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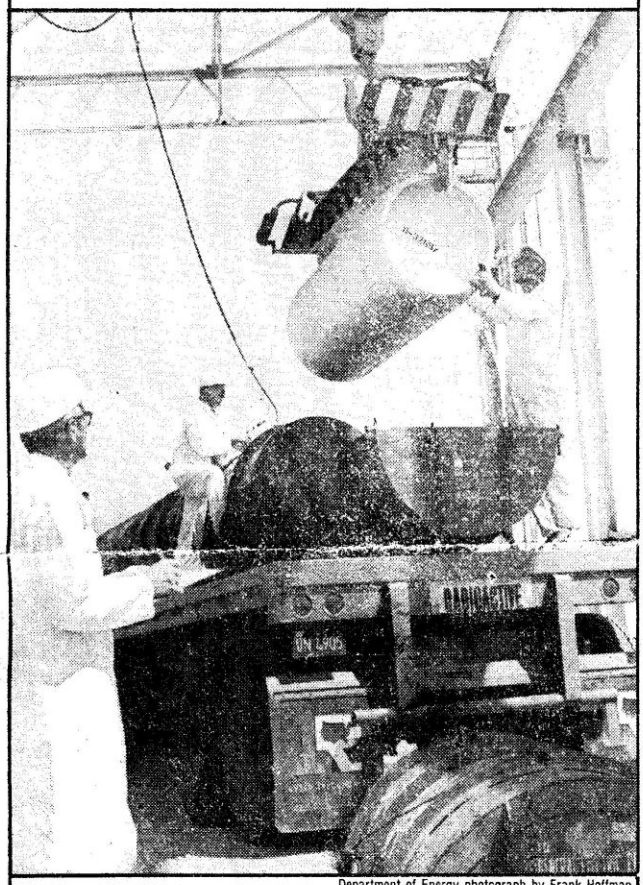
New Jersey's Largest Evening Newspap



Department of Energy photograph by Frank Hoffman

Cylinder of uranium hexafluoride, enriched in uranium 235, is prepared for shipment at Oak Ridge gaseous diffusion plant.

How to regulate radioactive cargo?

By Francesca Lyman
Correspondent

Weeks after the last troubleshooters and camera crews had left the crippled Three Mile Island nuclear power plant near Harrisburg, a big truck carrying spent plutonium-laden fuel rumbled away from the site almost unnoticed.

The truck traveled without incident across the country to a disposal facility for radioactive wastes in Washington State.

About all that distinguished it from other big rigs, as it stood with its rear hazard lights still blinking when it fueled up at gas stations along the way, was a yellow and white placard — the insignia for radioactive material — above the license plate.

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A mounting concern ov

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Although the trip was routine, there are those who would argue that it symbolizes a greater danger than the days-long crisis at the Three Mile Island reactor.

"Transportation is the most vulnerable part of the entire fuel cycle from the point of view of accident or sabotage," says New York City Health Director Leonard Solon. Solon, a health radiologist, contends that a 1-percent leak of spent fuel, the deadliest cargo, could kill as many as 10,000 New Yorkers and cause millions of latent cancers.

In reaction to this kind of danger, more and more regulations across the nation are being enacted or proposed to restrict transport of radioactive cargoes.

New York City sharply restricted shipments of radioactive material in 1976. The Bergen County Board of Freeholders last December banned shipments of all radioactive materials except radiopharmaceuticals on county roads, although no one is sure that the ban is enforced.

Cargoes vary

Union County and Elizabeth and Carteret have also enacted restrictions on radioactive materials.

In New Jersey, as many as 240,000 flatbed trucks and trailers carrying radioactive materials of all kinds travel annually on Route 17, Route 80, and the New Jersey Turnpike to serve nuclear power plants, hospitals, universities, research laboratories, pharmaceutical plants, construction companies, and other businesses along the Northeast corridor.

Types and amounts of the "hot" cargoes range from small quantities of radiopharmaceuticals delivered daily to hospitals and requiring little special handling, to lead-encased, high-level wastes capable of causing deaths and, scientists say, cancer outbreaks even with minor leakage.

Concern is mounting because nationwide shipments of all kinds of radioactive materials are increasing — from about 200,000 in 1961 to 2.5 million in 1975. They are expected to reach 5.6 million in 1985.

The two federal agencies responsible for radioactive shipments, the Department of Transportation and the Nuclear Regulatory Commission, say that none of the approximately 380 accidents, spills, or thefts involving radioactive materials since 1971, when DOT started counting, has resulted in death or serious injury due to radiation.

But critics say, in effect, there is always a first time. Many of them believe that the events of Sept. 27, 1977, proved that the authorities couldn't handle a major accident.

Early that morning, a tractor-trailer carrying 40,000 pounds of radioactive uranium concentrate overturned on an open stretch of Colorado highway, splattering 10,000 pounds of the powdery yellow substance over a 5,000-square-foot area.

The substance, a relatively low-level material known as "yellowcake," lay in foot-deep drifts for three days while state officials and the two companies responsible for the shipment, Kerr-McGhee and Exxon, argued over who should clean it up. The state and Exxon bore the expense.

"The NRC predicted a spill of six pounds of yellowcake in a typical accident, but 10,000 pounds were spilled," says Andrew Maier, a leader of the Bergen Energy Action Network of Oakland, an antinuclear group.

Packaging standards criticized

Maier's group and others in North Jersey and Rockland County contend that packaging standards for radioactive material are inadequate, that government stress tests on containers do not approximate accident conditions, and that radioactive shipments should be kept on main highways away from population centers whenever possible.

"When I saw a big one, an 18- or 20-wheeler, just barely escape getting into an accident making a turn from Forest Avenue onto Ridgewood, it really scared me," says Norwood resident Betty Dinkel, recalling a near mishap involving a radioactive cargo on the Oradell-Paramus border.

The regulations at municipal, county, and state levels reflect not only growing public concern but an absence of federal regulations prescribing routes for r dioactive shipments. In response to loc pressures, the United States Departme of Transportation is proposing natio routing regulations which, the DO hopes, will balance local needs — a political pressures — with what the go ernment determines the nation's nucle needs to be.

Meanwhile, those involved in the shi ping of radioactive material often fe hamstrung by locally written route law that conflict from state to state.

Exporting the problem

"It's the old story," says Norma Hughes of the New Jersey Motor Truc Transport Association, who thinks n clear shipments are regulated enough a ready. "You can't always export yo problems. Everybody has to give little."

John Bastiani, a shipping supervisor a an upstate New York company that ha dies large amounts of low-level radioa tive waste, agrees: "Trucks can't g from one place to the next without eac state stopping them and checking the out for different restrictions."

For instance, when New York Cit banned the trucking of nearly all r dioactive materials, the city may hav solved its own problems, but it create more problems for the federal gover ment. The ban was aimed mainly a shipments of spent fuel from the Broo haven National Laboratory on Long Is land, but it also restricts high-level me ical and industrial radiological materia

Officials at Brookhaven, which is ope ated by a consortium of universities un der auspices of the United States Depart ment of Energy, argued unsuccessfull that the shipments complied with th federal Hazardous Materials Act an that the 14-ton lead-lined steel cask used to ship the fuel waste were safe

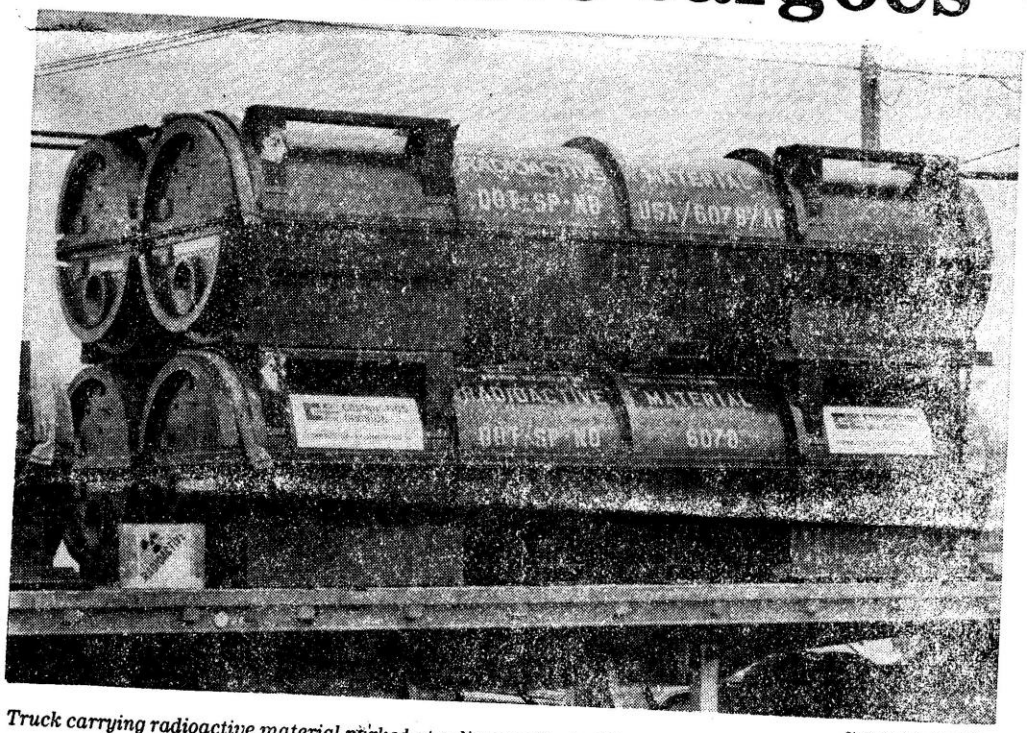
When Brookhaven officials proposed ferrying the spent fuel across Long Is land Sound to Connecticut, New Londo and Hartford passed bans similar t New York City's, forcing the laborator to store the waste on site.

That kind of outcome — while at leas temporarily satisfying to New York an Connecticut residents — hardly seem like a permanent solution. Nuclear pow er plants now storing their spent fuel ar

SIX HOUR

Even before the Newark crash, New York Air- ...es set to sign a contract to lease four ... made Puma helicopters to sub... natural juices. Extra heavy duty motor ... mount shock for

er radioactive cargoes



Truck carrying radioactive material parked at a diner on Route 9W in Stony Point, N.Y. Photograph by Marc Cline

rapidly running out of room.

Moreover, even if public alarm fanned by the Three Mile Island accident slows or halts the development of nuclear power, there will be large quantities of spent fuel to be disposed of from existing reactors for years to come. And, of course, spent fuel rods represent only a portion of radioactive material being transported.

Since President Carter ordered a moratorium on the reprocessing of spent fuel in April 1977, very little spent fuel is now being transported. However, if nuclear power grows as projected, shipments of spent fuel are expected to grow from 200,000 in 1975 to 835,000 in 1985.

While spent fuel poses the greatest future threat, current large shipments of radioactive materials used in medical and industrial radiography are also cause for concern. Scientists for the government say that in a developed area, even a small release of high-level cobalt — used in cancer therapy as well as many industrial X-ray processes — could result in 43 early fatalities and 230 deaths later.

Meanwhile, the debate goes on. Members of the Bergen County chapter of SANE see a danger because they fear truckers are taking shortcuts to the New Jersey Turnpike, or using side roads to avoid the Route 9W heavy-truck ban in New York.

"We obviously suspect it, but we can't prove it," says SANE spokesman Dennis Hirschfelder.

Seminars for police

Some government officials seem reluctant to be pinned down on the danger of radioactive substances. "Danger is a quality based on many things," says Frank Cosolito, program development specialist for the State Department of Environmental Protection's Radiation Bureau. "It's a very case-specific thing."

One agency that is apparently convinced of the possibility of a serious accident involving radioactive material is the New Jersey State Police. The force, along with the National Fire Safety Association, has been holding seminars across the state to teach local policemen and firemen the safest techniques for handling these substances. State police are seeking funds to train emergency and health personnel on a much wider scale.

The New Jersey Legislature is wrestling with proposed routing regulations, and hearings will be held June 11, 12, and 13 at various locations. Meanwhile, truckers transporting hot loads are asked — not ordered — to take certain routes. Another proposed state law would give New Jersey the power to enforce federal packaging standards.

Enforcement has never been rigid. One survey of radioactive shipments in nine states, including New York and New Jersey, found that one third were mislabeled, in containers that did not meet specifications, or otherwise mishandled. There have also been cases of truck drivers storing radioactive cargoes unsafely, sometimes in their own garages, while waiting for full loads.