

STATE ISSUES AND RECENT EXPERIENCE IN

SPENT FUEL SHIPPING

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ABSTRACT

Spent fuel shipments in the United States have increased in recent years due to the transfers between the West Valley, NY, and GE-Morris, Illinois, spent fuel pools and the utilities. This paper examines five states affected by spent fuel transport, the issues that developed, and the actions that were taken by the states. Implications for future spent fuel shipments, in particular the DOE shipments to a federal repository, are discussed. Major impacts result from the states and localities adoption of requirements that may be in conflict with national regulation related to highway safety for radioactive materials.

INTRODUCTION

For many years spent nuclear reactor fuel has been moving in moderate quantities across the United States. In the past two years, the number of shipments of spent fuel has increased primarily due to the movement of the spent fuel stored in the pool at the West Valley, New York, site of the former Nuclear Fuel Services (NFS) reprocessing plant. The U.S. Department of Energy (DOE) is currently in the process of decontaminating and decommissioning the West Valley facilities; a project that includes solidifying the high level radioactive waste and removal of all wastes to an appropriate Federal repository [West Valley Demonstration Project Act; Public Law 96-368, Oct. 1, 1980]. The spent fuel stored at West Valley was ordered returned to the original utility users.

An examination of the Department of Transportation's (DOT) data base that records the "large" or "highway-route-controlled" quantity shipments yields the following statistics^a on spent fuel shipments:

During the period of January 1982 to January 1985, there were 484 reported truck shipments of which:

- 143 were to Idaho Falls, Idaho. Of these: 53 were from foreign reactors entering the U.S. at Virginia or Oregon; and 58 were from Fort St. Vrain, Colorado;
- 222 were destined for Point Beach, Wisconsin. These shipments were from the storage pools at West Valley (109) and GE Morris in Illinois (113);
- 44 to the Savannah River Plant in South Carolina. These shipments were all foreign

reactor fuel; 21 from overseas, and 16 from Chalk River, Canada;

- 29 shipments to GE Morris in Illinois; and

- 18 DOE shipments of spent fuel from one DOE facility to another.

Although these shipments have been completed with few technical and no safety problems, significant state and local issues have emerged that resulted in delays of scheduled shipments, legal actions regarding these and future shipments, and public reaction with media interest. The issues generated by these shipments have implications for the future. Through personal interviews with a number of state agencies affected by the recent spent fuel shipments, we have listened to their concerns, and, in this paper, present an analysis of current experience in the resolution of institutional issues surrounding the shipment of spent fuel. These shipments can be viewed as a forerunner for the numerous shipments to be made in future years and the institutional problems that will develop as spent fuel is sent to Federal storage or a repository under the Nuclear Waste Policy Act of 1982.

CURRENT STATE ISSUES

The authors began interviewing state agency personnel in 1982 during the period that NRC was developing rules for state prenotification of nuclear waste shipments and has followed the issues surrounding HM-164, the DOT's highway routing rule, since 1979. In the past year, five states were visited for interviews regarding their perception of spent-fuel transportation activities in those states. The institutional issues analysis of nuclear materials transportation is an ongoing project sponsored by Sandia National Laboratories Transportation Technology Center (TTC).

Table I displays, in summary form, the states and state agencies contacted, the major issues reported to us, and state legislation or legal actions taken that directly affect transportation of spent fuel into or through that state.

Several common concerns overlie individual issues raised by each of the states. Probably the

^aNRC reports spent fuel data to the DOT on its licensees. Although DOE, acting as shipper and receiver, is not required to prenotify the states nor to obtain NRC route approval, DOE reports all spent fuel and "large" quantity shipments to the DOT in accord with 49 CFR 173.22 (b)(2).

TABLE I
Summary Of Major State Issues
And Legislation

STATE	STATE AGENCIES	MAJOR ISSUES	MAJOR LEGISLATION
OHIO	Ohio Disaster Services Attorney General, Environ- mental Law Section	Training and emergency response. Awareness of shipping activities, desire inspections, travel restrictions DOE of little concern, have had much experience with DOE field offices. Political posturing on local level for public benefit, state more responsive to local issues than feds.	Ohio State Law: Notification Prior to Shipment of Nuclear Materials Into or Through the State, 1980. Covers pre-notification of all "large quantity" nuclear materials. Agreements between state and utilities regarding West Valley Shipments. Proposed State Law (H.B. 565) which would give approval right to state.
PENNSYLVANIA	Pennsylvania Emergency Management Agency	Need to be informed on DOE shipments, do not have access to DOE on local or county level. DOE doesn't communicate. Safety responsibilities lie with state.	Radiation Protection Act, 1984. Deals with fees, escort requirements, and cost of escort for shippers of spent reactor fuel.
SOUTH CAROLINA	Bureau of Radiological Health Division of Radioactive Material Licensing and Compliance	Liability a major concern, hence state law. DOE shipments covered under Principles of Understanding Foreign fuel shipments liability not resolved, inspection procedures not clear. NRC licensees not notifying state. Concerned about "safety" not "safeguards", NRC should not drop escorts from 10CFR73.	Radioactive Waste Transportation and Disposal Act, 1980, and the Principles of Understanding; DOE and State of South Carolina, 1980. These two documents cover all radioactive waste entering S.C. for purposes of pre-notification and liability; permit required.
VIRGINIA	Bureau of Radiological Health, Regulation of Hazardous Radioactive Materials	Very concerned about DOE managing shipments from Surrey to Idaho and state not being notified. Recognize that state law violates fed law, but will enforce until challenged in court. NRC not informing state of route selections.	Virginia Hazardous Radioactive Materials Transportation Act, 1984. Escort requirements, 24 hr notification of all Type B shipments, carrier registration.
WISCONSIN	Health and Social Services State Patrol Radiation Protection: Emergency Response Advisory Council on Radiation Protection Wisconsin Radioactive Waste Review Board Department of Natural Resources Division of State Energy	Training for local law enforcement agencies. Awareness as first responders. Federal inspections of spent fuel shipments. Cooperation with utilities, reimbursement of state expenses. Changes proposed to 10CFR73 unacceptable. Routing (major population points).	Petition for NRC Rulemaking to establish <u>road</u> for spent fuel shipments. Restraining order against Northern States Power.

most significant in terms of future developments is the overall distrust of the federal agencies by the states.^b The perception exists that although the federal agencies develop rules and regulations to control radioactive shipments they are not enforcing compliance with those rules through routine inspections nor imposing penalties on violators. Suspicion surrounds shipments under the control of DOE since DOE is not an NRC licensee and therefore not subject to NRC regulations. The states are overwhelmingly unanimous in their belief that they are not kept informed by the federal agencies, nor allowed to participate in planning and decision making, that these agencies neither understand nor attempt to communicate with the states regarding state concerns, and that they must, therefore, rely on their own resources to provide an appropriate level of protection against these radioactively hazardous shipments for the safety of the people of their states.

States have little confidence of federal response and assistance in the event of an accident. State and local governments are therefore concerned about their own ability to provide effective emergency services. This leads to several related issues, i.e.,

- . training programs for accident responders;
- . information or awareness of types of, frequency of, and schedule of nuclear material shipments, in order to be able to provide adequate level of emergency response;
- . funding for these activities, and liability in case of accidents.

Another major concern arises from public perceptions and the pressures applied to local and state officials as a result of these perceptions. A clear statement was made by several states that it is not sufficient to cite the safety record of the past in order to relieve the public fears and concerns. Visible evidence of protection, such as armed escorts, were important to each state interviewed. The states recognize that they have the responsibility of assuring state and local public officials of the states' ability to protect its citizens in the event of a nuclear accident. This is critical for the prevention of local uproar fed by the media and antinuclear groups. The next section discusses how these states have approached resolution of these issues.

CURRENT STATE ACTIVITIES REGARDING SPENT FUEL SHIPMENTS

The Hazardous Materials Transportation Act of 1974 (HMTA) was enacted by Congress to "protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in commerce." DOT considered the scope of this regulation and the need for national uniformity in the issuance of its rule, "Radioactive Materials; Routing and Driver Training Requirements" (DOCKET HM-164, 1981). The appendix to this rule sets forth the DOT's position regarding the preemption of state and local requirements deemed inconsistent with the federal rule. HM-164 was itself subject to considerable judicial examination and rulings, and has provoked the examination of several

specific state and local restrictions and requirements as inconsistent. Last November, DOT issued rulings on nine administrative proceedings dealing with restrictions in Michigan, New York and Vermont that had effectively halted the transportation of spent nuclear fuel through those states. Seven of the rulings found the restrictions inconsistent, the other two resulted in a finding of no inconsistency with HMTA.

In view of this, why do the states and certain localities continue to adopt such regulations? The answer to this question has several parts. First of all, four of the states (Ohio, PN, S.C., and VA) that were interviewed for this study had laws that are recognized by the state as probably being inconsistent; however, the state is willing to undergo the long and arduous process of legal challenge to their law and in the interim be able to provide the level of protection afforded by their law. South Carolina has applied for and received an exemption for its state law from the DOT. The other states (PN, VA, and Ohio) have found that the shippers and carriers have acquiesced to the requirements as the path of least resistance and the states will continue to enforce their laws.

Secondly, each state law addresses specific concerns of that state. For example, the Pennsylvania law requires escorts and permits for transport through the state; the Virginia law addresses registration of carriers, 24 hour notification of all Type B shipments, and escort requirements; and in Ohio, the state entered into specific agreements with the spent fuel shippers (Wisconsin Electric Power Company and Commonwealth Edison) that provided border-to-border escorts, restricted days of travel, and inspection rights.

The third part is the states' political visibility and the apparent lack of federal enforcement. The inspection situation is a good example. In Wisconsin, the state desired 100% inspection of the shipments to Point Beach. The NRC inspection program could not provide reasonable assurance of implementation and the state negotiated with NRC for the state to act as agent for NRC to determine that federal requirements were being met. The state inspection program began in January 1984, with the state inspecting 150 of the 222 shipments to Point Beach. Training was provided for seven inspectors and work was initiated with 17 hospitals for emergency plans to respond to radiation incidents. On the political side, this program displays an active state role and provides a side benefit of additional capability with respect to radiological emergencies. Funding for this program was supplied by Wisconsin Electric. NRC agreed to back the state in enforcement.

Wisconsin's concern over the federal responsibilities has led to a recent action with some important implication for the spent fuel storage problems. Wisconsin believes that the question of the need for spent fuel shipments has not been addressed by the appropriate federal agencies. Neither DOE, DOT, nor NRC have a regulatory process for the evaluation and approval of proposed shipments of spent fuel. Wisconsin has filed a Petition for Rulemaking with the NRC (Docket PRM 71-10). The proposed rule would:

- . prohibit unapproved shipments;
- . require the NRC to evaluate and pass upon the propriety of the shipments; and

^bIn particular: NRC, DOE and DOT

- provide an opportunity for public input into that decision.

The proposed rule was published for comments in the Federal Register (50 FR 4866) in February 1985.

The Governor of Wisconsin has requested Governors of other states to join Wisconsin in this effort. Wisconsin has further requested that the NRC refrain from approving routes for any shipment of spent fuel until the requested rule has been promulgated.

CONCLUSIONS

Transportation of spent fuel, as is currently being accomplished, has become a matter of accommodation and sometimes confrontation between the shippers and the states they traverse. Although DOT has ruled several state laws as inconsistent with federal regulation and therefore preempted by the HMTA, the rulings took eighteen months from the time of petition to DOT by the carrier-service organization until the decision was made by DOT. Without voluntary compliance, court challenges are necessary in order to prevent states or localities from enforcing inconsistent rules. In the meantime, other states and localities are banning or impeding radioactive material shipments.

Public perception of the unique nature of spent fuel shipments has created this proliferation of state and local requirements that exceed that deemed adequate by federal regulation for transportation safety on a national basis. This, coupled with the

states' perception of inadequate enforcement of the federal regulations, creates a questionable regulatory atmosphere as the time approaches for DOE to accept fuel and ship it for storage or to a repository. DOE has a major task in assuring the public, especially those in the so-called corridor states, of the safety of the shipments. The recent experience in spent fuel shipments have shown that considerable time and effort (and cost) must be devoted to resolution of the state concerns for successful completion of such shipping campaigns.

For all parties involved with nuclear waste management, the Wisconsin petition for NRC approval of need to transport spent fuel has important implications. The need for transferring fuel between utility storage pools, to an away-from-reactor storage site, or to a monitored retrievable storage facility could become subject to public scrutiny by every locality in the path of such a transfer.

DOE needs to begin its transportation waste management program in a timely and cooperative atmosphere with all states that are transportation corridors. Its programs must reach the citizens and effectively convince the public of the safety of these shipments through adequate and verifiable testing programs and demonstrations on the local level. DOE must become more accessible to the all states in the early planning and decision stages of its repository program. Absent this attitude on DOE's part, the DOE is likely to encounter an intolerable system of bottlenecks capable of blocking the entire waste program.