REGULATION OF SPENT NUCLEAR FUEL SHIPMENTS: A STATE PERSPECTIVE

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ABSTRACT

In 1985, the Wisconsin Department of Natural Resources (WDNR) sought to regulate rail shipments of spent nuclear fuel through the state, because federal regulations did not adequately protect the environmentally sensitive corridor along the route of the shipments. A state interagency working group identified five serious deficiencies in the overall federal regulatory scheme: 1) failure to consider the safety or environmental risks associated with selected routes; 2) absence of route-specific emergency response planning; 3) failure of the NRC to regulate the carrier of spent nuclear fuel or consider its safety record; 4) absence of requirements for determination of need for, or the propriety of, specific shipments of spent nuclear fuel; and 5) the lack of any opportunity for meaningful public participation with respect to the decision to transport spent nuclear fuel. Pursuant to Wisconsin's hazardous substance statutes, the WDNR issued an order requiring the utility to file a spill prevention and mitigation plan or cease shipping through Wisconsin. A state trial court judge upheld the utility's challenge to Wisconsin's spill plan requirements, based on federal preemption of state authority. The state is now proposing federal legislation which would require: 1) NRC determination of need prior to approval of offsite shipment of spent fuel by licensees; 2) NRC assessment of the potential environmental impacts of shipments along the proposed route, and a comparative evaluation of alternative modes and routes; and 3) NRC approval of a route-specific emergency response and mitigation plan, including local training and periodic exercises. Additionally, the proposed legislation would authorize States and Indian Tribes to establish regulatory programs providing for permits, inspection, contingency plans for monitoring, containment, cleanup and decontamination, surveillance, enforcement and reasonable fees.

INTRODUCTION

Since the late-1970s, the State of Wisconsin has become increasingly concerned about regulation of spent nuclear fuel shipments. Concern has grown as the number of shipments increased. Between 1974 and 1984, there were 474 truck shipments to and from Wisconsin nuclear reactors, totalling about 186 MTU of spent fuel. The Wisconsin shipments represented about 45% of total off-site truck shipments nationally during the 11 year period.(1) Additionally, the high level waste repository program and data related to truck and rail shipments to a repository, have accentuated public awareness and concern.

There was little official state involvement in spent fuel transportation between 1974 and 1978, during which time Wisconsin Electric Power Company made 238 truck shipments from the Point Beach Nuclear Power Station to Morris, Illinois and West Valley, New York. The state began to focus on transportation issues in early 1979, when Wisconsin learned that the U.S. Department of Energy (DOE) was seriously considering sites in Wisconsin for a geologic repository for spent fuel and high level radioactive waste. Interest in state regulation grew rapidly after the 1979-1980 shipping campaign between Dairyland Power Cooperative's La Crosse reactor and Morris, Illinois. Dairyland's truck shipments were plagued by a number of deficiencies including driver failure to follow designated routes, and excess cask surface contamination.

In response to public concerns, Wisconsin enhanced its emergency response planning. Legislation was introduced in 1979 to establish a comprehensive state regulatory program, although it was not passed. In response to DOE's continued interest in potential repository sites in Wisconsin, the state legislature created the Radioactive Waste Review Board in 1981. The Board identified spent fuel and high level waste transportation as a major state concern.

In 1983, Wisconsin Electric Power Company announced the beginning of 223 truck shipments returning spent fuel to Point Beach from West Valley, New York and Morris, Illinois. Wisconsin initially questioned the route selected for the return shipments, I-94 and U.S. Hwy. 141 through downtown Milwaukee, but did not designate an alternative route. At the request of the Governor's Office however, the State Department of Health and Social Services entered an arrangement with the utility, the U.S. Nuclear Regulatory Commission (NRC) and the State of Illinois providing for inspection of shipping casks prior to entering the state and at Point Beach. The Point Beach routing controversy aroused official concern about the lack of opportunity for state participation in the federal regulatory system, and about the absence of physical testing of spent fuel shipping casks. Since then, state technical reviewers have been highly critical of the NRC's proposed rule modification (10 C.F.R. Part 73) to reduce physical security safeguards requirements for spent fuel shipments.

THE MONTICELLO-MORRIS SHIPPING CAMPAIGN

The announcement in April 1984 that Northern States Power Company (NSP) planned to begin a five-year spent fuel shipping campaign along a route through western Wisconsin opened a watershed period in efforts by the State of Wisconsin to regulate spent fuel transportation. NSP announced its intent to begin shipping 1,058 BWR spent fuel assemblies from its Monticello, Minnesota reactor to the General Electric spent fuel storage facility at Morris, Illinois. The proposed rail shipping campaign was one of the largest in the history of the nuclear power industry, and would involve over 30 special train shipments beginning in November, 1984.(2) Soon after the announcement, state officials began meeting with utility representatives. The state requested that NSP delay the shipments to allow time for evaluation of the proposed and alternative routes, as well as its own emergency preparedness programs. NSP proceeded to plan for the shipments. In September 1984 the state requested that the NRC delay granting a safeguards route approval under 10 C.F.R. Sec. 73.37, but NRC granted the route approval on October 22, 1984. Also in October, the Wisconsin Department of Natural Resources (WDNR) met with utility representatives, and sought a spill prevention and mitigation plan under sec. 144.76(4) Wis. Stats. NSP made its first two shipments in November and December. On January 2, 1985, the WDNR issued an order prohibiting further shipments until the utility had complied with its spill prevention and mitigation planning requirements, and obtained a temporary restraining order from State Circuit Court. Several days later the temporary restraining order was lifted by the court. The state then sought a permanent injunction on further shipments which was denied by the court on June 6, 1985. Concurrently, the Attorney General's Office filed a petition for rulemaking with the NRC in December, 1984, at the request of Wisconsin Governor Anthony Earl.

A state interagency working group expressed five major concerns about the proposed shipments: 1) the environmental sensitivity of the proposed route; 2) unique local conditions affecting emergency response planning; 3) track conditions and the potential for sabotage along the route; 4) the absence of need for the shipments; and 5) the absence of any opportunities for meaningful participation by state and local governments and the general public in the decision to ship spent fuel.

Environmentally Sensitive Route. State officials stressed the environmentally sensitive nature of the route. The Burlington Northern mainline between St. Paul, Minnesota and East Dubuque, Illinois traverses western Wisconsin for a distance of approximately 210 miles after entering the state at Prescott. More than three-quarters of this segment of the route is either within or immediately adjacent to the Mississippi River or its associated wetlands. The route crosses more than 40 rivers and streams, including such major tributaries to the Mississippi as the St. Croix, Chippewa, Buffalo, Trempealeau, Black, Bad Axe, Wisconsin and Platte Rivers. About 190 miles of river shore along the route is included in the Upper Mississippi River National Wildlife Refuge. This important national wildlife refuge includes habitat for more than a dozen federal and state threatened and endangered plant and animal species. The refuge also contains major waterfowl production and migration staging areas.

The Burlington Northern route also passes through four heavily used state parks, which also include habitat for endangered and/or threatened species. The state was particularly concerned that a transportation accident or sabotage incident which resulted in radioactive releases could contaminate irreplaceable environmental resources. Even if there were no releases, however, the use of heavy equipment and large work crews could cause serious environmental damage.

Unique Local Hazards. Most of the route exhibits complicating factors such as proximity to the main river shipping channel or to shallow wetlands; topographic features such as steep slopes and bluffs, often heavily forested; and the absence of highway access. Together these factors would hinder movement of personnel, heavy equipment, and emergency response vehicles to the site of an accident, which would prevent rapid recovery of a derailed cask or casks. High seasonal population density resulting from recreational use of the corridor could complicate evacuation procedures. Even a precautionary evacuation could seriously disrupt river commerce and downstream water use. Certain segments of the route, such as the so-called "Six-mile embankment" in Trempealeau County are particularly vulnerable because of the presence of several of these complicating factors.

Track Conditions. State officials were concerned about extreme variations in track availability and condition, the large number of grade-level crossings and water crossings, and seasonal high water and flood conditions along the route. Many of the potential high-hazard areas are single tracked. Derailments are not uncommon, although statistically the route scores well because of the high traffic density. Several major accidents along other Burlington Northern routes prior to the shipments raised questions about the carrier's operating procedures generally, resulting in an investigation by DOT's Federal Railroad Administration (FRA). Several route segments appeared especially vulnerable to sabotage.

No Need for Shipments. State officials were concerned that the decision to enter this campaign was made solely by NSP, without regulatory oversight and without regard to whether it was necessary. In fact, it was not. At the time shipments began the Monticello reactor had sufficient onsite storage capacity to operate for at least three and possibly six additional years without losing full core reserve capacity. The reactor had been shut down for approximately one year and was not discharging additional spent fuel. Additionally, the utility had made no serious effort to evaluate alternatives to this shipment, such as construction of onsite dry storage facilities.

No Opportunities for Public Input. Neither NRC nor DOT regulations provide any opportunity for participation by state and local officials or members of the general public in the decision to ship spent fuel. Nor is there any forum for state and public involvement in the selection of routes for rail shipments or for the development of route-specific emergency response plans.

EXISTING FEDERAL REGULATIONS

The existing format for the regulation of spent nuclear fuel transportation is embodied in a largely preemptive series of federal programs. Several

agencies, including the U.S. Nuclear Regulatory Commission (NRC), the U.S. Department of Transportation (DOT), the Federal Emergency Management Agency (FEMA), and the U.S. Department of Energy (DOE), exercise jurisdiction over various aspects of these shipments. Primary regulatory authority is exercised by NRC and by DOT.(3)

The NRC's jurisdiction over radioactive waste transportation stems from the Atomic Energy Act.[42 U.S.C. seq. 2011 et seq.] Its regulatory authority over transportation is a function of its pervasive authority over the management of radioactive materials, as part of its statutory directive to regulate atomic energy consistent with national security and public health and safety.[42 U.S.C. secs. 2012(d) and 2013(d)]

To date, NRC has taken a fairly passive role in transportation regulations. Although the Atomic Energy Act requires NRC to license the transportation of radioactive materials, including spent nuclear fuel, NRC regulations grant a general license to all licensees and carriers to ship these materials.[10 C.F.R. Part 71, Subpart C]

NRC has developed regulations requiring prior route approvals and certain contingency planning by the shipper.[10 C.F.R. secs. 73.26 and 73.37] Notwithstanding its statutory public safety responsibilities, however, NRC has limited its regulations to protection against sabotage and theft. These are "safeguards," not "safety" regulations, and are administered as such. Moreover, NRC has in the past proposed relaxing these standards as unnecessary to maintain adequate security, wholly ignoring their safety attributes.

Finally, NRC has established radiation standards for transportation systems. These regulations, developed and administered in conjunction with DOT, establish both numerical radiation emission standards and shipping cask design standards.[10 C.F.R. Part 71, - 49 C.F.R. Part 173, Subpart I]

DOT regulates radioactive materials as a component of its pervasive regulation of hazardous materials under the Hazardous Materials Transportation Act (HMTA).[49 U.S.C. Sec. 1801 et seq.] Additionally, DOT operates under a variety of mode-specific statutes. For example, rail transportation, which will likely be the primary shipping mode to a repository, is regulated under the Federal Rail Safety Act.[45 U.S.C. Sec. 421 et seq.] Under this latter act, as well as its highway, barge, and air counterparts, DOT has established a variety of generic requirements relating primarily to equipment, road beds, signals and the like.

The HMTA, like the Atomic Energy Act, is in large measure a safety statute, whose purpose is to reduce "the risks to life and property which are inherent in the transportation of hazardous materials."[49 U.S.C. Sec. 1301] National uniformity in regulation is also a statutory objective, to the extent that it is practical and enhances safety. Under this act, DOT has promulgated a wide variety of requirements specific to radioactive materials, including cask design and emission standards, labeling, placarding, packaging, communications, and maintenance of reports.[49 C.F.R. Part 173, Subpart I; Part 174, Subpart K; And Part 177] Additionally, for highway shipments, DOT has developed specific routing and training requirements.[49 C.F.R. Sec. 177.825 and Part 177, Appendix A]

DEFICIENCIES IN THE FEDERAL REGULATORY SCHEME

The comprehensive regulatory scheme envisioned in the Atomic Energy Act and the HMTA looks much better on paper than in practice. Wisconsin's December 1984 petition for rulemaking to the NRC identified five areas in which the current regulations are seriously deficient, and requested that NRC establish a regulatory process for the evaluation and approval of proposed shipments of irradiated reactor fuel.(4) NRC denied the state's petition in October 1986.(5) The State of Wisconsin believes that NRC's denial of the petition, and numerous factual inaccuracies in the NRC Staff Position Paper on which the denial is based, are further evidence that the State's original contentions were, and are, correct.

No federal agency considers the safety or environmental risks associated with selected routes. Because no federal agency considers risks associated with specific routes, Wisconsin proposed that the U.S. Nuclear Regulatory Commission (NRC) adopt a process which would:

1. Ensure that a proposed route complies with all applicable U.S. Department of Transportation (DOT) safety and routing regulations;

2. Identify route-specific conditions or hazards which create unique risks of accidents, sabotage, or radiological exposure;

3. Evaluate alternative routes and demonstrate that the proposed route has the lowest risk of radiological exposure;

4. Insure that the shipping cask is capable of withstanding all reasonably foreseeable incidents along the proposed route which could interrupt the shipment.

The NRC and DOT do not presently consider route-specific conditions prior to approving routes. DOT, as the NRC denial acknowledges, has "no formal routing rule for rail shipments." This is significant since the two largest shipping campaigns in the history of the nuclear industry (Cooper, Nebraska and Monticello, Minnesota to Morris, Illinois) are presently being shipped by rail, and DOE plans to rely as much as possible on rail for shipments to a monitored retrievable storage (MRS) facility, or a geologic repository in the future.

The DOT trucking regulations for spent fuel (HM-164) require that shipments stay on the Interstate highway system and bypass downtown routes where Interstate system beltways are available, unless states designate (with federal approval) an alternative route. This is not the same as a route-specific risk analysis, and NRC admits that the DOT trucking rules are based on "a generic evaluation of highway routes."

Ironically, the only route-selection criteria which consider the types of concerns identified by the State of Wisconsin are those adopted by DOE as part of the repository site selection guidelines. Under DOE's transportation guideline, the Burlington Northern route would probably be disqualified because of proximity to federal- and state-protected environmental resources. The route's proximity to surface water resources and unique local hazards would be considered potentially adverse conditions. [10 C.F.R. Secs. 960.5-1, 960.5-2-5 and 960.5-2-7]

NRC asserts that route-specific evaluations are not necessary because accident risks are low, based on NUREG-0170.(6) Wisconsin believes that this reliance on this 10-year old document is unacceptable because: 1) it is based on a generic evaluation of route hazards; 2) it assumes the use of shipping casks not in use; 3) it relies on factual assumptions and projections which are not accurate; and 4) although the risk of an accident is low, the consequences are extremely high.

It must also be observed that none of the casks currently in use have actually been tested and the obsolete casks that have been tested were not subjected to the conditions expected in real-world credible worst-case accidents or sabotage incidents.

No federal agency requires adequate planning to protect the public in the event of an accident or other emergency. Because federal regulations do not require a route-specific evaluation, Wisconsin proposed a process under which route-specific conditions and hazards would be identified and emergency response plans, personnel training programs, and exercises and drills would be tailored to specific conditions and hazards along the proposed route.

Federal regulations require comprehensive emergency planning only at fixed facilities. While the present generic emergency response programs are of value, they do not consider the unique problems that the Mississippi River and associated wetlands would present in the event of a derailment or other accident. Recovery of the shipping cask could in and of itself be difficult and cause substantial adverse environmental impacts, regardless of any loss of containment and release of radioactivity.

The NRC does not regulate the carrier of spent nuclear fuel, or consider its safety record. NRC has the authority to require compliance with DOT safety regulations. NRC acknowledges having such authority, but responds that this authority has been delegated to DOT under a 1979 Memorandum of Understanding (MOU) between the two agencies. However, DOT lacks personnel and resources to ensure enforcement of existing general safety regulations. In 1984, DOT's Federal Railroad Administration (FRA) had only 48 inspectors actually assigned to hazardous materials transportation for the entire country. The Office of Technology Assessment (OTA) recently concluded that "federal inspection forces, which have been halved over the past five years while shipments of hazardous materials have been increasing, are now insufficient to ensure adequate inspection levels."(7) FRA relies upon carrier self inspection of bridges and signals. Finally, the NRC's own procedures for safeguards review do not require actual inspection of the entire route. NRC inspectors who conducted the review prior to the Monticello shipments stated that they drove along the route and observed the tracks from their car. This means they saw only a portion of the route and could not observe many potential high-hazard areas *which* are only visible from the track or from the air.

No federal agency considers the need for, or propriety of, individual shipments of spent nuclear fuel. No federal agency considers the need for the shipments, or the propriety of the shipments in light of potential risks. NRC does not dispute this statement. Instead, it relies on the NUREG-0170 conclusion that the risk of accidents is small, as well as a speculative, undocumented cost-benefit analysis. NRC cites a series of 1982 tests of "simulated fuel casks" subjected to "presumed acts of sabotage."(5) Wisconsin and others reviewed these tests and pointed out numerous deficiencies in the test design and procedures, and the conclusions drawn from them, during the 1984 rulemaking in which NRC proposed reducing security requirements for shipments.(8) It is also noteworthy that NRC has already adopted procedures for determining need for utility access to Federal Interim Storage facilities.[10 C.F.R. Parts 1 and 53] These procedures require an evaluation of whether the utility has adequately considered expansion of on-site storage capacity as an alternative to shipment to an off-site federal facility. Wisconsin has proposed a similar need determination procedure for all off-site shipments.

The public has no opportunity for meaningful participation with respect to the decision to transport spent nuclear fuel. The public has no opportunity for meaningful input into the decision to transport waste, as this decision is wholly within the discretion of the licensee. Wisconsin has suggested providing such opportunity through public hearings prior to each shipping campaign (not each individual shipment, as the NRC and some utility commentors infer). NRC admits that no such opportunity exists at present. NRC argues that it provided sufficient opportunity for public involvement during rulemaking proceedings in 1965, 1971, 1973 and 1975 on generic issues; DOT solicited public comments during generic rulemakings in 1980; and NRC and DOT jointly sponsored a meeting for state and tribal representatives in 1985. While the states appreciate the limited opportunities for public participation in these proceedings, none of the aforementioned events provided any public input regarding specific shipping campaigns or specific routes and are, therefore, of no relevance to the issues raised in the petition.

PREEMPTION OF STATE REGULATORY EFFORTS

In addition to inadequacies in scope, administration, and enforcement of the federal regulatory program, states have been hamstrung by the preemptive effect of the federal program. States have been precluded from engaging in a variety of regulatory programs not only by statute, but by administrative and judicial interpretations.

The Atomic Energy Act is quite clearly preemptive with respect to the radiation safety aspects of nuclear energy generation. Moreover, Section 274(k) makes clear that state and local agencies are not restricted in their authority to "regulate activities for purposes other than protection against radiation hazards." In the landmark Pacific Gas and Electric Company case, the court stated:

> Congress has preserved the dual regulation of nuclear-powered electricity generation: the Federal Government maintains complete control of the safety and "nuclear" aspects of energy generation; the States exercise their traditional authority over the need for additional generating capacity, the type of generating facilities to be licensed, land use, rate-making, and the like.(9)

Thus, State statutes have been upheld which prohibit new nuclear reactors on economic grounds and authorize the award of punitive damages for negligent conduct of NRC licensees,(10) even though these statutes affect the conduct of the NRC licensees.

The preemptive affect of the HMTA has been the subject of much dispute. The HMTA preempts a state or local regulation which is "inconsistent" with the HMTA, but further provides that such a regulation is not preempted if DOT determines that it: 1) affords an equal or greater level of protection to the public; and 2) does not unduly burden commerce.[49 U.S.C. Sec. 1811] Pursuant to this provision, DOT has established both an "inconsistency ruling" and "nonpreemption procedure," under which it will issue advisory, non-binding rulings on the validity of state and local regulations.[49 C.F.R. Part 107, Subpart C] Under this rule, inconsistency is determined by a two-part test: 1) whether compliance with the federal and state requirement is possible; and 2) whether the state regulation constitutes an "obstacle" to accomplishment of the objectives of the HMTA.[49 C.F.R. Sec. 107.209(c)]

To date, DOT has issued 17 inconsistency rulings. Additionally, it has promulgated in 49 C.F.R. Part 177, Appendix A, guidelines on what it considers to be unacceptable state regulations. These rulings are note worthy for their unabashed transfer of responsibilities to the states and restrictions on the states' ability to effectively manage these responsibilities.

In an early consistency ruling, IR-2,(11) DOT without citation or support, established its standard of local responsibility: Protecting against local hazards, emergency preparedness and planning and emergency response. DOT set out for itself a limited role of aiding in local planning, but delegated to the states the sole responsibility for emergency response.

Notwithstanding this weighty charge, DOT has largely rejected efforts by states to effectively manage this responsibility. Conceptually, DOT has concluded that since delay in transportation increases the statistical risk of an accident, any requirement which could create a delay is preempted. Likewise, DOT has also concluded that any state regulation which a shipper might want to avoid influences routing decisions, and is therefore, by definition, a routing regulation preempted by 49 C.F.R. Sec. 177.825. DOT rulings have also placed a high reliance on national uniformity as a primary objective, irrespective of safety implications. Lastly, DOT has consistently refused to weigh the safety implications of the state regulations, but has instead devised a generic, formulaic approach to its rulings.

These themes are best illustrated in DOT's rulings on state permits. In each ruling, DOT has initially stated that a permit requirement in the abstract may be consistent. Yet, each permit it has considered it has held to be preempted. The dubious basis for this preemption was first espoused in IR-2: if the state requires the same information as DOT in its permit application, it is redundant; if it requires additional information, or a different form, it creates additional paperwork and delay. This principle defies DOT's conceptual recognition that a permit might be consistent, in that it necessarily preempts any permit for which an application is required.

DOT's consideration of fee requirements follows a similar pattern. In IR-15,(12) DOT initially observed that a fee to support a "consistent" state program is not inherently preempted. Yet the Vermont fee requirement considered therein was rejected on the grounds that a fee might influence a shipper to select an alternate route and was therefore a preempted routing rule. No consideration was given to the magnitude of the fee, its purpose or its actual effect on routing decisions. In a similar vein, DOT has rejected state requirements for advance notification, shipper contingency planning and seasonal or time-of-day restrictions on specific routes. Indeed, the only state regulatory requirements upheld by DOT prior to 1986 have been selection of alternate routes under DOT guidelines and state inspections and enforcement to implement federal regulatory requirements.(13)

DOT's restrictive perception of state regulatory tools has not been adopted by the courts. For example, in the seminal case of New Hampshire Motor Transport Association v. Flynn,(14) the court rejected the generic approach to inconsistency and instead considered the specific effect of the challenged license and fee requirement. The court concluded that the license and fee requirements served a legitimate purpose and enhanced safety, consistent with the HMTA. It further observed that there are inherent delays associated with licensing and that the delays in the New Hampshire program could be minimized and were overridden by the benefits of the state program.

Subsequent to the Flynn case, DOT has had the opportunity to rule upon the consistency of the fee requirement in the Illinois program. In IR-17,(15) DOT's Office of Hazardous Materials Transportation upheld a $1,000 per cask shipping fee designed to financially support the state's inspection and escort program. In its decision, the DOT concluded that the Illinois' program, which essentially administers and enforces the HMTA program, is fully consistent with HMTA. It further concluded that the state could legitimately charge a fee designed to support that program.

Ironically, the first DOT ruling favorable to states is also the first ruling which is being appealed within DOT. Wisconsin Electric Power Company, DOE and a consortium of electric utilities have appealed IR-17. The appellants' primary argument on appeal is that the transit fee is effectively a routing regulation, in that it influences shippers' route selection decisions. They also raise the concern that other states may also impose fees to support their inspection programs, causing delay and undermining national uniformity. In essence, the appellants argue that a fee is inherently inconsistent with the HMTA, irrespective of its actual purpose or effect, and contrary to the court of appeals' ruling in Flynn. A decision is expected within the next few months.

The interplay between the Atomic Energy Act and HMTA has produced curious results. In State of Wisconsin v Northern States Power, the court essentially held that the statutes, taken together, preclude any state regulation of radioactive waste transportation. Although both acts contemplate, indeed authorize, state regulation, the court concluded that each act effectively takes away what the other act gives.

In State of Wisconsin v. Northern States Power Co., Dane Co. Case No. 85-CV-32 (decided June 6, 1985), the court focused on whether the state's efforts to require emergency planning was preempted under federal law. Specifically, the court considered preemption under the Atomic Energy Act and Hazardous Materials Transportation Act (HMTA).

The court's decision is most interesting to the extent it illustrates the complexities and limitations of an incohesive federal regulatory scheme. Both the Atomic Energy Act and HMTA specifically acknowledge and contemplate some state regulation of the nuclear industry. Yet the court curiously found that read together, the two acts preclude any state regulation. The court stated, "In isolation, there are no doubt hundreds of detailed items not specifically addressed by federal regulations. But, generically, the federal scheme preempts all areas of transportation of hazardous materials." In essence, the court implicitly concluded that each act preempted the areas of legitimate state regulation granted by the other. Similarly, the court seemed to rule that the state regulatory effort was preempted principally under the Atomic Energy Act, yet chastised the state for not seeking a nonpreemption ruling under the HMTA. Both these rulings illustrate the problems inherent in a fragmented regulatory program designed to meet different needs.

This brief review of the NRC-DOT transportation programs and administrative and judicial interpretations illustrates a number of gaps in the regulatory scheme. Although both the Atomic Energy Act and HMTA envision local regulation of those matters not susceptible to uniform national regulation, DOT's emphasis on uniformity and potential delays has proscribed the regulatory tools necessary to administer local control. States have been frustrated in their efforts to require contingency plans to address local hazards, impose time of day, seasonal, and other use restrictions and require information concerning the nature of the cargo.

In order to rectify these limitations, the State of Wisconsin has proposed enhancements to the current regulatory scheme. Three principles dominate this pursuit: (1) Regulatory control over the decision to ship spend fuel; (2) Route-specific analysis and planning to minimize local hazards; and (3) State and local participation in waste transportation decision making.

FEDERAL LEGISLATION PROPOSED BY WISCONSIN

The State of Wisconsin's experience in attempting to regulate shipments of spent nuclear fuel establishes both that there are serious gaps in the existing federal regulatory scheme and that states have generally been frustrated in their efforts to fill the void created by the federal regulations. Wisconsin's experience in petitioning the NRC for rulemaking further underscores the need for changes in federal statutes. During the second session of the 99th Congress, Wisconsin Senator William Proxmire and Representatives David Obey and James Moody introduced bills (S. 1927 and H.R. 3932) to remedy the shortcomings identified by the State.

There are two key provisions in these bills. The first is the requirement that NRC exercise its jurisdiction over all aspects of high level waste transportation through a license requirement. All spent nuclear fuel and high level waste shipments by NRC licensees, including the U.S. Department of Energy operating as a licensee under the Nuclear Waste Policy Act, would require specific license *authorization*. While DOE shipments under the NWPA would thus be regulated, the need determination required for other shipments would not apply to DOE shipments to a monitored retrievable storage (MRS) facility or to a geological repository. The NRC license could apply to a single shipment, or a series of shipments, as long as the shipping campaign involved similar wastes, the same types of wastes, the same shipping casks of vehicle enroute as long as all shipments occurred within a period of two years. The legislation does provide that shipments could be exempted from the restrictions if the Commission certifies that there are "compelling reasons of public health and safety or national security which necessitate the immediate transportation of the waste to another site or facility."

The NRC licensing process which would be established under the proposed legislation would eliminate the five deficiencies identified by the state in the current federal regulatory system.

1. Route Selection. The legislation provides that a licensee seeking authority to ship spent fuel would have to submit an application to the NRC including a hazard/risk assessment of the transportation corridor assessing physical impacts which might represent a risk to the shipment, and an analysis of alternative routes, including a comparison of risks and hazards. The Commission could also require the licensee to submit an environmental impact report. The NRC, on its part, would be required to complete an environmental assessment prior to granting a license for the shipment. The Commission's environmental assessment would include among other things a comparison of the relevant hazards and risks of alternative routes and modes, a description of environmental features both human and natural along the selected route; a description of the condition of the physical features along the route which might hinder recovery; containment and cleanup of an accident involved in the transportation of wastes; and an evaluation of the environmental and human health effects of the release of high level radioactive waste during transport.

2. Emergency Response and Mitigation Planning. The legislation required an NRC licensee seeking approval of shipments to file as part of its application with the NRC a route specific emergency response and mitigation plan outlining procedures to be taken in the event of release or potential release of radioactive waste including emergency tactics for investigation and monitoring; emergency medical and hospital procedures; containment and decontamination procedures for an accidental release of radioactive waste; decontamination procedures for public and emergency response personnel; cleanup procedures; coordinated response procedures with affected state, tribal and local entities; and resource identification and accessibility. The major difference between this requirement and the emergency response requirements currently in place is that the legislation would require that the plans be route specific rather than generic. Moreover, the proposed legislation would require coordinated federal, state and tribal planning with respect to implementation of the plans required and require the federal agency states, Indian Tribes and affected communities to develop and exercise the emergency response and mitigation plan within 12 months of the date that a license is granted.

3. NRC Responsibility for Transportation Regulation. The legislation requires NRC to determine whether all relevant federal and state requirements have been met before issuing

a license for the proposed shipments. In other words, NRC will be responsible for determining not only whether its own regulations have been met but also whether all relevant regulations imposed by DOT have been met. Further, the legislation allows NRC to impose reasonable and prudent restrictions on the licensee with the goal of minimizing the risk of an incident and/or enhancing the potential for containment and cleanup in the event of an incident. NRC would also be responsible for establishing the financial responsibility of the shipper.

4. Determination of Need to Ship. The legislation would require NRC to determine the need for offsite shipment prior to granting a license. Determination of need requirement would not apply to DOE shipments to a monitored retrieval storage (MRS) facility or to a geologic repository. All other proposed shipments would be subject to a determination of need to be conducted according to rules similar to those already adopted by the NRC in 10 C.F.R. Part 53 regarding the determinations required for utility access to federal interim storage facilities. A licensee seeking to ship spent fuel offsite would have to provide detailed information on alternatives considered by the licensee, including expansion of existing storage facilities, construction of new or additional storage facilities, acquisition of modular or mobile storage equipment, transshipment of spent fuel to another plant within the utility system or other such technologies which may be approved by the Commission.

5. Public Involvement. The legislation requires an NRC license shipping spent fuel. Thus the normal public participation provisions of NRC licensing proceedings, including public notice, opportunity to comment on draft documents and opportunity to participate in public hearings would be provided for. Further, the legislation would specifically require that licensees consult with affected states and tribes regarding selection of routes prior to submitting an application to the NRC and further would require the licensee to provide evidence that states and affected tribes had been informed of the license application itself. The NRC must also notify the applicant that the application is complete within 30 days of submission. Upon notice of a complete application, the NRC has 90 days to grant or deny a license.

The second major provision of the proposed legislation would be to clarify the role of states and affected Indian Tribes in the regulation of spent nuclear fuel in addition to the federal regulations, particularly with regard to unique local hazards. As the state's experience illustrates, present federal statutes may be interpreted by the courts as preempting reasonable state regulation even where serious deficiencies have been shown to exist in the federal regulations. As the State of Wisconsin experience illustrates, a state court ruled that the federal regulations preempted the state from imposing reasonable regulations, in this case, a spill prevention and mitigation plan, notwithstanding specific statutory authority for state regulation. Moreover, the present challenge by DOE and a group of nuclear utilities to the State of Illinois inspection and escort program in spite of that program's approval by DOT, further illustrates the need for statutory definition of state and tribe jurisdiction.

The legislation therefore would specifically authorize states and Indian Tribes to establish regulations for the following purposes: 1) Implementation of inspection, surveillance, and enforcement; 2) Establishing fees designed to pay the cost of state nuclear safety transportation programs; 3) Accident and incident reporting; 4) Advance notification of shipments; 5) Designation of alternate routes; 6) Identification of safe havens; 7) Operator certification requirements; and 8) Monitoring, containment, cleanup and decontamination procedures.

CONCLUSIONS

The experience of the State of Wisconsin concerning the Monticello-Morris Campaign illustrates the difficulty of state regulation of spent nuclear fuel shipments under the existing legal framework. Wisconsin identified five serious deficiencies in the current federal regulatory scheme. When Wisconsin attempted to fill this regulatory void by applying state statutory requirements, a state trial court ruled that federal regulations preempted the state's spill plan and mitigation requirement. Thus, the existing federal regulatory scheme precludes effective regulation of spent nuclear fuel shipments by States and Indian Tribes. Effective State and Indian Tribe regulation of spent nuclear fuel and high level waste transportation cannot be achieved without changing the existing federal statutes.

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13. See, e.g., U.S. DEPARTMENT OF TRANSPORTATION, "Inconsistency Ruling No. IR-8," Federal Register, Vol. 49, 6637 (November 27, 1984).

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