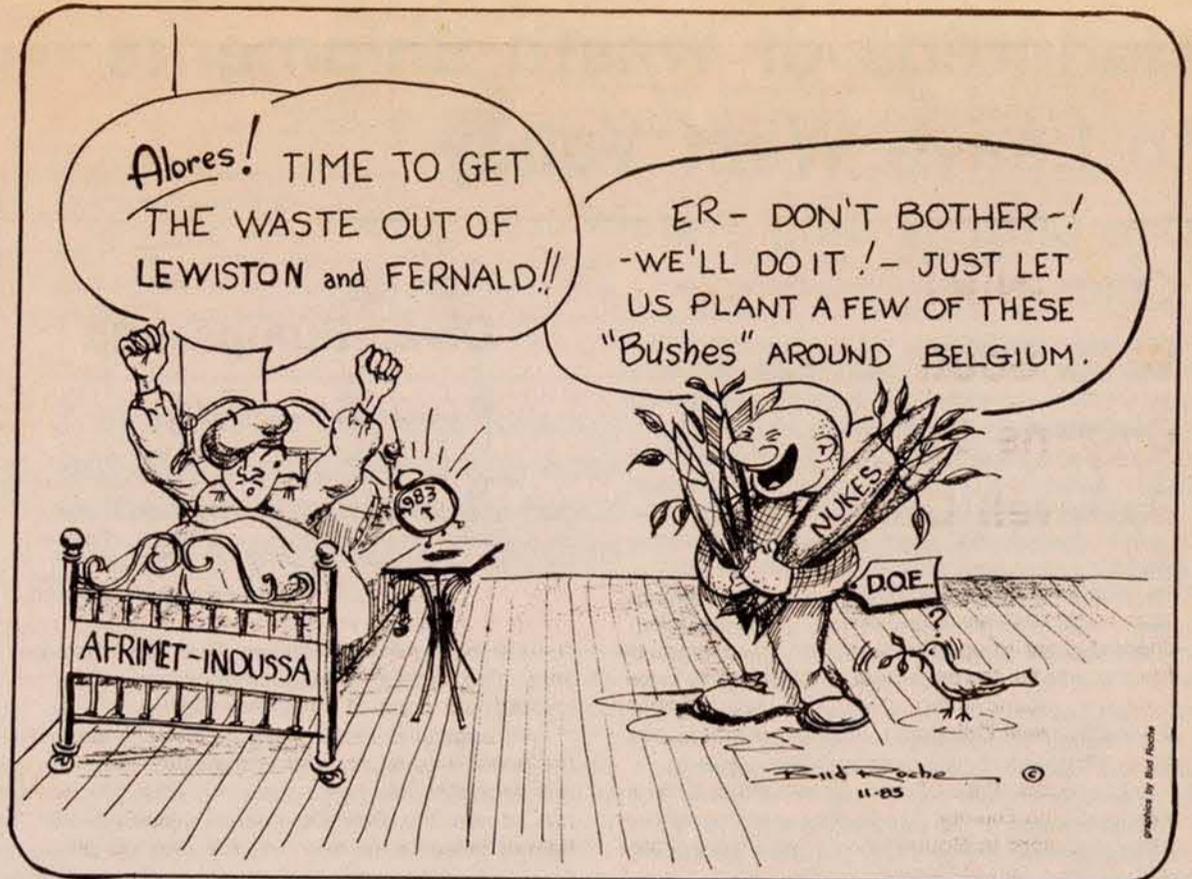
The 23,700 tons of Belgian-owned uranium residues have been left improperly stored since the end of World War II, when the U.S. government conducted a top secret plan to develop the first atomic bomb. The plan was named the Manhattan Project and left nearly 100 sites across the U.S. radioactively contaminated. Communities surround these sites and although the waste was created over 40 years ago, a hazardous legacy remains for future generations.

The Afrimet-Indussa Corp. of Belgium had a lease with the U.S. Department of Energy to store uranium waste until June of 1983. At that time, however, the company was to remove the radioactive material.

The U.S. agreement calls for Afrimet to pay only \$8 million and the U. S. will take over the waste. In addition, Afrimet is relieved of all liability for past and present storage of waste.

The Waste Paper and newswire services have speculated that this agreement helped sweeten the Reagan Administration's plans to deploy 48 cruise missiles in Belgium this winter, 1983. In a letter to Congresspeople in the Lewiston and Fernald areas, DOE Secretary Hodel stated that his department was "urged by the Department of State to compromise . . . for reasons related to the common defense and security of the U.S. and the government of Belgium."

The issue of the Belgian waste was discussed by Vice-President Bush in his visit to that country last spring. *The Buffalo News Washington Bureau* reported that in a DOE briefing after Bush returned



from Belgium, officials were told "to make the deal and not hold their feet to the fire on this one."

At hearings in Lewiston in 1982, community residents and Sierra Club Radioactive Waste Campaign staff urged the DOE to hold the Belgian corporation to their contract with the U.S. It seems almost incomprehensible for the U.S. to take over this massive quantity of nuclear waste from Afrimet for a mere \$8 million when we cannot properly isolate our own nuclear waste. Estimates of Lewiston and Fernald clean-ups, which include shipping the waste to a government-operated site in Washington

or Tennessee, are estimated at \$82 million. The final due bill could be much higher.

The Bechtel corporation has the contract with the DOE to clean-up Manhattan Project dumps across the U.S. The recent findings of Bechtel's mismanagement and unconcern for worker health and safety at the Three Mile Island reactor clean-up near Harrisburg, Pa. brings into question the capability of this corporation. Citizens around Manhattan Project sites should consider calling for the removal of Bechtel from these clean-up programs.

Sierra Club Passes Low-Level Nuclear Waste Policy

Below is a policy on low-level nuclear waste passed by the National Sierra Club Board of Directors on May 7, 1983. Bravo to the Board and Steering Committee member Abby Avery! Low-level waste activists should circulate the policy to legislators and public officials when working on this issue.

1. The generation of low-level radioactive waste must be reduced.
2. Choice of management and isolation options must be based on half-life, curie content and chemical and physical composition of the waste. Short-lived wastes should be stored on or near the site of generation wherever possible.
3. Monitoring and isolation of the waste must continue for the duration of their active life.
4. Health and environmental considerations must be top priority in the siting and operation of any storage, volume reduction and isolation facility. Geologic, hydrogeologic, climatic, seismic and other environmental factors must be carefully evaluated. Shallow land burial has not met these criteria.
5. Volume of waste should be reduced prior to isolation provided that reduction techniques have been carefully evaluated for their potential environmental and health impacts.
6. Ongoing research efforts should seek to improve methods of waste reduction and isolation. Meanwhile, the safest methods of temporary storage should be evaluated and utilized.
7. The full cost of low-level radioactive waste isolation and monitoring should be borne by the generators of the waste.
8. Public participation in the formulation of all low-level waste management and isolation plans should be required.
9. New definitions should be written that establish low-level radioactive waste as having a hazardous life no greater than the 100-year institutional control period required by the Nuclear Regulatory Commission.

Nuclear Fuel Corrodes in Minnesota Major Impact for Nuclear Waste Storage?

Irradiated fuel from nuclear power plants is stored in underwater pools. The Nuclear Regulatory Commission (NRC) considers this storage method very safe, at least to the year 1998 when a waste repository is supposed to be operating. After all, what could happen to the nuclear waste sitting in water? An accident at the Prairie Island, Minnesota nuclear power plant, in Red Wing, may change all that.

In the December 16, 1981 accident, one of the fuel assemblies broke apart while it was being moved in the pool. Fortunately, for workers in the area, the fuel rods remained intact in the assembly and no radioactivity was released. The cause of the Pressurized Water Reactor (PWR) fuel degradation may be a generic problem for Westinghouse manufactured fuel. Since over 9,000 tons of this material, about one-third of which is Westinghouse, is stored in fuel pools throughout the U.S., this safety issue may have tremendous ramifications for the nuclear industry.

In investigating the cause of the fuel assembly failure, Westinghouse identified stress corrosion cracking. The stainless steel top nozzle corroded while in the Prairie Island fuel pool. Visual examination by Northern States Power, operator of the reactor, of 26 fuel assemblies chosen at random, indicated that 13 were corroded. Note however, that no other fuel assemblies at Prairie Island or anywhere else similarly broke apart.

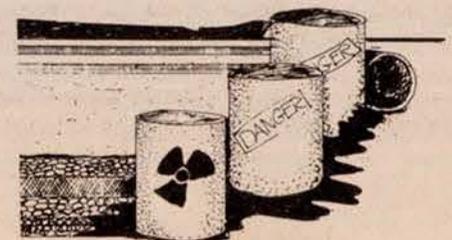
While all parties agreed that the stainless steel corroded in the fuel pool, none could identify a specific cause for this corrosion, and why it should be localized at Prairie Island. The NRC first suggested that sulfates, which are chemical contaminants, might have contributed to the corrosion. Yet, water chemistry records by Northern States Power showed that the reactor and fuel pool water were kept within Westinghouse specifications.

The NRC then investigated whether corrosion of the fuel was a problem at other PWR reactors.

Based on underwater television camera examinations, the NRC concluded in a July 11, 1983 memo, that Prairie Island was an isolated incident, not a generic problem. Yet the NRC must surely be aware that underwater camera examinations are an imprecise, unreliable method in siting stress corrosion cracks and often cannot be seen by the naked eye.

Continual surprises seem to be a part of this immature technology, but much of the time early indications of problems are swept under the rug. A review of the literature of Bruce Maxwell, of the *Rochester Post-Bulletin*, of Rochester, Minnesota, revealed a 1964 paper by Oak Ridge researchers which discussed this problem. Titled "Some Observations of the Intergranular Corrosion of Irradiated Type 304 Stainless Steel," researcher E.L. Long pointed out that type 304 stainless steel would corrode in water. Now almost 20 years later, Westinghouse is considering changing the stainless steel material used in fuel assemblies. The higher grade steel has a lower carbon content, but is slightly more expensive (about 20%).

As the situation stands, Westinghouse fuel is more than likely corroding in fuel pools across the country and perhaps elsewhere in the world. At West Valley, New York, a closed reprocessing plant, 35 miles south of Buffalo, for example, 234 fuel assemblies are of Westinghouse design. As far as can be determined, the longer this fuel sits underwater, the more corroded it becomes, making it more difficult to move at a later date.



Hundreds of Waste Shipments to Leave West Valley

Can Citizens Stop Them?

This story began on a hot summer day in the Sierra Club Radioactive Waste Campaign office with a phone call from Wisconsin's Environmental Decade. Wisconsin Electric Power Company (WEP-CO) just had a press conference, announcing it had been ordered by a federal court judge to take back its irradiated fuel currently stored at the closed commercial reprocessing plant in West Valley, New York, 35 miles south of Buffalo.

The New York State Energy Research and Development Authority (NYSERDA) had taken WEP-CO, Commonwealth Edison (Comm Ed), Jersey Central Power and Light (JCP&L) and General Public Utilities (GPU) to court for the removal of the waste and for \$1 billion in damages. In addition, Rochester Gas and Electric (RG&E) had agreed, out of court, to remove its nuclear waste from West Valley. The fuel was brought to the plant in the early 1970's to be reprocessed, but in 1972, the plant shutdown. (see chart)

In Buffalo, on June 30, 1983, US District Court Judge John Elfin ruled that the utilities were trespassing. The damages to be paid to New York State has not yet been decided. What Judge Elfin did not realize was that his order would now threaten communities along hundreds of miles of highways where this highly toxic waste would travel. (see map) NYSERDA has decided to play "not-in-my-backyard" hardball meanwhile not considering the ramifications of its game plan.

What this announcement brought on was a tremendous wave of phone calls, from the press, to people who lived along the proposed shipment route, to firefighters who would have to respond if an accident occurred and town, county and state officials who felt these shipments were an unnecessary risk to their lives.

They were all correct. NYSERDA could have continued to negotiate a storage fee which the utilities could pay for keeping the fuel at West Valley, thereby lessening the risks to millions of people. Furthermore, these reactors would only be another temporary storage site. As reactor fuel pools across the country fill up, transportation of the waste to a federal centralized storage pool could become commonplace. By the year 2000, the Council on Economic Priorities estimates over 9,000 shipments per year will be travelling our highways and railways.

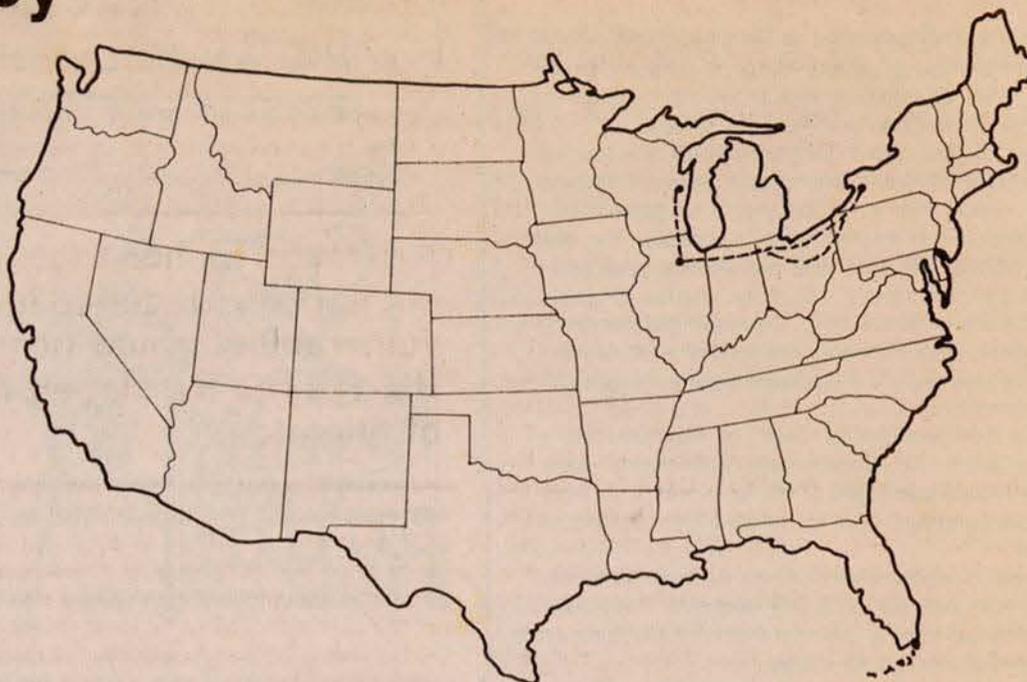
The other public concern was that the shipping containers, called casks, have never been physically tested to withstand realistic highway and railway conditions. Standards for cask design and construction are woefully inadequate. (see *Contractor Studies Real Accident Conditions*, page 5 .)

Westinghouse, the company who is conducting glassification of other high-level liquid wastes at West Valley, launched a public relations campaign, claiming it needed the pool where the utility fuel is stored on site for work on the glassification program. Campaign scientist Marvin Resnikoff looked at this claim and found it full of holes. Westinghouse could use other areas on-site to conduct dismantling work.

So communities across the Midwest-Ohio, Illinois, Indiana and Wisconsin and in the east-Pennsylvania, New York and New Jersey decided to fight the West Valley shipments.

Citizens conducted educational town meetings, press conferences, invited the Nuclear Regulatory Commission (NRC) to town, circulated petitions, wrote letters to their governors, joined court suits, testified before town and county boards, were featured on radio talk shows, on television and organized walks along the proposed route.

As of this writing, the Sierra Club Radioactive Waste Campaign and the Environmental Policy Center are considering court action against the NRC and others. The Campaign argued that neither the utilities, the Department of Energy (DOE) nor NYSERDA had a license to ship back the fuel. The NRC claimed it was the utility license which allowed these shipments. However, the utilities' licenses do not explicitly state they can take fuel back and there have been no licensing amendments to clear this up.



The Nuclear Regulatory Commission has approved two routes for the transport of irradiated fuel from West Valley to Two Rivers, Wisconsin and Morris, Illinois. As far as we know, the shipments have taken the second route listed below.

The waste would leave the West Valley plant to Schwartz Road to 219N to 39W to 20W to 90W in Pennsylvania and Ohio to 271S to Ohio-8 to 80W through Indiana to Morris, Illinois. The Wisconsin shipments would continue from 80W to 249W to 94N to 43N to Hwy-147E to Hwy-163N to Two Rivers.

The alternate route is different as it relates to New York, Pennsylvania and Ohio. This would be leaving the plant out to Schwartz Road and take 219N to 39W to 20W to 60N to 90W through New York and into Pennsylvania. From 90W to 79S to 80W into Ohio.

The second route was established because citizens in Ohio opposed the waste shipments and the Attorney General had a route shifted away from densely populated areas like Cleveland and Akron. Western New York opposed the shipments through small towns on Route 20. Also, in the middle of this controversy the New York State Thruway Authority overturned its ban to allow shipments on 90 in New York. These shipments are expected to take over one year with several moving per week.

On the shipments to Ginna in New York and Oyster Creek in New Jersey, the routes have not yet been designated as far as could be determined by *the Waste Paper*.

In Ohio, communities around Cleveland urged Cuyahoga County Commissioners to take a lead role in fighting the shipments. They also pressured Attorney General Anthony Celebrezze Jr., to intervene in the federal court case in Buffalo. Recently, the Ohio Attorney General was denied intervention as an impacted party to the case, but has appealed the decision to the U.S. Appeals Court.

In other states around the Midwest, firefighters testified before town boards, stating that they were not trained or equipped to respond to an irradiated fuel accident. According to the Government Accounting Office, of the 2 million firefighters in the U.S., only 5,000 have been trained for this type of emergency. Town and county officials passed resolutions against the shipments and ordinances which would make irradiated fuel shipments illegal. It was clear that thousands of people were not ready to take the risk of nuclear waste being transported through their neighborhoods.

But amid all the uproar and press conferences, the first shipment of irradiated fuel left West Valley

on October 4, 1983 enroute to Two Rivers, Wisconsin. A husband and wife team were the drivers for Nuclear Assurance Corp. The recent overturning of New York City's ban on nuclear fuel shipments paved the way for the West Valley waste. (see *Appeals Court Overturns Waste Ban*, page 1 .) Under pressure from the Department of Transportation, the NYS Thruway Authority rescinded its ban and allowed trucks to enter in Dunkirk, New York.

The total number of shipments to Two Rivers, Wisconsin will be 114 and to Morris, Illinois, 30 if citizens allow the waste through their towns. It is undetermined how many or what route the JCP&L shipments to the Oyster Creek plant in Lacey Township, New Jersey and to Ginna plant in Ontario, New York, just outside of Rochester will take. The West Valley shipments are the largest series of waste shipments to ever cross the U.S.

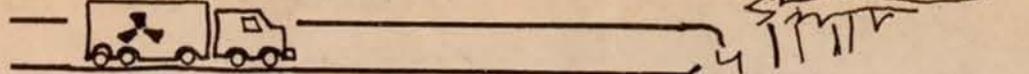
Citizens along these routes are still fighting to stop shipments. It will take over a year to move the West Valley fuel. Grassroots organizing will progress with a new stragedy since the federal court

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Owner	Reactor	Reactor Type Boiling Water or Pressurized Water	Number of Assemblies Owned in NFS Pool
Commonwealth Edison	Dresden I Shutdown Morris, Illinois	BWR	206
Jersey Central Power and Light	Oyster Creek Lacey Twsp. New Jersey	BWR	224
Rochester Gas and Electric	Ginna Ontario, New York	PWR	81
Wisconsin Electric Power Co.	Point Beach I Point Beach II share pool Two Rivers, Wisconsin	PWR	114
Nuclear Fuel Services (NFS)	West Valley, New York closed reprocessing plant		125 purchased from Big Rock Point in Michigan and from Ginna in New York

Appeals Court Overturns Ban . . .

continued from page 1



An examination of the 60-page decision by the Court of Appeals and discussions with attorneys involved in the case indicate that the Appeals Court was influenced by recent pro-nuclear decisions by the Supreme Court, one of which was mentioned in the Appeals Court brief. While one of the three judges dissented, several attorneys felt that a second judge "saw the handwriting on the wall" and decided to avoid being overturned by the Supreme Court when the final appeal is brought before it later this year.

The divergent views of the Appeals Court judges reveal just how controversial the issue of irradiated fuel shipments has become. Judge Newman, speaking for the majority, almost apologizes for his action by stating that "disquieting as it may be to contemplate such [a worst-case accident], this decision [to overturn New York City's law] cannot be said to be an abuse of discretion." Judge Oakes dissented, however, calling DOT's accident estimates "absurd on their face" and "notoriously misleading." He felt that "HM-164 is defective because it relies on insufficient or contradictory data . . . and because it fails to address certain risks . . . that bear

directly on the possibility of a serious consequence, 'worst-case' accident."

As we went to press, New York City was not firm on its appeal to the Supreme Court but there is strong interest in pursuing the case. Any possible success is hampered, though, by the decidedly pro-nuclear attitude of the Court and the elimination of

A demand for hearings to bring out data on irradiated fuel cask vulnerability could help block HM-164 via legislation instead of litigation.

any evidence not already submitted as part of the DOT hearings on HM-164 in 1980. Numerous incidents since that time have demonstrated the many erroneous assumptions upon which HM-164 is based, but such data cannot be used unless allowed by DOT—a very unlikely possibility. However, such a difficulty points to the next step in the struggle.

In the past, Congress has suspended air shipments of plutonium when a case was made about the vulnerability of the containers in a crash. **A demand for hearings to bring out similar data on irradiated fuel could help to block HM-164 via legislation instead of litigation.** Several members of Congress have already indicated an interest in holding hearing on irradiated fuel shipments. **All members should be asked to support action suspending HM-164 while such hearings—and possible legislation—are in progress.**

The recently announced emptying of the West Valley fuel pool and the opening of federal pools to relieve reactors running out of pool space have already yielded a major increase in shipments, so the time to push for Congressional action is now. Lawsuits are also underway in Ohio and Illinois and strategy sessions on other fronts are also being planned. Watch for special bulletins as the struggle progresses.

Lindsay Audin is a frequent contributor to the Waste Paper, and engineer and co-author, with Dr. Marvin Resnikoff, of "The Next Nuclear Gamble," a study of irradiated fuel shipping and storage sponsored by the Council on Economic Priorities.

Contractor Studies Real Accident Conditions, Will NRC Consider Tougher Shipping Containers?

Based on a study on 500 real truck and rail accidents, a Nuclear Regulatory Commission (NRC) contractor has recommended more rigorous standards for shipping cask design for irradiated fuel. The draft study entitled, "Final Report of Severe Rail and Truck Accidents: Towards a Definition of Bounding Environments for Transportation Packages," performed by Ridihalgh, Eggers and Associates (REA) of Columbus, Ohio, was completed December 1982, but only recently obtained by the Sierra Club Radioactive Waste Campaign under the Freedom of Information Act.

Shipping containers for irradiated nuclear fuel are designed to withstand only minimal accident conditions. None of the casks presently in use have actually been physically tested to withstand even these minimal standards. Computer testing and hand calculations satisfy the NRC, though the computer formulas have been criticized by government contractors such as Lawrence Berkeley Laboratories. (see the Waste Paper, Vol. 5, No. 2) Over four years ago, the Sierra Club and other public interest organizations began criticizing these inadequate standards. Only five standard highway casks (not five types, but five casks) and one overweight shipping cask, remain in use in the U.S. In addition, four rail casks are available.

Casks are designed to withstand a 30-foot drop, or what is the same, a 30 mph crash into an unyielding surface such as a reinforced concrete bridge abutment. REA, which investigated 500 real truck and rail accidents which took place between 1968 and 1981, has instead recommended a 60- to 80-foot drop. In real accidents, trucks have fallen from bridges 60- to 80-feet high. REA has also recommended that truck casks withstand a one-hour fire at 1600°F and train casks a two-hour fire at the same temperature. Present standards require only a one-half hour fire at 1475°F.

REA has also recommended torch, crush and more rigorous puncture tests. A torch could be

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Cask Cleaning? Volunteer Steve Galac snapped this photo of an empty shipping cask on its way to West Valley, New York. Galac found the cask unattended, parked in front of a local laundromat.

Nursing Home Loses \$4 Million Grant, Waste Dump Nearby

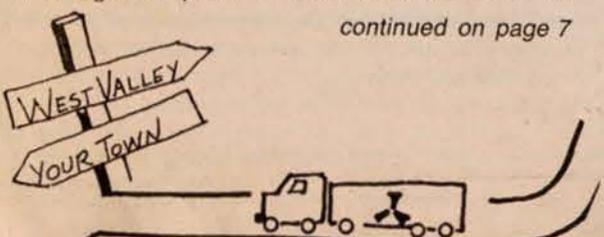
Waste dumps are not good for property values. That's the lesson from Wayne, New Jersey, where a nursing home lost a \$4 million grant from the Department of Housing and Urban Development (HUD).

In May 1982, HUD accepted the application of the Willowbrook Nursing Home for \$4 million construction grant. HUD requested the standard financial questions asked of any applicant. Later, after being informed by the New Jersey Department of Environmental Protection that the proposed nursing home site was within one-half mile of a hazardous site "found to have above-normal levels of radiation," HUD attached a fifth condition to their information request. HUD asked the nursing home owners to "submit a report from a qualified independent environmental scientist that the hazardous site in question poses no threat to the residents of the planned nursing home." Willowbrook was unable to provide this additional information. On December 14, 1982, HUD withdrew the \$4 million grant. On August 24, 1983, HUD formally terminated the project.

The nursing home would have been located on Black Ridge Road in the Town of Wayne. Grace & Co. operated the thorium processing plant across the street from 1948 to 1972. Seventy-six tons of radioactive thorium are buried on the steeply sloping site. Radioactivity continues to run off the Grace property through the storm sewer system that runs through the nursing home property.

Under sponsorship of U.S. Representative Roe, the Department of Energy (DOE) will begin clean-up of downstream contamination in October of 1983. This radioactively contaminated soil will be placed back on the Grace site. Questions remain about what will happen with all the wastes now located on the Grace site, when and how this contamination will be exhumed and where it will be ultimately located.

DOE has only proposed interim storage methods. If citizen protest dies down, this inadequate, temporary storage may become permanent. **Citizens around the Wayne area are urged to call for exhumation of the buried thorium waste.**



Resources

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.

Despairwork: Awakening to the Peril and Promise of Our Time

by Joanna Macy
\$2.45 paperback, 32pp.
New Society Publishers

Despairwork: Awakening to the Peril and Promise of Our Time, challenges us to face our worst fears and depression when we think about environmental hazards and nuclear destruction. As we learn about global threats to survival, our feelings need to be experienced, but should not be interpreted as psychological illness nor should powerlessness and isolation result.

This essay teaches us to channel our fears into anger and action. It reminds us that none of us is responsible for the threat to our planet and likewise, none of us alone can overcome this threat. Survival depends on individuals working together. Like cells of a biological system, we can help the organism, Earth, live.

Despairwork is an inspiring explanation of how various individuals have faced the threat of nuclear disaster by transforming hopelessness into healing power to preserve conscious life. It can reignite sparks of hope in a burned out activist. Reviewed by Diane D'Arrigo, *Despairwork* is available from New Society Publishers, 4722 Baltimore Avenue, Philadelphia, Pa. 19143.

Reweaving the Web of Life: Feminism and Nonviolence

edited by Pam McAllister
\$19.95 hardcover, \$8.95 paperback, 448 pp.
New Society Publishers, 1982

Reweaving the Web of Life is an anthology of essays, short stories, poems, songs, photos, letters and interviews that celebrate the right and power of individuals to gain and maintain control of their own lives.

It is an uplifting, energizing, creative collection of works, mostly by women, with the goal of preserving life on the planet Earth through each person's

development to their full potential. Fresh theories are presented. Positive modes of response to oppression are suggested. The themes of empowerment and self-determination are woven throughout the tapestry of topics addressed: women's rights, civil rights, the environment, animal rights, nonviolence and self-defense, nuclear weapons, power and waste, peace, war, families and unity between all living systems.

Reweaving the Web of Life is a scholarly work composed of small pieces which fit together as a

whole and are enjoyable reading a bit at a time. It is a wonderful introduction or continuation into the work of feminists and a colorful connection with many vital aspects of life and our struggle. You can't help but feel surging optimism flavored with a realistic perspective when you read this exceptional book. Reviewed by Diane D'Arrigo, *Reweaving the Web of Life* can be purchased from New Society Publishers at 4722 Baltimore Avenue, Philadelphia, Pa. 19143.

Compact Scorecard

Has Your State Joined a Low-Level Radioactive Waste Compact?

Southeast

Florida
Tennessee
Alabama
North Carolina
South Carolina
Mississippi
Virginia
H-3777 Derrick
S-1749 Thurmond

Northeast

New Jersey
Connecticut
Maryland
Delaware

Rocky Mountain

Colorado
Nevada
New Mexico
Wyoming
S-1991 Simpson

Midwest

Indiana
Iowa
Michigan
Minnesota

Northwest

Idaho
Washington
Oregon
Utah
Alaska
Hawaii
Montana
H-1012 Akaka
S-247 Gorton

Central

Kansas
Oklahoma
Nebraska
Arkansas
Louisiana
H-3002 Glickman
S-1581 Dole

Above is a current listing of states that have joined a low-level radioactive waste compact which will set up regional sites for nuclear waste isolation. If your state is listed, you need to begin monitoring plans for site selection and methods to isolate this nuclear waste. Remember, if you live in a rural area your state is listed, BEWARE, your community could be eyed for a dump! Find out if your state geological survey is screening or has ever screened your state for possible locations for a nuclear waste dump.

Furthermore, you need to suggest alternatives to landfills, which is currently the state of the art for

dumping this waste. Landfills are proven leakers. The Sierra Club Radioactive Waste Campaign has looked at above ground engineered storage as one alternative. This could allow for more accurate monitoring and better maintenance of a site.

On the other hand, if your state is not on the list, then you need to read the draft legislation and decide whether or not you should support it. The language in every regional compact is extremely vague and the commissioners have great power but are in no way liable. States must decide whether or not to join by June, 1984. Liability remains a critical problem with compacts. States acting as hosts for the dump

(or hostess if you prefer) are solely liable for the site.

The Northwestern, Central, Rocky Mountain and Southern states have already sent their legislation to Congress for approval. This is a prerequisite to make the compact binding.

No matter which situation your state is in, you will need to get involved in this issue. If concerned citizens do not get active, dump sites will be chosen behind closed doors. If you or your organization needs assistance, the Campaign can provide fact sheets, slide shows and speakers. Call or write us at our Buffalo office.



Department of Health Official Serves Legislature "Hot Snack?"

Back in the Spring of 1981, *the Waste Paper* profiled John Matuszek, director of the Department of Health's Radiological Sciences Unit (DOH) (see Vol. 3 No. 2). Well, Matuszek is still shooting from the hip with his abrasive manner as New York State Assemblyman Orazio, chair of the Energy Committee, recently characterized him. *The Waste Paper* thought readers and especially citizens in New York would like to know what antics Matuszek has been up to since we left him.

Stack Release In December 1981, Assemblyman Maurice Hinchey, Chair of the Environmental Conservation Committee, Sierra Club staff and State officials met to discuss concerns about a prong of radioactivity detected in an aerial of the West Valley site. (see Vol. 4 No. 1). The Sierra Club asked Hinchey to investigate whether this radioactivity was result of stack releases when the plant was in operation or as a result of the underground migration from a contaminated area of the site.

At the meeting, Matuszek stated the radioactivity was caused by an unplanned release of cesium from the West Valley reprocessing plant in the 1970's. When asked, Matuszek could not provide the date on this release. For months following, the Campaign tried to obtain this information and finally through a Freedom of Information Act (FOA) request, Matuszek stated *he had no data on the stack release which supposedly caused the high radiation reading from the aerial survey*. So Matuszek was shooting from the hip when he stated at the December 1981 meeting that the prong was caused by the stack release. In fact, he had no evidence to support his claim.

Hot Snack At a June, 1983 forum for the New York State Legislature on the health effects of low-level ionizing radiation, John Matuszek was billed on the agenda as an impartial speaker. Forum Chair Assemblyman Orazio invited a panel to discuss possible health hazards. Three of these panelists were obviously pro-nuclear and three felt there were serious health effects from low-level ionizing radiation. Matuszek showed his radiation slide show—how people get radiation from taking showers, from

sleeping with others and the largest source of radiation, he claimed, was from radon in brick homes. This is typical pro-nuclear propaganda, which our supposedly impartial Matuszek was using.

If this wasn't enough, Matuszek went on to serve unknowing spectators cheese and crackers on Fiestaware—vibrant, red-orange dishes which contain depleted uranium and high levels of lead. In 1981, the DOH Commissioner Axelrod warned consumers not to serve food on Fiestaware and that the dishes should be used for display only. These dishes are collectibles to many. Axelrod stated that there was radiation given from the dishes at a rate which gives people an "unnecessary risk." If the dish was scratched, Axelrod said that the glaze peeled off. At the forum, Matuszek stated that he eats from these dishes regularly.

Matuszek insulted other panelists who disagreed with him. Dr. Daniel Pisello, PhD, professor of physics at the New York Institute of Technology discussed his study showing elevated infant mortality rates from strontium-90 found in milk from nuclear weapons testing fallout. Matuszek called Pisello's study "garbage."

Assemblyman Hochbrueckner cautioned Matuszek to be more open-minded. Since Matuszek holds an important position in protective health and safety of New York citizens, this caution is well-advised.

In the case of nuclear reactors, a severe earthquake could sever the cooling water pipes or warp the reactor core, preventing insertion of the control rods which cut off the nuclear reaction. If water

No reactor along the east coast is designed to withstand an MM X earthquake.

could not cool the reactor core, the intense heat of the irradiated fuel would melt through the reactor, releasing dangerous amounts of radioactivity to the environment. *No reactor along the eastern seaboard is designed to withstand an MM X earth-*

quake. Particularly key are reactors coming up for operating licenses, construction permits or licensing amendments. This group includes the L-reactor at the Savannah River Plant, Robinson and Catawba reactors in South Carolina and the Shearon Harris plant in North Carolina. Activists are urged to investigate the earthquake resistance of nearby reactors and to question NRC staff as to their intentions. Earthquake changes are not expected, but how the NRC staff intends to incorporate this new geological information into design of Barnwell and the 73 affected, operating and under construction plants in the east, will be interesting to watch.

For copies of the USGS letters and the NRC memos, send \$2 to the Campaign.

have higher flame temperatures than the REA-recommended 1600°F, the REA methodology must be better delineated. Further, the REA report said nothing about valve standards. (*Campaign comments are available by writing to the Waste Paper and sending \$1.*)

Casks which meet the present NRC standards could not withstand realistic highway and rail accidents. The REA-recommended standards would be a major improvement, but only if one model of each cask is physically tested.

Readers are urged to write to local and state officials and Congressional representatives requesting that hearings be held on shipping cask safety and that the present generation of casks be taken off the roads and railways.

overturned New York City's ban. Plans are now underway to pressure Congress to conduct hearings on cask safety and recall the present generation of unsafe casks. Nuclear waste shipments must be safe first, and should move only to a permanent disposal location at the expense of the utility companies, not the U.S. and state taxpayer.

For more information about shipping nuclear waste, order Shipping Casks: Are They Safe? for \$1.00 from the Buffalo Office, 25 or more cost 20¢ each. Also The Next Nuclear Gamble from the Council on Economic Priorities by Marvin Resnikoff with Lindsay Audin is available from the Campaign for \$14.95, includes postage and handling. New York residents must add 7% tax, or call us at 716-884-1000.

"We feel it was highly inappropriate for a representative of your department to unnecessarily expose the audience and the panel members to this contaminated tableware and to use it for food service. To disregard a Department of Health directive in such an arrogant manner, it seems to us, severely undermines the Department of Health's position that "all unnecessary radiation exposure is best avoided." The exposure levels to which the audience was subjected are levels that were hotly debated at the briefing, and as we are sure you know, are currently being debated throughout the country by experts in the field.

Dr. Matuszek, is, of course, entitled to his own personal views on the health hazards of radioactive materials and radiation, much as we disagree with them. However, he is not entitled, while representing the Department, to engage in stunts that show arrogance and disrespect for those he disagrees with, insubordination to you, and an offensive disregard for hazards to public health. We think his shocking conduct warrants appropriate action by you."

Excerpts from a letter to New York State Department of Health Commissioner David Axelrod from New York State Assemblymen Maurice Hinchey, chair of the Environmental Conservation Committee and Richard Gottfried, Assistant Majority Leader.

Waste Paper Exclusive . . .

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Most nuclear power plants in Southeast were and are being built to much lower earthquake standards. Reactors were built under the assumption that the 1886 earthquake would recur only in Charleston and that ground waves could not reach nuclear sites in the Southeast. Along the eastern seaboard, plants must withstand an MM VII earthquake, not a more severe MM X. The Barnwell reprocessing plant is designed to withstand an earthquake of intensity MM VII. The Barnwell plant could probably not safely shutdown under an MM X earthquake, an issue already brought up by Environmentalists, Inc. (a South Carolina based intervenor) before the Atomic Energy Commission Licensing Board in 1974.

Contractor Studies Accident Conditions . . .

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caused by a jet flame from a propane tanker. Crush could be caused by two rail cars pinching a train cask. The NRC does not presently require crush and torch tests. A comparison between the REA-recommended and present standards are given in the table.

The REA report, although only a draft study, is now being circulated for peer review. A final report is due this fall, 1983. *It remains to be seen whether the NRC will take its contractor's recommendations to heart and actually upgrade shipping casks standards.* In comments to the NRC, the Campaign supported the REA study of investigating real, not hypothetical accidents, but the Campaign questioned specific aspects of the REA study. In particular, since many combustibles, including diesel fuel,

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David Rogers
Fayetteville, Arkansas



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photo by Clyde Munz

How Can You Begin to Slay the Atomic Waste Dragon?

Being informed is the first step! And it's all here in the Waste Paper, the world's first newspaper on nuclear waste. In the past, we've brought you articles about the Navy's plan to scuttle nuclear submarines in the ocean, interviews with the experts on health effects of radiation and all the news on citizens battles across the U.S. at nuclear dump sites. We've got the facts and figures—all 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, organizing, public speaking, writing or visual arts. (Please circle your interest.)

Send to: Sierra Club Radioactive Waste Campaign, 78 Elmwood Ave., Buffalo, N.Y. 14201

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