Case Histories of West Valley Spent Fuel Shipments

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ABSTRACT

In 1983, NRC/FC initiated a study on institutional issues related to spent fuel shipments originating at the former spent fuel processing facility in West Valley, New York. FC staff viewed the shipment campaigns as a one-time opportunity to document the institutional issues that may arise with a substantial increase in spent fuel shipping activity. NRC subsequently contracted with the Aerospace Corporation for the West Valley Study. This report contains a detailed description of the events which took place prior to and during the spent fuel shipments. The report also contains a discussion of the shipment issues that arose, and presents general findings. Most of the institutional issues discussed in the report do not fall under NRC's transportation authority. The case histories provide a reference to agencies and other institutions that may be involved in future spent fuel shipping campaigns.

PREFACE

The New York State Energy Research and Development Authority (NYSERDA) brought suit against Nuclear Fuel Services, Inc. (NFS), and certain public utilities in May 1982 for removal of spent fuel stored at the Western New York Nuclear Service Center, located in West Valley, New York. The District Court ruled in favor of NYSERDA in October 1983 and ordered removal of the spent fuel by its owners. NFS and four public utilities were owners of the spent fuel. This court-order requirement resulted in four separate spent fuel campaigns from the West Valley facility to at-reactor storage facilities (owned by the utilities) in Wisconsin, Illinois, New Jersey, and New York. A fifth campaign evolved when NFS-owned spent fuel was relinquished to the Department of Energy (DOE) at West Valley. DOE plans to ship this fuel to a DOE facility in Idaho.

As part of its transportation program, and to assist in fulfilling its responsibilities for licensing and regulation of the transportation of spent fuel under the Nuclear Waste Policy Act of 1982 (Public Law 97-425, January 7, 1983), the Nuclear Regulatory Commission (NRC) directed that case histories, focusing on institutional issues and regulatory events, be prepared for each of these and other current campaigns occurring during November 1983 through May 1986. The principal method of acquiring information was through personal interviews with representatives of the agencies, utilities, shippers, state and local governments, and public interest groups involved in the shipments. Aerospace has endeavored to present the substantive views obtained during these interviews in a fair and unbiased way. The views, however, present a wide diversity of opinions from many people interested in spent fuel transportation. While believed to be accurately reported, the views do not necessarily reflect a consensus from an institutional sector nor do they necessarily represent those of the NRC.

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NOMENCLATURE

AEA	Atomic Energy Act
AECL	Atomic Energy of Canada, Limited
BWR	boiling water reactor
CommEd	Commonwealth Edison
DGC	Deputy General Counsel
DNR	Department of Natural Resources (Wisconsin)
DOT/MTB	U.S. Department of Transportation/Materials Transportation Bureau
EPI	Environmental Policy Institute
FA	fuel assembly
FHWA/BMCS	Federal Highway Administration/Bureau of Motor Carrier Safety
FSP	fuel storage pool
GE	General Electric
GEMO	General Electric Morris Operations
HMTA	Hazardous Materials Transportation Act
IR	Inconsistency Ruling
ISEA	Illinois Safe Energy Alliance
JCP&L	Jersey Central Power & Light Company
LWT	legal weight truck
MPIRF	Minnesota Public Interest Research Foundation
MTU	metric tons of uranium
NAC	Nuclear Assurance Corporation
NFS	Nuclear Fuel Services, Inc.
NJDEP	New Jersey Department of Environmental Protection
NPPD	Nebraska Public Power District
NRC	Nuclear Regulatory Commission
NSP	Northern States Power
NWPA	Nuclear Waste Policy Act
NYDOH	New York (State) Department of Health
NYDOT	New York Department of Transportation
NYSERDA	New York State Energy Research and Development Administration
NYSTA	New York State Thruway Authority
OBPA	Ogdensburg Bridge and Port Authority
OGC	Office of General Counsel, Nuclear Regulatory Commission
OWT	overweight truck
PWR	pressurized water reactor
QA	quality assurance
RAM	radioactive material
RG&E	Rochester Gas and Electric Company
SNF	spent nuclear fuel
TRO	temporary restraining order
WEPCO	Wisconsin Electric Power Company
WVDPA	West Valley Demonstration Program Act
WVNS	West Valley Nuclear Service Company, Incorporated

EXECUTIVE SUMMARY

This report presents a collection of case histories, findings, and recommendations derived from a study and assessment of spent nuclear fuel shipping campaigns, ongoing or planned during the period October 1983 to May 1986. The study was sponsored by the Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission. The primary objectives of the study were to (1) document the significant events comprising the spent fuel transport experience in the West Valley, New York, and other contemporary fuel shipping campaigns; (2) identify and examine the issues and concerns expressed relating to fuel transport, including disputes among institutions over identified issues; and, (3) formulate findings and develop recommendations that can be used to ease the impact of issues in future spent fuel shipping campaigns. The NRC may use the findings to assist in development of plans for carrying out its regulatory responsibility for spent fuel transport pursuant to Section 137 of the Nuclear Waste Policy Act (NWPA) and as appropriate, for other fuel shipment responsibilities in the near term.

Detailed case histories describe three spent fuel shipping campaigns originating from West Valley, New York to Point Beach, Wisconsin; Morris, Illinois; and Forked River, New Jersey, which were completed during the 2.5-year study period. Summaries and operational status also are given for two additional shipping campaigns out of West Valley to Ontario, New York and Idaho Falls, Idaho. The latter campaign, originating at the Western New York Nuclear Service Center located in West Valley, is scheduled to start in 1986. Institutional issues, concerns, conflicts, and conflict resolution, as well as positive aspects characterizing the West Valley transport experience, are documented, assessed, and discussed as part of the case histories.

Case histories and analyses are also presented for five non-West Valley spent fuel shipping campaigns. The non-West Valley coverage includes a detailed case history of a shipping campaign originating at the Northern States Power Company's Monticello reactor site and summary characterizations of four other contemporary spent fuel campaigns. These non-West Valley shipments include three campaigns subject to NRC authority and two DOE-managed campaigns, which are exempt from NRC authority. All campaigns covered, of West Valley and non-West Valley origin, as summarized below, are subject to the hazardous materials transport regulations of the DOT.

Shipping Campaigns Addressed in this Report

Origination	Destination
DOE West Valley Facility West Valley, New York	Dresden Nuclear Power Plant Morris, Illinois
DOE West Valley Facility West Valley, New York	Point Beach Nuclear Power Plant Two Rivers, Wisconsin
DOE West Valley Facility West Valley, New York	Oyster Creek Nuclear Power Plant Forked River, New Jersey
DOE West Valley Facility West Valley, New York	Ginna Nuclear Power Plant Ontario, New York
DOE West Valley Facility West Valley, New York	Idaho National Engineering Laboratory Idaho Falls, Idaho
Monticello Nuclear Power Plant Monticello, Minnesota	General Electric Morris Operations Morris, Illinois
Cooper Station Nuclear Power Brownville, Nebraska	General Electric Morris Operations Morris, Illinois
Brookhaven National Laboratory Upton, New York	Idaho National Engineering Laboratory Idaho Falls, Idaho
Chalk River Research Reactor Ontario, Canada	Savannah River Plant Aiken, South Carolina
Surry Power Station Gravel Neck, Virginia	Idaho National Engineering Laboratory Idaho Falls, Idaho

Findings

Significant findings resulting from the case histories of West Valley and non-West Valley spent fuel shipping campaigns are presented. These results are believed to have general applicability to the conduct and regulation of future spent fuel transport campaigns. The findings are:

- o Public Information Campaigns Essential
- o Shipping Issues Common for Agencies
- o Cask Evaluation and Certification Should Be Uniform
- o Federal Regulators Criticized
- o Courts Recognize Need for Coexistence of Jurisdictions
- o Federal Courts Effective in Resolving Issues
- o Negotiation Can Expedite Shipment Approval
- o Some States Might Not Adequately Notify Local Jurisdictions
- o Media Coverage Can Be Misleading
- o Not-in-my-Backyard Syndrome Persists
- o Multiple Routes May Avoid Conflicts

Public Information Campaigns Essential. The development and implementation of comprehensive public information (and educational) programs that seek to explain the technical, operational, safety, and security aspects of spent fuel transport in layman's terms, are indispensable to the conduct of a successful spent fuel shipping campaign. However, even with implementation of an effective public information program, there is no guarantee that conflict over issues will be reduced.

Shipping Issues Common for Agencies. The major concerns associated with spent fuel transport are basically the same, no matter who's authority they come under: NRC authority or non-NRC authority, as are the nondefense-related shipments of spent fuel managed by DOE and subject to DOT regulations.

Cask Evaluation and Certification Should be Uniform. Some state officials interviewed stated that they have no great concerns about safety and security of spent fuel transport as regulated by Federal authorities. The same officials, however, stated they feel the methods for spent fuel cask evaluation and certification should be uniform and consistent among Federal agencies. According to these officials, they are not assuaged when the DOE says its criteria and procedures for ensuring radiological safety is equivalent to the NRC's since they cannot inspect to determine if the DOE statement is true. The DOE/OCRWM policy initiative which directs a switch to NRC cask certification now applies.

Federal Regulators Criticized. The usual federal regulatory policy of not initiating challenge of State regulatory requirements on shippers and carriers of spent fuel, unless action is initiated by shippers and carriers, generates criticism of federal regulators from both the nuclear industry and some State officials.

Courts Recognize Need for Coexistence of Jurisdictions. The federal court system in its adjudication of disputes between institutions over issues associated with spent fuel transport seems to be cognizant of the need for coexistence between certain State rules and regulations applicable to spent fuel transport and HM-164 (as well as rail transport regulations). DOT, in its inconsistency rulings IR-7 through IR-15, reinforced the above condition in the general preamble to its rulings by explaining how Congress, in enacting the HMTA, did not intend that the HMTA or the HMRs completely occupy the field of spent fuel transport, so as to preclude any State or local action. In this regard, HM-164 allows for State or local actions as long as they are consistent with the federal regulations.

Federal Courts Effective in Resolving Issues. The institutional and regulatory environment for spent fuel transport benefited enormously from the court litigation ensuing in the Oyster Creek, Monticello, BNL, Dresden, and Point Beach shipping campaigns. A similar claim can be made for decisions rendered under administrative law proceedings pursuant to NRC and DOT regulations governing spent fuel transport regulation. Immediate legal challenge in federal court appears to be the most effective way to resolve transport ordinances and regulations.

Negotiation Can Expedite Shipment Approval. Although the Federal Regulations (10 CFR 71 and 73, and 49 CFR 177) must be met at a minimum, States are able to negotiate additional shipment requirements with the shippers as long as they are consistent with the federal regulations. Thus negotiation, accommodation, and compromise among the regulated and the regulators is the normal way spent fuel campaigns are carried out, especially between States and utilities. If properly managed, shipments can still be in compliance and safely, securely and expediently shipped. In some cases, however, negotiation can have negative results.

The practice of some utilities to accept State requirements for spent fuel shippers (such as transport fees, permits, and other requirements) in their home States, but to reject or oppose analogous requirements in other States, contributes to State regulatory inconsistencies. Some States negotiate requirements with shippers and carriers, while other States do not, this causes some shippers and carriers to unfairly accuse Federal regulators of inconsistent regulation.

Some States Might Not Adequately Notify Local Jurisdictions. NRC requirements for safeguarding actual shipments may inadvertently cause some State officials to become so preoccupied with safeguarding shipment information that they fail to utilize the advanced

notification information to maximum effectiveness in dealing with local governments. Based on interviews made during this study for example, local governments in densely populated areas (e.g., Syracuse, NY and surrounding county) want to know when shipments are scheduled to enter their jurisdiction. NRC could help the State governors or designates by clarifying the release of safeguarded information to allow necessary local governments to know when shipments are scheduled.

Media Coverage Can be Misleading. The lack of frequent media coverage of the issues among institutions is not always an indication that issues do not exist or that the problems have been effectively resolved or muted by an effective public information program or some other issue resolution mechanism. In contrast, the near continuous media coverage of conflict between institutions in certain campaigns is not necessarily an indication that real issues exist or remain.

Not-in-my-Backyard Syndrome Persists. Presence of the "Not In My Backyard" (NIMBY) syndrome persists as a problem for institutions involved in radioactive waste transport and storage. In many cases, it is the presence of the so-called NIMBY syndrome, more so than a fear of real or perceived hazards implicit in radioactive materials transport, that triggers opposition by local and State governments and public and environmental interest groups. The reaction was particularly intense with the States being considered as candidates for siting a second repository.

Multiple Routes May Avoid Conflicts. The availability (or assignment) of multiple-approved highway routes for spent fuel transport (for a specific shipping campaign) in lieu of a single primary route (or an occasional alternative route in addition to the primary, as is sometimes approved by the NRC), can be used effectively in avoiding some opposition to spent fuel transport before it occurs.

General Observations

Post-evaluation of these case history studies has resulted in a few general observations common to many of the shipping campaigns. These observations appear to offer some potential for easing future campaigns, however, the reader is cautioned that they may not be applicable to all cases. In general, the nature of the specific issues that arose was unique for each campaign. There also was a great variety among institutions in the degree of interest or concern expressed on an issue. Given this, several factors persisted in the successful shipping campaigns. These common factors included:

- o Early education of interested, uninformed parties;
- o Early communication of concerns among institutions; and
- o Negotiation and compromise within the confines of the regulations where difficulties arose.

Other observations were:

- o Legislative, legal, or administrative challenges to the shipments often resulted if the concerned institutions failed to engage in the above factors, or if the views of an opposing institution to an issue were too disparate. In the campaigns studied, challenges seeking an outright ban on shipments were unsuccessful.
- o In some instances, States were able to negotiate with shippers and Federal agencies for additional precautionary measures during shipment campaigns.

From these observations, it was concluded that pursuit of the factors common to successful campaigns by concerned institutions holds some promise for maximizing acceptability and minimizing disruption of future shipping campaigns.

Recommendations

Based on the findings of this study, a few recommendations are made that may help in alleviating some of the issues in future shipments. There is no priority placed on the recommendations nor guarantee that they will succeed.

Improve Preshipment Public Information Campaigns. For spent fuel shipping campaigns involving extensive preshipment controversy, as was the case following the NYSERDA vs. NFS litigation, the NRC should respond with a repeat of activity and effort similar to that exerted during the pre-West Valley campaigns (e.g., letters to the Governors of States affected by the NRC-approved routes; formal responses to State and local government inquiries, and elevation of certain inquiries to the formal administrative proceeding process). Commission staffers might also include an explanation of the NRC role in regulating a series of spent fuel shipments.

Encourage Shippers to Seek Multiple Routes. Shippers should be encouraged to submit requests for multiple route approvals pursuant to 10 CFR 73.37. Outright use and availability of multiple-approved routes as opposed to using them to avoid areas of known opposition to spent fuel transport, might serve to reduce the impact of the "Not In My Backyard" syndrome in certain areas.

Help States Transfer Information to Local Jurisdictions. In implementation of its public information programs relating specifically to spent fuel transport for the benefit of State and local governments, Commission personnel should emphasize that 10 CFR 73.21(a) specifies that "Information protection procedures employed by State and local police forces are deemed to meet the NRC requirements for the protection of safeguards information." This should be done in conjunction with dissemination of information regarding the advance

notification requirement pursuant to 10 CFR § 73.37, to encourage States to inform affected local jurisdictions in a timely manner.

Encourage States to Standardize Transportation Permits.

Efforts should be made to encourage States to standardize inspections, permits, and other requirements as much as possible for spent fuel shipments.

1.0 INTRODUCTION

1.1 PURPOSE AND STUDY OBJECTIVES

The capability to transport spent nuclear fuel and other radioactive waste safely and expeditiously is critical to successful implementation of the Nuclear Waste Policy Act (NWPA) of 1982. This capability is as contingent upon a stable regulatory and institutional environment as it is upon the technology and manpower required for implementation of radioactive waste transport under the NWPA. Attaining a stable regulatory and institutional environment for radioactive waste transport in the near and far-term is aided by reviewing events and case histories of similar experiences.

The Nuclear Regulatory Commission (NRC) sponsored a 2.5-year study of recent and ongoing spent fuel shipping campaigns. Commission officials are convinced that case histories of recent spent fuel shipping campaigns, focused primarily on institutional issues, can be useful in regulatory planning for spent fuel transport in both the near and far term. Further, they strongly believe that assessments of contemporary campaigns will be useful in promoting increased stability in the institutional and regulatory environment for radioactive waste transport under NWPA implementation.

This report presents the case histories of shipments between October 1983 and May 1986 of West Valley spent fuel, most of which were under NRC authority. Several other case histories are presented that were neither West Valley spent fuel nor under NRC authority. The objectives in collecting information for the case histories included (1) documentation of significant events that relate to the institutional and regulatory experience for the various shipping

campaigns; (2) identification and examination of issues and concerns expressed relating to fuel transport and conflict among institutions over identified issues; and, (3) development of findings and recommendations that can be used to reduce the impact of institutional conflict associated with spent fuel transport in future campaigns.

Since the Department of Transportation (DOT) will continue to share in regulating transportation of commercial spent nuclear fuel with the NRC, under existing law* pursuant to Section 137 of the NWPA, the documentation of spent fuel shipping campaigns should be of similar usefulness in the Department's exercise of authority. Others who form a part of the institutional framework** that exists for nondefense-related spent fuel transport, who were involved in the shipping campaigns, and who provided much of the information comprising this report, should also benefit from the documentation and assessment effort.

1.2 SCOPE

This NRC-directed case history effort covers the 30-month period between November 1983 and May 1986, which was the approximate start and completion interval for shipments of spent fuel from West Valley, New York, to at-reactor-storage facilities in Wisconsin, Illinois, New York, New Jersey, and a DOE-facility in Idaho. As of April 30, 1986 (the cut-off date for data collection for this report), four of the five West Valley fuel shipment campaigns were complete. Detail case histories of the completed shipment campaigns are

*Refer to Appendix A for a summary discussion of the Memorandum of Understanding (MOU) between NRC and DOT, relative to regulation of commercial spent fuel transport.

**Refer to Appendix B for a conceptualized diagram of the institutional framework for nondefense transport of spent fuel and other radioactive waste.

presented in this document along with a summary and current status of the incomplete campaign. The completed West Valley shipping campaigns are:

- o West Valley to Point Beach Nuclear Power Plant, (Point Beach, Wisconsin);
- o West Valley to Dresden Nuclear Power Plant (Morris, Illinois); and,
- o West Valley to Oyster Creek Nuclear Power Plant (Forked River, New Jersey); and
- o West Valley to Ginna Nuclear Power Plant (Ontario, New York).

The incomplete shipping campaign is:

- o West Valley to Idaho National Engineering Laboratory (INEL) near Idaho Falls, Idaho.

The West Valley campaign case histories are presented in Section 2. Five non-West Valley spent fuel shipping campaigns are presented in Section 3; three are non-West Valley campaigns subject to regulation by the NRC, and two are DOE-managed campaigns exempt from NRC authority. A detailed case history is presented for only one non-West Valley campaign subject to NRC authority--the Monticello to Morris Operations rail shipping campaign. Summaries of significant events, current status, and commentary on institutional and regulatory aspects, however, are presented for the other campaigns subject to NRC authority from,

- o Cooper Station Nuclear Power Plant (Nebraska) to Morris Operation, and
- o Chalk River Research Reactor (Ontario, Canada) to DOE Savannah River Plant, Aiken, South Carolina.

Summaries and current status of the two DOE-managed shipping campaigns, (BNL to INEL and Surry Power Stations to INEL), the former of which has been significant in terms of impact and influence in shaping the regulatory environment for spent fuel transport, completes the NRC-sponsored study effort on contemporary spent fuel campaigns.

The general format used to present the case histories consists of the following:

- o Introduction: Provides a descriptive operational synopsis of the specific campaign (e.g., shipper and carrier identification, quantity of fuel assemblies to be shipped, approved route, etc.), plus status of the shipping campaign, and other data;
- o Significant Events: A background and chronology in abbreviated narrative format to catalog the significant events of the shipping campaign impinging on the institutional and regulatory environment;
- o Discussion of Events: Amplifies the key events, issues, concerns, and conflicts among institutions (campaign participants and sectors affected by the shipping activity) that may have occurred as a result of failure to resolve an issue (or issues), and, where applicable, discussion of the process of issue resolution. A key ingredient of the discussion sections is the information obtained via personal interviews of key participants in a given campaign or others directly and indirectly involved or affected by the shipments. Assessments and evaluations are embedded in the discussion narrative and usually relate specifically to the campaign being discussed.

Selected findings and recommendations from the case histories developed in Section 4 apply generally to all future campaigns subject to regulation by NRC and DOT.

A summary of the distinction between regulatory roles of the NRC and DOT with respect to authority over spent fuel transport activity is provided in Appendix A. The definition of institutional

issue, and a conceptualized diagram of the institutional framework for spent fuel transport, that were part of the NRC ground rules for this study effort are provided in Appendix B.

1.3 THE WEST VALLEY SCENARIO - BACKGROUND

1.3.1 Start of Reprocessing at West Valley

In the early 1960s, New York State entered into a contractual agreement with Nuclear Fuel Services, Inc. (NFS) to build and operate a commercial spent fuel reprocessing facility at a site approximately 30 miles south of Buffalo, New York. One of the provisions of the contract was that New York State would assume ownership of the facility (now known as the Western New York Nuclear Service Center), if NFS for any reason did not renew its contract upon expiration in the 1980s (Woods, 1984). In the late 1960s and early 1970s, NFS entered into contractual agreements with various nuclear utilities to supply reprocessing services for spent fuel generated by such utilities. Implicit in those agreements were the transport of spent fuel to the West Valley facility, and the subsequent storage there until reprocessing services, pursuant to contractual negotiations, were completed.

1.3.2 Cessation of Reprocessing and the WVDPA

In September 1976, NFS withdrew from the reprocessing business, leaving approximately 750 nuclear fuel assemblies (163 metric tons) stored in the West Valley fuel storage pool (FSP). New York State Energy Research and Development Administration (NYSERDA) subsequently assumed ownership of the West Valley facility when NFS failed to renew its contract in 1980 following the Carter Administration's announcement in 1977 of a ban on commercial reprocessing of spent fuel.

In 1980, Congress enacted P.L. 96-368, the West Valley Demonstration Program Act (WVDPA), designed to develop solutions to the nation's severe nuclear waste disposal problem. The Department of Energy (DOE) was given authority and responsibility for implementing the WVDPA and, as a result of this assignment, assumed possession and operational control of the West Valley facility. NYSERDA remained the owner. The West Valley Demonstration Project is intended to develop and demonstrate solidification techniques (borosilicate glass logs) that can be used to prepare high-level radioactive waste for disposal in accordance with policy objectives of the Nuclear Waste Policy Act (NWPA) (DOE and NYSERDA, 1981).

1.3.3 The NYSERDA Case

In 1981, NYSERDA advised the owners of spent fuel stored at the West Valley facility that continued storage of utility-owned fuel by NFS was improper due to termination of the lease to NFS in December 1980. The owners of the fuel were:

- o Wisconsin Electric Power Company (WEPCO);
- o Commonwealth Edison Company (CommEd);
- o Jersey Central Power and Light Company (JCP&L);
- o Rochester Gas and Electric Company (RG&E); and,
- o NFS (holding title to spent fuel previously generated at facilities owned by Consumers Power Company and RG&E).

Due to a dispute between NYSERDA and certain owners of the fuel stored at West Valley, NYSERDA initiated legal action in the U.S. District Court of New York in May 1982 against NFS, WEPCO, CommEd, JCP&L and others, alleging that their right to store spent fuel at the West Valley facility had expired coincident with expiration of the NFS lease. During litigation, NYSERDA cited to the Court that implementation of WVDPA cannot be completed while utility and NFS owned

spent fuel remains in the West Valley fuel storage pool and that failure to remove said fuel, commencing in fall 1983, would entail serious consequences to the national interest in solving nuclear waste disposal problems (U.S. Court of Appeals, 1985).

1.3.4 The Court Order

After extensive legal actions a final District Court Order was issued in October 1983, directing all owners of spent fuel stored at West Valley to either remove the fuel or face trespassing charges and other penalties (U.S. District Court, 1983). RG&E was not a litigant in the NYSERDA versus NFS et al. court action, having negotiated an out-of-court agreement with NYSERDA for removal of its fuel (Jacks and Mann, 1984). NFS subsequently gave title to its fuel stored at West Valley to DOE, setting the stage for the planned DOE-managed West Valley to Idaho National Engineering Laboratory (INEL) campaign.

1.3.5 The Unique DOE Role In West Valley Spent Fuel Campaigns

During the approximately 5-month period of NYSERDA case litigation, a number of developments occurred that shaped the scenario for the start of spent fuel shipping campaigns from the West Valley facility to the owner designated storage sites. One such development was a Sierra Club inquiry (August 1983) concerning the authority of WEPCO, CommEd, JCP&L, and RG&E to ship spent fuel from West Valley without amendment of their general license issued by the NRC.* This issue was essentially solved by issuance of an administrative law decision by the NRC, which allowed the utilities under court order to remove spent fuel from West Valley, to ship fuel from West Valley without a license amendment, and to delegate their quality assurance functions under 10 CFR Part 71 to a contractor.

*This issue and its resolution are discussed in the case history for the first West Valley spent fuel shipping campaign, Section 2.1.

In essence, DOE, who had assumed possession and overall control of the West Valley facility pursuant to the DOE/NYSERDA Agreement, became this contractor, and in conjunction with its contractor, West Valley Nuclear Services Co. (WVNS), a subsidiary of Westinghouse, Inc., also became the onsite shipping agent for the four utilities with spent fuel at West Valley (Malsh, 1984).

2.0 WEST VALLEY CASE HISTORIES

Case histories of the three completed shipping campaigns are presented in this section along with descriptive summaries and status of the remaining two campaigns originating at West Valley.

Operational details of all West Valley campaigns are listed in Table 2-1 for the four campaigns involving nuclear utility storage sites, and the basic interstate highway routes are shown in Figure 2-1. The planned, DOE-managed, West Valley to INEL campaign will be conducted via the rail transport mode. The exact rail route to be used was unknown as of June 13, 1986, and thus, is not indicated. Supplementary details on each West Valley campaign is also provided in tabular form in each of the campaign subsections.

2.1 POINT BEACH AND DRESDEN CAMPAIGNS

2.1.1 Introduction

The spent nuclear fuel (SNF) shipments from West Valley, New York, to the Commonwealth Edison (CommEd) Dresden nuclear power station, Morris, Illinois, and to the Wisconsin Electric Power Company (WEPCO) Point Beach, Two Rivers, Wisconsin, had similar characteristics. For this reason, their case histories are merged. Concerns about selected routes, timing of the campaign, and safety issues were reflected in a series of civil cases, petitions, and letters of inquiries. Once the campaigns were underway, little conflict arose. However, during the campaigns, several administrative and judicial decisions, resulting from earlier appeal action, were issued.

Table 2-1. West Valley Spent Fuel Shipments

Destination	Mode* (reactor type)	Metric Tons of Uranium	Number of Assemblies	Number of Shipments	Original Scheduled Start	Expected Completion	Actual Start or Current Status	Campaign Com- pletion or Current Status	Comments
Dresden Morris, IL	Truck (BWR)	20	206	30	Fall 1983	Spring 1984	12/08/83	11/06/84 Completed	Cask Type: TN-9 Capacity: 7 BWRs
Point Beach Two Rivers, WI	Truck (PWR)	43	114	114	Fall 1983	Summer 1984	10/04/83	10/06/84	Cask Type: NLI-1/2 Capacity: 1 PWR
Oyster Creek Toms River, NJ	Truck (BWR)	43	224	32	Fall 1984	Spring 1985	01/03/85	07/08/85	Cask Type: TN-9 Capacity: 7 BWRs
Ginna Ontario, NY	Truck (PWR)	31	81	81	Spring 1984	Summer 1985	06/30/85	Completed March 1986	Cask Type: NLI-1/2 Capacity: 1 PWR
Idaho National ⁺ Engineering Laboratory Idaho Falls, ID	Rail (BWR)	11	85	Unknown	Summer 1985	Fall 1985	Projected Start: Spring 1986	Projected Completion: June 1986	Cask Type(s): Two transportable and storage demonstration casks (100 & 105 tons) under SARP review by NRC for certification. Cer- tification expected on or about April 1986
	Rail (PWR)	15	40	Unknown	Summer 1985	Fall 1985	Projected Start: Spring 1986	June 1986	
TOTAL		163	750						

*BWR = Boiling Water Reactor
PWR = Pressurized Water Reactor

⁺Original destination was Oak Ridge National Laboratory

Source: R. Stiens, DOE/IDO West Valley Project Office, Project File dated 8/30/85 and supplemented with subsequent telephone communications during 1985-1986.

Figure 2-1. Highway and Rail Routes for West Valley and Non-West Valley Spent Fuel Shipments

The Point Beach and Dresden shipping campaigns were both conducted from fall 1983 to fall 1984; West Valley to Point Beach shipments began on October 4, 1983, three months after a court order directed removal of SNF from the fuel storage pool (FSP) at West Valley (U.S. District Court, 1983), and ended a year later on October 6, 1984. The West Valley to Dresden campaign began in December 1983 and was completed on November 11, 1984.

The NRC-approved routes for SNF transport in these two campaigns are identical until a few miles beyond the intersection of I-80 W and the Illinois-State line--at the I-55 S intersection (see Figure 2-1). Shipments to Dresden continued on I-55; while shipments to the WEPCO Point Beach facility used I-294, I-94 N, and I-43.

The campaigns from West Valley moved 144 shipments, averaging 715 miles (one-way) per shipment, and 320 fuel assemblies (FAs) containing approximately 63 metric tons of uranium, to Point Beach and Dresden. Tables 2-2 and 2-3 provide additional information about the shipments. Both legal-weight trucks and overweight trucks were used. There was no specific institutional conflict arising over spent fuel transport in the overweight truck mode in the West Valley to Point Beach and Dresden shipping campaigns. The transport vehicle braking-tests with unloaded casks imposed by New York Department of Transportation on all West Valley spent nuclear fuel transport vehicles (as described in a later section of this report) was derived originally from requirements for overweight trucks. Description of the West Valley to Oyster Creek spent fuel shipping campaign (Section 2.2) includes institutional issues specifically associated with the overweight transport mode.

Table 2-2. West Valley to Dresden Shipping Campaign--
Supplementary Detail

Owner/Shipper: Commonwealth Edison Co., Chicago, IL
 Generating Reactor: Dresden Nuclear Power Plant, Morris, IL
 Shipper's Agent: Transnuclear Inc., White Plains, NY
 Carrier: Home Transportation, Marietta, GA
 Cask Type: TN-9 (NRC Certificate of Compliance No. 9016)
 o Capacity - 7 boiling water reactor FA's
 o Loaded Weight - 80,000 lb
 o Transport Mode - Overweight Truck
 o Loaded Transport Vehicle Weight - 115,000 lb

Total One-Way Trip Mileage: 642 mi
 Projected Shipment Frequency: 1 shipment/week
 Total Number of Shipments: 30
 Total SNF-Shipment Miles: 642 mi/shipment x 30 shipments/
 campaign = 19,260 mi/campaign
 Total Metric Tons of Uranium-
 Miles (to complete campaign): 642 mi x 30 shipments/campaign x 20
 MTU/30 shipments = 12,840 MTU mi

Road Transport Route	Distance (mi)
<u>New York</u>	
1. West Valley NFS facility via Schwartz Road to US 219	4
2. US 219 N to NY 39	8
3. NY 39 W to US 20	32
4. US 20 S to NY 60	1.5
5. NY 60 N to I-90 (NY Thruway)	0.5
6. I-90 S to Pennsylvania State Line	28.0
Subtotal	74.0
<u>Pennsylvania</u>	
7. I-90 W to I-79	23
8. I-79 S to I-80	59
9. I-80 W to Ohio State Line	18
Subtotal	100
<u>Ohio</u>	
10. I-80 W to Indiana State Line	237
Subtotal	237
<u>Indiana</u>	
11. I-80 W to Illinois State Line	151
Subtotal	151
<u>Illinois</u>	
12. I-80 W to I-55S	30
13. I-55 via Lorenzo Road to Dresden	50
Subtotal	80
Grand Total	642

Table 2-3. West Valley to Point Beach Shipping Campaign--
Supplementary Detail

Owner/Shipper: Wisconsin Electric Power Company, Milwaukee, WI
 Generating Reactor: Point Beach Nuclear Power Plant, Two Rivers, WI
 Shipper's Agent: Nuclear Assurance Corporation, Norcross, GA
 Carrier: Tri-State Motor Transit Company, Joplin, MO
 Cask Type: NLI-1/2 (NRC Certificate of Compliance No. 9010)
 o Capacity - 1 pressurized water reactor FA
 (or 2 boiling water reactor FA's)
 o Loaded Weight - 44,000 lb
 o Transport Mode - Legal Weight Truck (LWT)
 o Loaded Transport Vehicle Weight - 72,000 lb

Total One-Way Trip Mileage: 784 mi
 Projected Shipment Frequency: 3 shipments/week
 Total Number of Shipments: 114
 Total SNF-Shipment Miles: 784 mi/shipment x 114 shipments/
 campaign = 89,376 mi/campaign
 Total Metric Tons of Uranium-
 Miles (to complete campaign): 784 mi x 114 shipments/campaign x 43
 MTU/114 shipments = 33,712 MTU miles

Road Transport Route	Distance (mi)
I-11. West Valley to Dresden Route to Illinois State Line (Table 4-1)	562
Subtotal	562
<u>Illinois</u>	
12. I-80 W to I-294	4
13. I-294 N to I-94	53
14. I-94 N to Wisconsin State Line:	25
Subtotal	82
<u>Wisconsin</u>	
15. I-94 N to I-43	34
16. I-43 N to WI-147	91
17. WI-147 E to WI-163	8
18. WI-163 to Nuclear Road	2
19. Nuclear Road to Point Beach Facility	5
Subtotal	140
Grand Total	784

No major transportation incidents occurred during the Point Beach and Dresden campaigns. A tractor trailer did have an accident; the tractor and trailer uncoupled during a West Valley to Dresden SNF shipment (December 1983), and because there was no damage to the loaded cask, this will not affect the 35-year cask safety record (NRC, 1983d).

2.1.2 Significant Events

The significant events that occurred prior to and during the West Valley to Point Beach and Dresden SNF campaigns are summarized in Table 2-4. Details of the events are given in Appendix C.

2.1.3 Discussion of Events and Issues

Discussion of key institutional issues characterizing the Point Beach and Dresden spent fuel shipping campaigns is continued in this section, with emphasis shifting to examination of varying positions on these issues as supported by information obtained by:

- o Interviews with campaign participants and others directly affected;
- o Review of court documents and the results of administrative proceedings;
- o Review of official correspondence and the open literature; and
- o Review of media coverage.

From the background and chronology of events occurring in these campaigns, the most significant issues and concerns have been extracted and arbitrarily placed in the following broad categories:

- o Safety and Security,
- o Safety Inspection Requirements,

Table 2-4. Significant Events of West Valley to Point Beach and Dresden Campaigns

Events Prior to Shipments--June 1983 through September 1983

June 30, 1983	U.S. District Court for Western District of New York rules in favor of NYSERDA in court case NYSERDA versus NFS, WEPCO, CommEd, and GPU/JCP&L.
July 1983	Citizens Against Nuclear Power et al., Chicago, IL, file a 10 CFR § 2.206 petition with the NRC Regional Director.
August 24, 1983	Sierra Club inquiry to NRC challenges the validity of shipment licenses held by utilities and NFS.
August 29, 1983	State of Ohio files a motion to intervene in the NYSERDA vs NFS et al., litigation.
August 30, 1983	Board of Commissioners, Cuyahoga County, Ohio, submits inquiry to Chairman Palladino, NRC
September 1983	Cuyahoga County, Ohio, Board of Commissioners and two municipalities, Berea and Strongsville, file law suit in an attempt to block shipments.
September 1983	CommEd and WEPCO negotiate agreements with DOE. NRC continues with "start of SNF shipment activities."
September 9, 1983	Attorney General of Ohio files a 10 CFR § 2.206 petition challenging shipment licenses and requesting that NRC prepare an environmental impact statement (EIS).
September 9, 1983	NRC formally advises the Governors of all affected states (New York, Pennsylvania, Indiana, Ohio, Illinois, New Jersey, and Wisconsin) of the planned SNF shipments from West Valley.
September 14, 1983	NAC (acting for WEPCO) and Transnuclear (acting for CommEd) request route approvals pursuant to 10 CFR § 73 for transport of SNF from West Valley to Point Beach NGS and Dresden. NRC approves route requests.
September 23, 1983	Governor Thompson of Illinois submits formal letter request to NRC for implementation of additional precautions.
September 23, 1983	NRC formally replies to the Governor of Illinois inquiry of September 23, 1983, on pretransport inspections and continuous armed escorts for shipments.
September 26, 1983	State of Ohio (Attorney General, Ohio Turnpike Commission, and Disaster Services Agency) and WEPCO execute an "Agreement" regarding special arrangements, procedures, and other matters.
September 27, 1983	Wisconsin Environmental Decade, Inc., contends in a letter to NRC that license admendment is required.

Table 2-4. Significant Events of West Valley to Point Beach and Dresden Campaigns (continued)

Events During Shipments--October 1983 through December 1984 (West Valley to Point Beach--October 4, 1983 to December 1983; West Valley to Dresden--December 8, 1983 to December 1984)

September 30, 1983	NRC issues Director's Decision under DD-83-14 denying 10 CFR § 2.206 petitions of Sierra Club Radwaste Program and Attorney General of Ohio. U.S. District Court in Cleveland refuses to issue a temporary restraining order on SNF shipments requested by Cuyahoga County Board of Commissioners.
September 30, 1983	U.S. DOT Materials Transportation Bureau (MTB) and Bureau of Motor Carrier Safety (BMCS), at request of NRC, commit to inspect every vehicle and driver.
October 4, 1983	West Valley-to-Point Beach shipments begin.
October 6, 1983	U.S. District Court denies State of Ohio motion to intervene in NYSERDA vs NFS et al., litigation.
October 11, 1983 (approximately)	New York Department of Transportation (NYDOT) advises WEPCO officials that vehicle safety inspection requirements are mandatory for all subsequent SNF shipments.
Fall 1983	DOE/West Valley NFS public information personnel report that media coverage of SNF shipments was balanced.
December 8, 1983	West Valley-to-Dresden shipments begin, local media representatives cover activities continuously for a few days prior to first shipment.
December 9, 1983	Tractor and trailer of a SNF shipment to Dresden uncouples about 3 miles east of the Indiana-Illinois state line second day of shipments to Dresden.
December 1983	NRC provides training seminar for Wisconsin radiological safety and health personnel on application of DOT and NRC regulations to SNF shipments.
January 20, 1984	The NRC Office of General Counsel reviews DD-83-14 according to NRC policy and procedures.
March 5, 1984	The Commission declines to review DD-83-14.
March 23, 1984	U.S. Court of Appeals, 2nd Circuit (NYC) affirms the lower court's decision (District Court of NY) denying State of Ohio's motion to intervene in the NYSERDA vs NFS et al., law suit
July 2, 1984	U.S. District Court, Cleveland, Ohio, dismisses suit filed by Cuyahoga County Board of Supervisors in September 1983, seeking to ban SNF shipments from WV from passing through Cuyahoga County.
October 6, 1984	West Valley-to-Point Beach SNF shipments end--Total of 114 SNF shipments.
November 6, 1984	West Valley-to-Dresden SNF shipments completed--Total of 205 FAs (a shipment of one FA was shipped as a failed fuel assembly on June 6, 1985.

- o Emergency Preparedness,
- o Route Selection, and
- o Licensing.

Many participants were affected by the same general issues and several campaign participants, independently, raised identical issues and concerns. The issues described below required difficult and unprecedented interpretations of NRC regulations by Commission personnel during the administrative law process that resulted in DD-83-14 (see Table 2-5).

2.1.3.1 Safety and Security, Safety Inspection Requirements, and Emergency Preparedness

Table 2-5 indicates that of the six states directly affected by spent fuel transport routes in the Point Beach and Dresden campaigns, Ohio was most active in opposing the spent fuel shipments. The two independent civil court challenges to spent fuel shipments, one by an officer of the State and the other by a county government (Cuyahoga County), occurred in Ohio. The 10 CFR § 2.206 petition filed in Ohio challenged various aspects of planned West Valley spent fuel shipments, which when jointly considered with a similar Sierra Club* petition, involved several difficult and debatable interpretations of NRC regulations. After failing in both the civil court and administrative challenges to delay or ban spent fuel shipments through the State, the State of Ohio was able to fashion an agreement with

*As per Table 2-4, the Sierra Club's 10 CFR § 2.206 petition originated (August 1983) as a letter inquiry. NRC decided that questions raised in the petition met the criteria for consideration as a formal petition under 10 CFR § 2.206. Subsequently, the Ohio Attorney General filed a 10 CFR § 2.206 petition expressing concerns and complaints similar to those in the Sierra Club petition. NRC folded both inquiries and/or petitions into one administrative deliberation.

Table 2-5. Issues and Concerns Characterizing the Point Beach and Dresden Spent Fuel Shipping Campaigns

Basic Issue/Concern	Action	Parties Involved	Resolution Mechanism
1. Safety and Security in the conduct and regulation of spent fuel transport activity	o 10CFR§2.206 petitions question cask safety, other physical protection requirements, and shipment security; also request ban on transport until hearings are complete	State of Ohio, Sierra Club Radwaste Program, Cuyahoga County Board of Commissioners, other public interest and environmental groups Respondents: NRC, DOT	NRC Director's Decision denying the petitions (e.g., DD-83-14 as described in Section 2.1.2)
	o Formal Letters of Inquiries on similar items (not classified as formal petitions by NRC)	Illinois and Wisconsin state government officials Respondents: NRC, DOT	Written response signed by NRC Chairman (or his designee) Public information dissemination programs conducted by DOE West Valley Project Office and subcontractor and similar activities by utilities
2. Safety Inspection Requirements (adequacy of federal inspection and enforcement of radiological safety and health requirements)	o Inquiries on increased frequency of inspections for Point Beach and Dresden shipments	State officials in Illinois and Wisconsin Respondents: NRC, DOT	Written responses from NRC. NRC conducts regulatory seminar for Wisconsin trainees; NRC, DOT perform 100% inspection during early part of campaign.
	o Imposition of State regulatory requirements in area of federal regulatory jurisdiction	Ohio State agencies (Atty. Gen., Disaster Control and Turnpike Authority, Highway Patrol); New York Dept. of Transportation; Utilities, their shipping agents and carriers Respondents: NRC, DOT	Utilities accept imposition of Ohio Agreement and NY DOT brake test without resorting to challenge under federal regulations. Written responses from NRC
3. Emergency Preparedness (response capability (for major transportation-related incidents) at state at state and local government levels perceived inadequate)	o Civil court suits to ban shipments until hearings are held relative to complaint that emergency preparedness and response capability at state and local level is inadequate to cope with threat of transportation incident	NRC, DOE, DOT, FEMA, EPA, State of Ohio Cuyahoga county government Governments of two Cuyahoga county municipalities, District court systems in New York and OhioCommEd and WEPCO Respondents: CommEd and WEPCO, NRC, state officials Wisconsin, Illinois	Court orders denying the complaints of plaintiffs (two separate court suits)
	o Inquiries from state officials concerning federal assistance in training of state personnel in emergency preparedness and response techniques		Written response from NRC
4. Route Selection (concern over federally administered routing of spent fuel and other activities closely related to transport spent fuel, such as prenotification)	o 10CFR§2.206 petition filed by public interest/environmental groups questioning the adequacy of local roads in and around the West Valley facility to withstand spent fuel transport vehicles without compromising health and safety	Sierra Club Radwaste Program, NRC, DOT, other public interest/environmental groups	NRC Director's Decision (DD-83-14)
	o State officials impose state prenotification requirements on utilities and their carriers	Ohio State agencies, utilities (WEPCO and CommEd) shipping	Utilities accept state requirement without challenge.
5. Licensing (concern that general licenses granted to utilities for activities at Point Beach and Dresden do not authorize shipment of spent fuel from West Valley nor receipt of same at respective generating reactor sites, challenge of the authority of DOE and its West Valley contractor to load and transfer spent fuel to a carrier at West Valley for utilities owning spent fuel, other challenges including: need for environmental assessment and/or an environmental impact statement, safety evaluation of West Valley fuel facility; adequacy (or presence) of indemnification coverage	o 10CFR§2.206 petitions filed by Sierra Club Radwaste Program, Atty. General of Ohio, and later, by others emulating the original Sierra inquiry seeking postponement of spent fuel shipments until utility licenses properly amended, suspended, and/or revoked, and until hearings could be held on other matters contained in the petition.	Sierra Club Radwaste Program, utilities and their subcontractors, Atty. General, Ohio Other public interest/environmental groups Respondent: NRC	Issuance of Director's Decision (DD-83-14) by NRC on September 30, 1983

WEPCO concerning the manner in which spent fuel shipments from West Valley were to move through Ohio. Ohio was also able to secure adherence by CommEd to a similar agreement as the State of Ohio/WEPCO Agreement for West Valley to Dresden spent fuel shipments. There were a few minor differences relating specifically to the fact that Dresden shipments were in the overweight truck transport-mode in lieu of legal-weight truck transport mode (CommEd/Aerospace, 1984). In effect, there were several manifestations of each of the five basic issues per Table 2-5 included in Ohio's reaction to the planned spent fuel shipments.

A State's sovereign right to protect the health and safety of its citizens from the hazards incident to transport of spent fuel through its most densely populated urban centers was one of the reasons cited in Ohio's 10 CFR § 2.206 petition to NRC seeking a stay on spent fuel shipments to Dresden and Point Beach. The petition also questioned the need for the spent fuel shipments by suggesting that onsite storage at West Valley be implemented. Basic issue number 3 (Table 2-5) also emerged when it was claimed that Ohio does not yet have the emergency response capability to respond to the consequences of a transportation-related incident in one of the State's most densely populated transport and residential corridors. Finally, though conceding that planned shipment of spent fuel from West Valley through Ohio did not fall within any of the specified circumstances requiring an environmental impact statement (EIS), Ohio asked the Commission to consider an EIS on the basis that the planned scenario was analogous to the criteria specified in 10 CFR § 51.

NRC denied Ohio's 10 CFR § 2.206 petition, dismissing the State's concerns regarding physical security (safeguards) by stating that the NRC surveyed the routes approved for the Point Beach and Dresden shipments (including an alternative route proposed by the Governor of Ohio and approved by the NRC) and found that both the alternative and original routes satisfied the regulatory requirements

for physical protection of spent fuel. The Director's Decision (DD-83-14) also rejected the request for an EIS prior to commencing shipments, citing what the Attorney General of Ohio had conceded, that the Commission was not taking action significantly affecting the environment. For expressed concerns not considered a part of physical security, or not associated with radiological risk to public health and safety, such as, highway safety concerns associated with spent fuel in transit, the petitioner was apprised of the applicable DOT regulations (49 CFR § 177.825).

Ohio's suit to intervene in the NYSERDA vs NFS et al. litigation, seeking a ban on shipments until hearings could be held to examine the State's claim that its emergency response capability was not adequate was also rejected. Judge Elvrin ruled that Ohio's interests in prohibiting transport of spent fuel through the State, in imposing additional restrictions upon such transport, or upgrading the terms pursuant to which such shipments would be made was simply beyond the scope of the Court's expertise (and of the lawsuit) and should instead be raised to the NRC* and DOT. The court based its opinion on the fact that previous court rulings had established the Hazardous Materials Transportation Act (HMTA) and the Atomic Energy Act as amended, giving the DOT and NRC the sole responsibility for protecting the health and safety of the public with regard to highway safety, physical security, and/or radiological risk arising from the transport of nuclear spent fuel (U.S. District Court, 1983).

Rebuffed in civil court and by the administrative 10 CFR § 2.206 process in attempts to ban, delay, or gain additional assurances that the planned Point Beach and Dresden spent fuel shipments would be conducted in line with state preferences, state officials were able to secure an agreement** with both WEPCO and CommEd regarding the manner

*The Court noted that Ohio had filed a petition to the NRC seeking redress for similar grievances claimed in their lawsuit.

**The Agreement is described in Appendix C.

of transport of spent fuel through Ohio. Acceptance of the "Agreement" by the utilities in effect, implied that the utilities were accepting the State-enacted transport requirements governing spent fuel shipments without resorting to administrative or court challenge pursuant to the HMTA, the Atomic Energy Act, and other federal statutory provisions.

Various participants who were asked to comment on the Agreements responded differently. Spokesmen for WEPCO and CommEd cited expediency as one reason the agreements were executed, noting that the utilities were under a court order to remove utility-owned fuel from the West Valley fuel storage pool (FSP) by a specified date. CommEd spokesmen remarked that they preferred an atmosphere of negotiation and accommodation in lieu of a confrontational atmosphere, regardless of the preemptive power of federal law and regulations governing spent fuel transport which applied in this case (CommEd/Aerospace, 1984). Other participants and observers were fearful the Agreements would set bad precedents, as other States affected by spent fuel shipments (not just the states involved in the West Valley campaigns) would begin to press for similar types of arrangements. WEPCO officials place part of the blame for execution of utility-State agreements on the federal regulatory establishment. The utility feels the NRC and DOT should unilaterally challenge regulatory actions initiated by state and local governments that appear inconsistent with federal regulations governing spent fuel transport. They perceive federal regulators wait for the private sector to mount challenges in civil court, seek relief via the administrative process provided under federal statutes, or use private resources as was done in effecting the WEPCO/State of Ohio Agreement (Shimon, 1984).

It is of interest to note that the lawsuit brought by Ohio seeking to intervene in the NYSEDA versus NFS et al., contained a cross-claim by Ohio against WEPCO and CommEd alleging that the

planned transport of spent fuel through Ohio by the two utilities posed a significant risk to public health and safety. It was the latter claim upon which Ohio partially based its claim for a ban on the shipments or an upgrade of the terms pursuant to which the shipments would be made. In their responses (as defendants) in the intervention litigation, the utilities opposed granting Ohio its request for more stringent controls on transport of spent fuel (this opposition was noted in the Agreement and accepted by the State), but in contrast, favored Ohio's intervention in the NYSERDA vs Nuclear Fuel Services et al., litigation (U.S. District Court, 1983).

The interplay between the utilities and the State of Ohio in this case, and the fashioning of the Agreements are typical of events that cause some to state that DOT and NRC regulation of spent fuel transport is nonuniform and inconsistent. The utility/State agreement rules out a challenge of state requirements on spent fuel transport by the utility. Usually, federal regulators will not challenge State requirements unilaterally. Since the situation results in some States negotiating requirements with shippers and carriers, while other States do not, causes some officials to unfairly accuse Federal regulators of inconsistent regulation.

Following initiation of the WEPCO/State of Ohio agreement, the State of Ohio was named as one of 16 defendants in a lawsuit brought by Cuyahoga County and the municipalities of Berea and Strongsville, in an attempt to delay or ban the planned shipments on I-80 (see Table 2-4). A perceived lack of emergency preparedness and response capability (and lack of funding to secure same) was again the key feature in the legal complaint, which also cited as defendants, each federal agency with membership in the Federal Radiological Preparedness Coordinating Committee (FRPCC) established pursuant to Federal Emergency Management Agency (FEMA) regulations (see Appendix I).

The County failed in its initial bid to obtain a temporary restraining order suspending or preventing spent fuel shipments. Subsequently, the Court ruled the County lacked legal standing to challenge the shipments, and had failed to demonstrate it would be injured by the shipments, citing that the State's claim of lack of emergency preparedness and response capability was too speculative and remote to support standing in this case (Nuclear Fuel, 1984). It is recalled (see Table 2-4) that the State of Ohio also opposed the lawsuit brought by Cuyahoga County against the State and 15 other defendants.

The Point Beach campaign started approximately 1 week after execution of the WEPCO/State of Ohio agreement on September 26, 1983. From this date until completion of shipments in fall 1984, there was minimal evidence available to suggest that Ohio officials remained opposed to spent fuel shipments through the State. The Attorney General had earlier filed an appeal of the order denying the State the right to intervene in NYSERDA vs NFS et al., and this appeal was denied and noted in March 1984. Other than the continuation of this appeal through the final action, and Judge Krenzler's action in dismissing the Cuyahoga County lawsuit, organized opposition to the fuel shipments was practically nonexistent in Ohio once shipments were underway.

The fact that opposition to the shipments faded considerably once the Agreement was executed, suggests that such arrangements can be effective in muting organized opposition to spent fuel transport (at least in Ohio), despite the fact that some skeptics feel special utility/state agreements such as this, set a bad precedent. Fortunately, the WEPCO (and CommEd)/State of Ohio Agreements have not been followed by proliferation of similar agreements with other states or other spent fuel shipment campaigns. It is concluded that Ohio's opposition to the Point Beach and Dresden shipping campaigns resulted largely from:

- o jurisdictional dissatisfaction with an approved route that runs directly through the most densely-populated corridor of the State; and,
- o the adverse reaction of a jurisdiction bearing the brunt of spent fuel shipments - by virtue of the route (i.e., from an in-state mileage point of view), but having no in-state utility affiliation with the spent fuel being transported, nor any other relation or interest in the fuel shipments.

Note, as in Figure 2-2, that the I-80 segment of the approved route from the eastern border of Ohio passes through two of Ohio's metropolitan centers - more than in the other States affected. The continuation of approved routes to Point Beach and Dresden pass near the Chicago and Milwaukee areas, but these centers are in the States considered "home" to the shippers of the spent fuel. This adverse reaction to alien radioactive waste transport (and disposal), which is commonly referred to by observers and commenters on national radwaste policy and activity, as the "Not In My Backyard" syndrome (NIMBY). This syndrome along with a greater public awareness that nuclear waste must be transported prior to projected permanent disposal, appears to be a cause of unrest and opposition to spent fuel transport.

In terms of addressing the causes of unrest over spent fuel transport that occurred in Ohio, or that may occur elsewhere for the same general reasons leads to the question: What might be done beforehand by the federal regulatory bodies? The recommended answer is more of the same, that is, more of the precampaign advertisement to the parties involved and affected by the planned spent fuel shipments, as was done by the NRC prior to the start of the Point Beach and Dresden campaigns. More of the accommodation and negotiation that was reflected in the agreement by NRC and DOT inspection and enforcement personnel, to sustain the 100 percent inspection of spent fuel shipments, at both origin and destination, until there was reasonable confidence that spent fuel transport was being conducted in a manner

Figure 2-2. General Truck Routes for Dresden and Point Beach SNF Shipments

Source: Philadelphia Inquirer, October 5, 1985

compliant with federal regulatory requirements. Appendix C describes the early letters forwarded by the Commission to Governors of all States affected by the West Valley shipments, which included the Governor of Ohio, the response to the Board of Commissioners of Cuyahoga County, concerning areas under Commission purview such as cask safety, and other activities related to mitigating the impact of issues, concerns, and challenges that arose over imminent shipments of spent fuel through the State to Dresden and Point Beach. It is also noted in Appendix C that an NRC official had articulated a Commission policy or approach to the West Valley shipments that did not favor being drawn into the controversy of determining or advising on the "need or necessity of shipment" since it is not considered to be a part of the NRC regulatory mandate. But as alluded here, the dissemination of information about planned shipments both in response to inquiries, and unilaterally - as an initiative aimed at preventing unrest arising from being uninformed, is definitely a practice that should be continued in future spent fuel transport scenarios. Note: This subissue of need or necessity to transport comes up again in the discussion of public reaction to the Monticello to Morris spent fuel shipping campaign discussed in Section 3.0.

The NRC information dissemination initiatives and other forms of coordination did not forestall the litigation brought by the State of Ohio, nor the execution of the WEPCO/Ohio Agreement, but the former had little or no effect on the start of shipments. The fact that the Agreement was apparently expedient and effective has been pointed out. It appears that if the opposition to West Valley spent fuel shipments in Ohio was in reality politically motivated, there was probably little a regulatory agency could have done to forestall institutional conflict attributable to such action.

2.1.3.2 Route Selection and Licensing

From Table 2-5, it is noted that both the Sierra Club and the State of Ohio exhibited concern for route selection and shipper's

licensing at the West Valley facility. Ohio's concern about routing was covered in the preceding section. The Sierra's concern was minor, having to do only with questions related to the adequacy of local and State roads in proximity to the West Valley facility.

The issues and concerns raised about licensing at West Valley, however, were very significant and unique due to:

- o The presence and authority of DOE at West Valley as granted under the WVDPA, and
- o The limited authority of the utilities at the West Valley facility despite the fact that it is the utilities who were ordered to remove their spent fuel or face trespass charges.

As indicated in Table 2-5, the issue and/or sub-issues cited result from the 10 CFR § 2.206 petitions of Dr. M. Resnikoff and Attorney General A. Celebrezze of the Sierra Club Radwaste Program and State of Ohio, respectively. Because of similarity in issues raised and concerns expressed, the two petitions were folded into a single administrative review process by the NRC. Each of the petitions were denied in their entirety upon issuance of NRC Director's Decision DD-83-14 on September 30, 1983, less than a week before the start of fuel shipments to the Point Beach power station. DD-83-14 is synopsized in Appendix C, where the Director's rationale for rejection of each complaint, challenge, or issue raised by the petitioners is provided.

Pursuant to NRC policy and procedures, the Office of General Counsel reviewed DD-83-14, informed the Commission of the Director's denial of petitions referred, and recommended no Commission review of DD-83-14 (Malsch, 1984). In making the recommendation of no Commission review, the Deputy General Counsel (DGC) cited the following beliefs (parenthetical comments added):

- o the Court Order (in NYSERDA vs NFS et al.) and DOE's direct involvement make transport of spent fuel from West Valley a unique case;
- o different interpretations of the operative regulations (i.e., governing general licenses pursuant to 10 CFR § 71.12 and other pertinent sections of NRC regulations governing possession, transfer and transport of spent fuel) are possible; and,
- o the Director's decision will be of no precedential significance.

It was acknowledged by DGC, however, that the Director's conclusion and decision, which had the effect of removing the NRC from any direct involvement in regulating the packaging and delivery of spent fuel to a carrier for transport at West Valley, involved several difficult and unprecedented interpretations of Commission regulations in 10 CFR §§ 30.34, 70.41 and 71.12. One example, is the interpretation of 10 CFR § 71.12 which formed the basis for denying the petitioners' claim that amendment of utility licenses were required. In this particular case the Director concluded that:

- o the general license granted pursuant to 10 CFR § 71.12 authorizes a licensee (WEPCO or CommEd) to deliver spent fuel to a carrier for transport at a site where the licensee is not authorized to possess the spent fuel in question - an interpretation premised on safety issues that are not site-specific, and therefore, no prior site specific NRC review is necessary for delivery of spent fuel to a carrier for transport.

A second example involves the interpretation that permits a licensee to delegate its quality assurance functions under Part 71 to a contractor, which allowed the utilities to designate a party local to the West Valley facility, to act as their surrogate in accepting certification that DOE, through its contractor West Valley Nuclear Services Company, had complied with the quality assurance (QA) requirements of the utilities' licenses in loading and preparing spent fuel for transport (Malsch, 1984).

Further evidence that the issue of license amendments, raised by the petitioners, was of serious concern to NRC is contained in an internal Commission memorandum, written in advance of the Sierra Club inquiry, which cited the following items as topics that the Commission should be aware of and that its actions on could affect the schedule for spent fuel removal (Klucsik, 1983):

1. Issuance of license amendments authorizing the utilities to possess for transfer to a carrier the spent fuel stored at the Center;
2. Issuance of indemnity agreement amendments to the utilities to cover transportation of the spent fuel from the Center to the utilities;
3. Issuance of route approvals for transportation of the fuel from the Center to the utilities; and
4. Issuance of license amendments authorizing the utilities to rerack their spent fuel pools to accomodate the spent fuel now stored at the Center (Klucsik, 1983).

In March 1984, petitioners Resnikoff and Celebrezze were officially notified that the Commission in a unanimous vote of 5-0 declined to review DD-83-14. The Director's Decision therefore became the final agency action on the 10 CFR § 2.206 petitions as of March 5, 1984 (NRC, 1984b).

Although the above issues required difficult and unprecedented interpretations of NRC regulations, their uniqueness suggests that examination of their resolution for the purpose of determining potential for extrapolation to future scenarios of spent fuel transport might be of minimal value. It is not likely that there will be future spent fuel shipping campaigns in which the loading and other preparation for transport will be performed by DOE via contracted services for a civilian utility, and for a fee, with DOE certifying to the utility that it will perform these services pursuant

to NRC regulatory requirements. These data however, are a part of the experience of the West Valley shipping campaigns and therefore should be discussed.

There were some positive aspects to the issues raised in the Sierra Club petition, and perhaps some benefits accruing to the overall institutional framework that exists for spent fuel transport in general.

The initial letter inquiry from the Sierra Club challenging the authority of the defendant utilities to transport spent fuel from West Valley and to receive this fuel at the respective utility reactor site draws attention, regardless of its basic objective, or motivation. The resulting petition precipitated extensive and searching interpretation of the regulations governing licensing of shippers of spent fuel, that might not have occurred without an inquiry. As a result, the NRC regulatory role in a unique scenario for spent fuel transport, had been placed in perspective by an administrative review process addressing a petitioner's complaints. This setting and the results seem to be more beneficial than detrimental to the Commission.

The Commission elevated the Sierra Club letter inquiry to a formal 10 CFR § 2.206 petition, even though it was later rejected in its entirety. The NRC could have responded in kind to the letter inquiry, but it did not. By subjecting the concerns and issues raised in the Sierra Club letter to formal administrative review as provided under NRC regulations, the petitioners complaints and rulings thereon, were afforded the scrutiny of the full commission - something that might not have occurred with a letter inquiry.

The issuance of DD-83-14 on September 30, 1983, denying the Sierra Club petition (and subsequent petitions seemingly patterned in a similar manner) also demonstrated the power, effectiveness, and efficiency of the 10 CFR § 2.206 administrative review process as an issue resolution mechanism. It is not an absolute issue resolution process however, as decisions rendered by the administrative process are always subject to review in civil court. In the particular case of DD-83-14 there was no judicial challenge. In the NRC General Counsel's review of the Director's decision, it was acknowledged that interpretations of the operative regulations different from those rendered in DD-83-14 were possible (Malsch, 1984).

Other Issues and Concerns Arising In the Point Beach and Dresden Campaigns

There were issues arising in the Point Beach and Dresden spent fuel shipping campaigns other than those emanating from Ohio officials, and those considered unique, owing to the court-directed removal of spent fuel from the West Valley pool and the DOE presence and authority at West Valley. These issues are discussed below in conjunction with the comments and opinions of people directly and indirectly affected by West Valley spent fuel shipments. Recommendations for reducing the impact of similar issues that might reappear in future spent fuel transport campaigns are also provided where appropriate.

As shown in Table 2-5, parties other than the Sierra Club and Attorney General Celebrezze of Ohio filed 10 CFR § 2.206 petitions with the NRC questioning various aspects and conditions of shipment for the then imminent Point Beach and Dresden spent fuel shipments. A number of these petitions (e.g., from the Environmental Decade, and Citizens Against Nuclear Power) were similar in content to the Sierra

Club and Ohio petitions. This enabled the NRC to respond to a number of petitions filed subsequent to the latter, by referring the petitioners to DD-83-14. In other cases, such as the formal inquiries from the Governors of Illinois and Wisconsin, inquiring about the federal plans for conducting safety inspections, particularly frequency of fuel shipments, formal replies signed by the Commissioner were used to address requestor concerns. Letters clarifying the NRC regulatory role in transport of spent fuel, and providing other information as requested were the usual Commission responses to inquiries not warranting consideration as formal 10 CFR § 2.206 petitions, during the start-up period for West Valley spent fuel shipping campaigns.

In reacting to the State of Wisconsin concern over frequency of inspections contemplated for the Point Beach shipments, the NRC and DOT went beyond the usual letter response however, as they conducted a training seminar for state radiological safety and health personnel on the application of federal regulations to inspection of spent fuel shipments. This was done to enable state personnel to continue the 100 percent inspection regimen for spent fuel shipments which the State wished continued through the duration of the Point Beach shipping campaign. The NRC and DOT had previously agreed to perform inspections at a 100 percent rate during early stages of each campaign, but with the understanding that they would revert to the normal 3 percent to 5 percent inspection regimen, if inspection results of the initial series of shipments justified the lower surveillance rate.

Also from Table 2-5, one notes that State officials in New York like those in Ohio, were equally successful in imposing state regulatory requirements on spent fuel transport vehicles in the Point Beach and Dresden shipping campaigns, without administrative or legal challenge from WEPCO, CommEd, or their carriers. In addition to the braking tests, spent fuel transport vehicles in the referenced

campaigns were subjected to a variety of state regulatory requirements administered by a contingent of New York Department of Transportation (NYDOT) and Department of Health (DOH) at a checkpoint station near, but outside of the West Valley facility. It should be noted, the braking tests in accordance with NYDOT rules governing overweight (and legal weight) trucks, and other State requirements of the NYDOT/DOH contingent, were without execution of a formal agreement between parties as was the case with WEPCO, CommEd and State of Ohio.

In interviews conducted with utility, shipping agents, and carrier personnel involved in the Point Beach and Dresden campaigns spokespersons voiced resentment over the truck and trailer inspection requirements administered by the NYDOT/DOH contingent at West Valley. CommEd personnel in particular complained that the state inspections were a problem and unfair. The utility's spokesmen indicated they would have preferred federal preemption in this situation but were reluctant to file an application for inconsistency to the US DOT pursuant to the rules governing transport of spent fuel by highway. They acknowledged that each of the States affected by transport of spent fuel back to Dresden required transport vehicle inspections at the respective state borders, but pointed out that the inspection routines were not uniform from State-to-State. The New York DOT was singled-out as having been the strictest of all in imposing State requirements. CommEd spokesmen also indicated that most of the states have special overweight truck requirements that they find very rigid and cumbersome. A separate permit is required for each shipment in the overweight mode and normally the states will not reissue a permit for the next shipment in sequence - even when the previous shipment timetable is missed for some reason. Further, there are differences among the States relative to the time required to apply and be granted a permit, as well as differences in cost of permits. CommEd personnel feel a blanket permit covering all shipments in a campaign would be best for all in such cases, adding that states could still collect

permit costs whether granting permits on a shipments by shipment basis, or using the blanket permit approach (CommEd/Aerospace, 1984).

In contrast to comments from utility and carrier personnel concerning the troublesome and unfair state regulatory requirements on spent fuel transport vehicles, DOE and WVNS personnel managing the spent fuel preparation and transport functions at West Valley, indicated that inspection and enforcement activities performed by NYDOT/DOH on location near the West Valley facility was extremely beneficial to the overall West Valley spent fuel transport experience. Initially, DOE personnel had questioned privately, whether the initiatives and practices undertaken by NYDOT/DOH were constitutional, consistent with HMTA, or expedient (given that NYSEDA was a state-agency). However, once the Point Beach and Dresden campaigns were in full operation, DOE and its contractor management personnel commented that they were convinced the inspections performed by the state inspectors on transport vehicles were extremely beneficial to the overall West Valley program effort committed to conducting shipping campaigns in full accordance with NRC and DOT regulations (Stiens, 1985a).

Although there were no 10 CFR § 2.206 petitions nor civil court actions filed by state (and/or local governments) in New York, interview of state officials directly involved in the West Valley shipping campaigns revealed they hold a number of concerns relative to spent fuel transport and its regulations in the state.* The Director, NY State Office of Disaster Preparedness, commenting on the institutional issues aspect of spent fuel transport affirmed that who pays the costs, may be the biggest issue affecting this activity. He feels strongly that the cost of providing public protection and awareness

*In addition to spent fuel transport from West Valley, spent fuel shipments from Chalk River, Ontario, Canada, enroute to Savannah River, South Carolina, also pass through New York.

via a comprehensive and effective state-wide emergency preparedness and response capability, specifically for spent fuel and high-level radioactive waste, is not properly shared by the utilities and the federal government. He indicated that it is the utilities and the federal government who are the creators of the need for this emergency preparedness and response capability, so why should not these two parties help the states defray the cost. Even in the case of spent fuel transport from,

- o Chalk River, Ontario, Canada to the Savannah River Plant, Aiken, South Carolina,
- o Brookhaven National Laboratory to Idaho National Engineering Laboratory, or
- o West Valley to utility reactor sites in Illinois and Wisconsin,

the federal government had not provided the requisite financial assistance to upgrade emergency preparedness and response capability in New York. The State receives no federal funding to defray the cost of off-site preparedness for off-site nuclear power activities (such as transport of spent fuel or high-level waste) that have a finite probability of causing an incident to occur. It seems that in cases like West Valley, the funding for emergency preparedness and response planning should not be borne solely by the States (Devito, 1985).

In providing general post-campaign assessment comments relative to completed and on-going West Valley spent fuel shipping campaigns, attorneys representing NYSERDA remarked as follows (paraphrased) (Jacks, Mann, and Anderson, 1985):

- o Most probably (in future spent fuel shipping campaigns) judicial and administrative litigation will continue to be an institutional issue of serious impact. A major reason why litigation involving disputes over SNF transport is one of serious impact is because it is extremely costly!
- o Contributing to the high incidence of litigation over SNF transport - we believe, is the failure of the federal regulators (DOT and NRC) to recognize that a large segment of the general public still perceives that the federal government does not regulate as well as it could or should. There are factors and events related to West Valley shipping campaigns that give weight to the above perception, for example:
 - From our perspective, the federal government has performed deficiently with respect to the regulation of transport vehicle (excluding casks) road worthiness during the West Valley campaign.
 - There appears to be a total lack of appreciation and/or understanding of the seriousness of the impact that failures or deficiencies in transport vehicles (trailers particularly) have on the public concern for safety in SNF transport - regardless of whether such failures or deficiencies result in incidents in which there is a non-zero probability of undue radioactive exposure or emission.
 - There never should have been a reason for Expressway Diesel (where NY State DOT and DOH personnel perform I&E activities on transport vehicles used in the West Valley shipping campaigns) to have existed. What NY DOT and DOH have been doing outside the gate at West Valley NY is rightfully a U.S. DOT responsibility, yet U.S. DOT does not help to defray the cost of the greatly needed and efficacious safety inspection service that has been provided ever since the shipments of SNF were started.

Both the NY State Office of Disaster Preparedness and NYSERDA spokesmen feel that overall, federal regulation of spent fuel transport could be more consistent, particularly, in the area of inspecting transport vehicle road worthiness, and ensuring that there is consistency from state to state, in cases where state agencies are permitted to act as DOT surrogates in conducting inspections of spent fuel transport vehicles. Devito reiterated that there is a need for greater infusion of federal and utility funding of emergency preparedness and response planning, suggesting that direct grants or revenue sharing might be looked into as possible funding alternatives.

Commentary On State-Conducted Regulation of Spent Fuel Transport Vehicles

That NYDOT and DOH personnel could establish and operate an inspection station for transport vehicles involved in West Valley spent fuel shipping campaigns and not be challenged by shippers and carriers for invading a federal regulatory domain pursuant to HMTA, is part of a larger issue (or issues) of spent fuel transportation. The shippers and carriers could challenge if the requirements were inconsistent with the Federal regulations, but they did not. The WEPCO (and CommEd)/State of Ohio Agreements, as well as the border inspections conducted by state personnel on West Valley spent fuel shipments are also factors in this general issue. It is recalled that a CommEd spokesman indicated that of all the state-border inspections, those conducted by the NYDOT/DOH were the toughest. The spokesman also commented on CommEd's reluctance to challenge examples of state regulation, citing a desire to avoid confrontation with state authorities. However, at the same time the utilities blamed the US DOT for having taken a non-confrontational position (Gienapoulus, 1984).*

*Refer to Section 2.1.3.1 (pg. 2-15) concerning the Ohio/WEPCO Agreement. Utility, shipper agent, and carrier personnel periodically complain about the reluctance of the DOT to unilaterally initiate applications for inconsistency and other petitions permitted under federal statutes, to combat the tendency of States to impose State rules and regulations on RAM carriers over and above the requirements of Federal regulations.

On the other hand, a New York State Official, stating his conviction that the federal establishment is not consistent in its regulation of spent fuel transport, asks why other States or federal personnel have not performed as the NYDOT/DOH near West Valley, in regard to inspections and enforcement involving spent fuel transport vehicles? (Devito, 1985.)

The effect of States imposing requirements on transport vehicles carrying spent fuel, and with seemingly, no challenges from shippers or carriers under provisions of the Hazardous Materials Transportation Act, or the Atomic Energy Act, at times suggests an issue. For example, USDOT officials admit that its Materials Transportation Bureau (MTB), even when supplemented with regional DOT personnel from the Federal Highway Administration's Bureau of Motor Carrier Safety, does not have sufficient manpower to perform the requisite inspection and enforcement effort demanded by the volume of hazardous materials shipments. To address this apparent deficiency, the DOT has long pursued a policy of encouraging the States to adopt in toto, or in part, the regulations promulgated under HMTA for highway transport of spent fuel. DOT officials also indicated that a desire to permit states a voice in the regulation of interstate carriers of hazardous materials (including spent fuel) in lieu of DOT only, performing inspection and enforcement activities, and invoking the full preemptive powers of federal law, also played a part in opting for the "state-adoption-of-regulations-policy" (Santman, 1984).

State adoption and implementation of DOT regulations governing transport of spent fuel have been somewhat successful, although there are a number of States that have declined.* Others have adopted only certain parts of the hazardous materials transport regulations. As expected under this policy, some states adopting the DOT regulations do well in implementing the regulations, whereas others do not. DOT/MTB spokesmen cited examples wherein states are eager to adopt DOT regulations, but sometimes fail to keep the federal

regulations current. The spokesmen cited examples where states were supposedly operating under sections of DOT regulations that had been rescinded by revisions and amendments and other change notices (Shuler, 1984). DOT officials also felt that the Department usually waives the preemptive provisions of HMTA for States adopting and implementing DOT hazardous materials transport regulations in toto. In general, DOT does not unilaterally initiate action challenging state enacted spent fuel transport rules, but will entertain such actions when initiated by a third party according to DOT/MTB personnel (Raul, 1984).

A federal regulatory policy that must, out of necessity, encourage and welcome state participation in a regulatory domain established by statutory authority to be exclusively a federal responsibility, encourages criticism from the shipper and carrier sectors of the nuclear material transport industry. As we have seen in the case of West Valley spent fuel shipping campaigns, states adopting and implementing the DOT hazardous materials regulations invariably impose, or desire to impose requirements over and above those contained in the adopted regulations. Although the two salient examples of the latter practice in West Valley campaigns (States of Ohio and New York) have resulted in only minor complaints from the utilities and carriers affected, the practice could lead to a patchwork of state rules and regulations affecting spent fuel transport vehicles analogous to the "patchwork of state and local ordinances" that was cited as something to be avoided in the justification for promulgation of HM-164. Clearly, USDOT needs to carry out its regulatory mandate with DOT personnel, or the Department needs to tighten its checks and balances of states adopting DOT regulations to ensure that states are not abusing their surrogate role as regulators of spent fuel transportation.

*USDOT periodically publishes a list of the States adopting HMTA regulations in toto or in part.

2.2 OYSTER CREEK CAMPAIGN

2.2.1 Introduction

The series of shipments of General Public Utilities/Jersey Central Power and Light (GPU/JCP&L)-owned spent nuclear fuel from West Valley, New York, to Oyster Creek nuclear power station located at Forked River, New Jersey, began on January 3, 1985, and ended on July 9, 1985. These shipments constituted the third shipping campaign completed out of five campaigns originally planned from the West Valley fuel storage pool (FSP). Thirty-two shipments over approximately 6 months (excluding planning, preparation, and training) transported 224 fuel assemblies containing approximately 43 metric tons of uranium without an incident. Table 2-6 provides Oyster Creek campaign information and Figure 2-1 (page 2-3) shows the route used.

Transnuclear Inc., the GPU/JCP&L shipping agent, used two TN-9 casks - serial numbers 1 and 2, during this campaign to fulfill the three shipments per biweekly schedule, designed to complete removal of all GPU/JCP&L spent nuclear fuel from the West Valley fuel storage pool by the court-appointed date of May 31, 1985. The actual completion date was July 9, 1985. This was due to litigation over routing and other matters. (GPU/JCP&L was not subject to penalties for failing to meet the court-ordered date.)

Table 2-6. West Valley to Oyster Creek Shipping Campaign--
Supplementary Detail

Owner/Shipper: GPU/Jersey Central Power & Light Company,
Morristown, NJ

Generating Reactor: Oyster Creek Nuclear Power Plant, Forked River, NJ

Shipper's Agent: Transnuclear, Inc., White Plains, NY

Carrier: Tri-State Motor Transit Company, Joplin, MO

Cask Type: TN-9 (NRC Certificate of Compliance #9016)

- o Capacity - 7 boiling water reactor FA's
- o Loaded Wt. - 80,000 lb
- o Transport Mode - Overweight Truck
- o Loaded Transport Vehicle Weight - 115,000 lb (2 TN-9s - Serial No. 1 & 2 used in this campaign)

Total One-Way Trip Mileage: 531 mi (per NRC-Approved Road Route, September 1984)

Projected Shipment Frequency: 3 shipments/biweekly

Total Number of Shipments: 32

Total SNF-Shipment Miles: 531 mi/shipment x 32 shipments/campaign = 16,992 mi/campaign

Total Metric Tons of Uranium-Miles (to complete campaign): 531 mi x 32 shipments/campaign x 43 MTU/32 shipments = 22,833 MTU miles

Road Transport Route	Distance (mi)
<u>New York</u>	
1. NFS facility via Schwartz Rd. to US 219	4
2. US 219 north to I-90 (NY Thruway)	32
3. I-90 north/east to I-481	155
4. I-481 south to I-81	10
5. I-81 south to Pennsylvania Line	81
Subtotal	282
<u>Pennsylvania</u>	
6. I- 81 south to I-380	45
7. I-380 east to I-80	27
8. I-80 east to NJ Line -	13
Subtotal	85
<u>New Jersey</u>	
9. I-80 east to I-287	43
10. I-287 south to I-95 (NJ Turnpike)	42
11. I-95 south to I-195	28
12. I-195 west to NJ 537	14
13. NJ 537 east to NJ 571	0.5
14. NJ 571 south to NJ Garden State Parkway (NJGSP)	23.5
15. NJGSP south to Lacey Road	9
16. Lacey Road east to US 9	2
17. US 9 to Oyster Creek	2
Subtotal	164
Grand Total	531

The loaded vehicle weight of approximately 115,000 lb (see Table 2-6) exceeded the maximum weight permitted by federal law* for Interstate Highway System use; however, exceptions to this weight limitation may be granted by special permits issued in accordance with applicable state laws, or under law or regulations established by appropriate State authority (23 U.S.C. § 127(a).) The overweight truck use precipitated a major problem between GPU/JCP&L and the New Jersey Turnpike Authority (NJTA) immediately following completion of the first shipment of spent fuel to Oyster Creek.

The Oyster Creek campaign began 3 months after the West Valley to Dresden and Point Beach campaigns were successfully completed. Some of the participants made use of the experiences of the earlier campaigns. For example, an effective public information program was conducted in affected communities in New Jersey and New York according to GPU/JCP&L officials, and was later supported by DOE/WVNS public information specialists. The objective of the GPU/JCP&L public information program was to convince State and local officials and their constituents that the planned shipments would be carried out in a safe and secure manner and within applicable Federal and State regulations for safe and secure transport. Utility personnel readily complied with overweight truck-braking tests and other vehicular requirements imposed by New York Department of Transportation and Department of Health regulations applicable to transport of radioactive materials. GPU/JCP&L similarly, accepted the test procedures used for the Dresden campaign, which were designed to

*The Federal Aid Highway Act, 23 U.S.C. §§ 101-157 (1982), provides that "the maximum gross weight to be allowed by any State for vehicles using the National System of Interstate and Defense Highways ... may not exceed eighty thousand pounds (Dkt. No. 85-5131, U.S. Court of Appeals for the Third Circuit, dated April 30, 1985).

satisfy NRC and DOT regulatory requirements for handling, loading, and transfer of spent nuclear fuel. Several changes to satisfy unique quality assurance and interface requirements of its nuclear operating license were incorporated with the test procedures (Vincent, 1984; Stiens and Hoffman, 1984).

A major difference between the institutional issues that characterized the period preceding the Dresden and Point Beach campaigns and that before the start of Oyster Creek shipments was the absence of 10 CFR § 2.206 petitions challenging the planned shipments. There also were no citizen and environmental groups protesting the shipments in proximity of the West Valley facility; and no special agreements with State agencies concerning escort and other transport requirements. At the local government level, a hastily enacted restrictive ordinance--The Lacey Ordinance (August 1983) was denied by judicial means approximately 2 months (September 1984) prior to the original scheduled start of Oyster Creek shipments.

Once the restrictive spent fuel storage ordinance enacted by Lacey Township was resolved and the shipper had developed and implemented an extensive and effective public information program on the safety and security in transport of spent nuclear fuel, the application was submitted to the State authority for permission to ship and store spent nuclear fuel in New Jersey. New Jersey accepts the supremacy of federal regulation of such transport; however, the West Valley to Oyster Creek campaign was still characterized by serious institutional conflict involving the shipper and State authorities prior to the start and successful completion of shipments. The following chronology of events, describes most of this conflict and is followed by a discussion of the issues in an attempt to provide some insight as to why the conflicts emerged.

2.2.2 Significant Events

Table 2-7 provides a summary chronology of significant events. A more detailed chronology is in Appendix D.

2.2.3 Discussion of Events

The discussion of events and issues in the West Valley to Oyster Creek campaign is based on personal interviews conducted with various participants in the shipping campaign, review of court documents, media coverage, and official correspondence pertinent to the shipping campaign. Included are post-campaign assessments of mitigating actions taken during spent fuel transport. A summary of the Oyster Creek issues and resolutions is presented in Table 2-7.

2.2.3.1 Lacey Township vs GPU/JCP&L

The basic issue of the Lacey Township versus GPU/JCP&L suit was an attempt through a hastily enacted local government ordinance, to halt the shipments of spent fuel to Lacey and prohibit local storage. The restrictive Lacey Ordinance was declared by the Courts to be inconsistent with the Hazardous Materials Transportation Act and was, therefore, preempted by federal law governing storage and transport of spent fuel. That ruling was expected, based on numerous cases of similar rulings made by the Courts. Therefore, what was the motivation for enacting the Lacey Ordinance? Based on personal interviews with elected and appointed officials of Lacey Township (including the author of the Lacey Ordinance, as amended), the reasons for enacting the Lacey Ordinance and for the subsequent appeal of the District Court's ruling of inconsistency were (Wascovich and Leard, 1985):

Table 2-7. Significant Events of the West Valley to Oyster Creek Campaign

Lacey Township vs GPU/JCP&L

August 25, 1983	With the NYSERDA vs NFS et al. litigation pending, the Township of Lacey (an unincorporated village in Ocean County, NJ) enacts Ordinance Number 24-83.
July 23, 1984 (on or about)	GPU/JCP&L initiate legal action in the District Court of NJ against the Lacey Township.
August 1984	Lacey Township officials advise NRC/H.H. Denton of the Township's adoption of the Lacey Ordinance.
September 24, 1984	Court determines that Lacey Ordinance is unconstitutional.
November 1, 1984	Court Order declares the September 24, 1984, court order equally applicable to a Lacey Township Penalty Ordinance.
November 29, 1984	Lacey Township appeals the District Court Order to the U.S. Court of Appeals.
September 6, 1985	U.S. Court of Appeals files final opinions on appeals.

GPU/JCP&L vs State of New Jersey

September 27, 1983	NRC officially advises the Governor of NJ of all particulars (known at that time) concerning the return of SNF from West Valley to Oyster Creek.
June 28, 1984 and July 22, 1984	Transnuclear, Inc. (agent for GPU/JCP&L) submits route approval request to NRC pursuant to 10 CFR § 73 for transport of SNF to Oyster Creek from West Valley, NY.
September 18, 1984	GPU/JCP&L applies to the New Jersey Department of Environmental Protection, Bureau of Radiation Protection (DEP/BRP), for a Certificate of Handling (COH).
September 26, 1984	NRC notifies GPU/JCP&L of approval of route approval request.
November 27, 1984	GPU/JCP&L complies with 10 CFR § 73 prenotification requirements.
November 27, 1984	NJ/DEP/BRP notify GPU/JCP&L informally of its denial of a COH for proposed shipment of SNF along the NRC-approved route.
November 1984 (undated correspondence)	NRC advises GPU/JCP&L that "NRC will not approve the proposed alternative (Southern) route until it receives written notification from the State of New Jersey designating the proposed route as a State-designated route."
December 5, 1984	State officials deny GPU/JCP&L use of the Northern Route and propose the Southern route.
December 5, 1984 (on or about)	GPU/JCP&L seeks restraining order and injunction against the State of New Jersey to stop enforcement of the NJ statutes requiring a COH before permission to ship SNF is granted.

Table 2-7. Significant Events of the West Valley to Oyster Creek Campaign (continued)

December 6, 1984	State of Pennsylvania (PA) officials advise NRC (SGMT) that the Southern Route designated by NJ officials is unacceptable to them.
December 24, 1984	District Court of NJ rules in favor of JCP&L declaring the proposed Southern Route as invalid under the provisions of HM-164 (49 CFR § 177.825).
February 1, 1985	State of New Jersey appeals of the U.S. District Court Order of December 24, 1984.
April 30, 1985	The U.S. Court of Appeals, 3rd Circuit (Philadelphia, PA) conducts hearings on the appeals of District Court orders entered by Lacey Township, State of New Jersey, and the NJTA.
September 6, 1985	Appellate Court dismisses appeal as moot.
New Jersey Turnpike Authority (NJTA) vs GPU/JCP&L	
September 1984 to December 1984	The NJTA conducted a feasibility study to determine the structural ability of those sections of the Turnpike involved in the Northern Route to withstand spent fuel shipments in overweight trucks (115,000 lb).
September 1984 to December 1984	NJTA refuses to issue a special permit and necessary approvals for shipping SNF along the portion of the Turnpike contained in the NRC-approved route (9/26/84) unless certain conditions are met.
January 3, 1985	With the first shipment of SNF from West Valley, NY, to Oyster Creek, NJTA sues to enjoin GPU/JCP&L from transporting SNF unless and until it complied with the backup tractor condition.
January 3-6, 1985	District Court rejects the NJTA complaint.
January 6, 1985 (approximately)	First shipment completed without incident, and NJTA refuses to permit the return of empty SNF casks from Oyster Creek to West Valley.
January 11, 1985	District Court determines that return shipments are part of the entire shipping campaign and thus governed by the provisions of HMTA.
January 14, 1985	Court rules that NJTA was precluded from interfering with the return shipments of empty casks.
February 26, 1985	Court enters final judgment dismissing the NJTA complaint and permanently enjoining the NJTA from interfering with the shipments (going or returning).
March 1985	On March 1, 1985, the NJTA filed for appeal of the Court Order cited above (U.S. Court of Appeals, Dkt. No. 85-5131, September 1985).
April 30, 1985	The U.S. Court of Appeals, 3rd Circuit (Philadelphia, PA) conducts hearings on the appeals of District Court orders entered by Lacey Township, State of New Jersey, and the NJTA.
September 6, 1986	Because the 6-month West Valley to Oyster Creek shipping campaign was complete, the Court rendered the injunction proceedings meaningless (in the opinion of the Court).

Table 2-8. Issues and Concerns Characterizing the Oyster Creek Campaigns

Basic Issue/Concern	Action	Parties Involved	Resolution Mechanism
1. At-reactor-storage of spent fuel previously in interim storage outside the State's boundaries resisted by a local government	o Enactment of a restrictive spent fuel storage ordinance by a local government	Lacey Township, NJ (local government officials)	District Court rules local ordinance void and unenforceable prior to start of shipping campaign. Appeals Court upholds.
	o Litigation in federal court initiated by shipper (GPU/JCP&L) to render restrictions, local ordinance void	GPU/JCP&L officials NRC (indirectly); Township contacted NRC concerning distaste for fuel shipments, and advised of ordinance enactment	
2. Route selection (NJDEP objects to NRC-approved route, and initially, refuses to issue shipper permit to ship spent fuel through State unless state-desired route is used)	o Utility files motion seeking injunctive and other relief from State's action on shipping permit and routing	NRC, NJDEP, NJDOT NJ Attorney General, etc., GPU/JCP&L officials	District Court rules State routing action inconsistent with HMTA; orders NJDEP to issue permit to transport to utility. Appeals Court upholds ruling of lower court.
	o Pennsylvania officials advise the NRC that it will not tolerate use of New Jersey-desired route for West Valley to Oyster Creek fuel shipments	Office of Emergency Management, State of Pennsylvania	
3. State agency (NJ Turnpike Authority) attempts to impose a requirement (availability of a backup tractor capable of removing a distressed spent fuel shipment in the OWT mode within 2 hours) over and above that required by federal regulations governing spent fuel transport	o NJTA initially refuses to issue necessary permits for shipper to utilize NJ turnpike for fuel shipments	NJTA, GPU/JCP&L	District Court rules NJTA requirement void and unenforceable whether shipments are departing WV or returning to WV. Appeals Court upholds.
	o NJTA further seeks court order preventing OWT transport along turnpike without provision of OWT backup tractor		

- o To prevent storage (in Lacey) of spent nuclear fuel that was previously stored outside the State. Also, some town officials believed that spent nuclear fuel transport--as conducted--was not safe enough to traverse highly populated areas; and
- o To avoid the potential economic impact of the fuel being returned and stored at Oyster Creek. Local officials believed the return of the 224 fuel assemblies could possibly lead to Oyster Creek's losing its full-core spent fuel storage capacity, with the facility becoming noncompliant with NRC regulations, followed by shut-down or closure with resulting adverse economic impacts in Ocean County, New Jersey.

Many of the Lacey Township constituency and its officials had no objection to the routing of spent fuel through the Township (regardless of who owned or operated the fuel), nor with temporary storage of spent fuel generated by Oyster Creek; however, they were concerned about unnecessary transport of spent fuel through the Township, and especially about the prospect of their community becoming a permanent storage site for spent fuel. The possibility of Oyster Creek's becoming a permanent storage site for spent fuel and the economic concern of reactor closure due to loss of full core reserve storage capacity were the driving forces leading to enactment of the Lacey Ordinance.

Further discussion with Lacey Township officials suggested that there were additional factors contributing to the local resistance. According to the principal author of the restrictive ordinance, the Township had been encouraged by utility officials to enact a restrictive ordinance, apparently hoping that such action might influence further deliberation in the NYSERDA versus NFS et al., litigation. The latter claim is relevant, as written in an article in a mid-west newspaper during the fall of 1984 (prior to the start of the initial West Valley shipping campaign). The article reported that a WEPCO Executive Vice President said in a 1982 affidavit that there is additional risk in returning spent fuel to Point Beach as compared

with leaving it in storage at West Valley. The WEPCO official added that the public interest would be better served if the fuel assemblies remained at West Valley (Milwaukee Journal, 1983).

Lacey officials also expressed frustration with the Federal Government in general on the broader issue of nuclear waste disposal, despite enactment of the Nuclear Waste Policy Act. They pointed out that spent fuel remained at West Valley for almost a decade while the Federal Government "dragged its feet" on the issues of transport and final disposal. Why, asked the Lacey officials, should we (or any other jurisdiction) "welcome with open arms," spent fuel that has been stored in New York since 1975, simply because that State suddenly decided it no longer desires to serve as a permanent spent fuel storage site?

Interview responses also indicated strained relationships between GPU/JCP&L officials and certain Township officials. Earlier, the utility supported Township resistance to spent fuel return, and subsequently, legal action was initiated by the utility to have the Ordinance declared unconstitutional and therefore unenforceable. Lacey officials also implied, without being specific, that several utility actions (during the period prior to and after litigation) over the Ordinance were more in the stockholders interest than in the public interest (Wascovich and Leard, 1985).

There is legitimacy in the Lacey officials concern about return of spent fuel from West Valley, even though the returned fuel had been generated by the local utility. The concern over possible economic loss due to loss of full-core spent fuel storage capacity and subsequent closedown seem valid. In a recent press release concerning the utility's reaction to DOE's proposed monitored retrievable storage (MRS) facility, a GPU/JCP&L spokesman underscored the importance of spent fuel storage at Oyster Creek by stating that the issue "is something that has top management attention." The spokesman indicated

that utility management is keeping an eye on two dates - 1994, when Oyster Creek loses the ability to completely unload the 560 assemblies in reactor core, and 2001, when the spent fuel storage pool will be completely filled. As a result, says the spokesman, GPU/JCP&L is studying a number of waste options, including rod consolidation and dry storage (Nuclear Fuel, 1986).

Given the proximity of Oyster Creek to Lacey Township, and the time the community has had a nuclear power station, it is difficult to believe that Lacey Township officials actually thought that their Ordinance was enforceable. Even from the wording of the Ordinance--which emphasizes that "the Ordinance does not prohibit transport of spent fuel through the jurisdiction," one can infer Lacey officials were aware that regulation of spent fuel transport (and of storage) was a federally mandated responsibility and authority, and that when and if the Ordinance were put to a court test, it would certainly be declared unconstitutional and unenforceable.

Lacey Township versus GPU/JCP&L was the outgrowth of the court order resulting from the NYSERDA vs NFS et al., litigation, and local frustration over the lack of an existing operational national nuclear waste disposal policy.

Based on documentation of Lacey vs GPU/JCP&L, it appears that resorting to litigation as early as possible is extremely effective in mitigating the impact of conflict over inconsistent and restrictive locally enacted transport ordinances. Preventing the enactment of such ordinances is probably impossible, owing to strong feelings about sovereignty. However, advising the particular authority or group of citizens on why certain ordinances should not be enacted is a role the Federal Government could appropriately assume.

When Major H. Delo contacted NRC by letter on March 1, 1984, to advise the Commission of its concern over the return of spent fuel to Oyster Creek, he included a copy of the Lacey Ordinance (Delo, 1984). He also requested NRC to send a representative to Lacey as soon as practical to discuss the situation with Township officials. The Commission responded, as requested by Lacey officials in the H. Delo letter, but apparently was unable to convince Township officials to withdraw the Ordinance. Personnel who develop and implement public information programs associated with shipping campaigns (utilities, National Laboratories associated with DOE, contractors, nuclear facilities, utility shipping agents) should include explanations of appropriate portions of federal regulations and statutory provisions of the U.S. Code that pertain to: inconsistency with the HMTA, and infringement of rights under the Commerce clause. By including explanations of how these statutory provisions invalidate locally-enacted restrictions on spent fuel transport, the tendency of local governments to pursue legislative protest methods might be reduced.

2.2.3.2 GPU/JCP&L versus State of New Jersey

As presented in Appendix D, the GPU/JCP&L versus NJDEP et al., case arose over the issue of routing of spent fuel by highway in accordance with DOT regulations. New Jersey state officials refused to issue GPU/JCP&L a special permit to transport SNF over state roads, unless the shipments were made over the state-proposed Southern Route (Figure 2-1). This route involves considerably more travel through Pennsylvania than does the NRC-approved Northern Route. When Pennsylvania officials and NRC both objected to the Southern Route, utility officials resorted to legal action to obtain the required permit so that shipment of spent fuel could begin. The Court ordered New Jersey state officials to issue GPU/JCP&L the required permit so shipments could begin and to assist in the orderly completion of the New Jersey segment of the NRC-approved interstate

route. Judge Bissell explained that it was not necessary for the Court to rule on the broader issues of (1) constitutionality of the New Jersey Radiation Protection Act nor on (2) violation of the Commerce Clause of the U.S. Constitution; but simply to limit its finding to the fact that New Jersey designation of the Southern Route was inconsistent with federal law and regulations governing transport of spent fuel.

In interviews conducted with state officials (New Jersey Department of Environmental Protection, Department of Transportation, Deputy Attorney General, and State Police) from January 9-11, 1985 (approximately one week after state compliance with the court order in favor of GPU/JCP&L), there was nearly unanimous agreement among the interviewees that the state objection to the Northern Route was based solely on concern for safety and security in spent fuel transport, and that state officials (New Jersey Department of Environmental Protection) had complied with HM-164 provisions in proposing the Southern Route. The interviewees believed that the planned upgrading of roads and bridges during the spring and summer of 1985 was a valid reason for objecting to overweight truck transport of spent fuel along the Northern Route. They claimed that reluctance of the New Jersey Department of Environmental Protection to issue a permit for transport along the Northern Route was not to restrict spent fuel transport into or through the State.

Although the proposed Southern Route involved more travel time, it was a preferred route under HM-164, because it consists principally of interstate highways. Further, because the Southern Route consists of interstate highways, New Jersey officials' claim that analysis required by HM-164 for state-alternative route designation was not required. State officials, therefore, based their appeal for revocation of the District Court ruling on the claim that their actions in proposing the Southern Route were not inconsistent with Hazardous Materials Transportation Act (HMTA).

Despite their resolve to appeal the District Court ruling, State officials who were interviewed regretted that the spent fuel transport situation did not appear a problem until "late in the game." They also regretted not fully realizing the potential public reaction to spent fuel shipments through densely populated townships and communities along I-287 South. They had no major concerns on safety or emergency preparedness, citing that State officials assume NRC and DOT perform their regulatory roles competently and expressing confidence in the ability of New Jersey emergency management personnel to respond effectively to accidents/incidents involving spent fuel transport. However, in reserving some criticism for federal regulators, they did contend that NRC, by denying approval of the New Jersey-proposed Southern Route, "seemed more concerned with disapproving a route" than it was about safeguard factors. New Jersey officials also asked

... what is the remedy or resolution of the conflict that results when contiguous States, involved in consultation over assuring reasonable continuity in routing, encounter a situation in which each disallow certain routes within its jurisdiction, so that it is impossible to agree on a point of entry satisfactory to each State involved?

That was the situation between New Jersey and Pennsylvania; yet, because Pennsylvania was not a party in the District Court litigation, only New Jersey was cited for not ensuring reasonable continuity between jurisdictions pursuant to 49 CFR § 177, App. A III 2(d)" (Stanley, Pagano, Tyler, Kuhrtz, Friedenrich, et al., 1985).

In considering what the federal regulators, utilities, and the state governments could have done differently to minimize or prevent the institutional conflict that occurred over transport of spent fuel from West Valley to Oyster Creek, State officials replied as follows:

- o Someone should have persuaded New York State Energy Research and Development Administration (NYSERDA) to allow the spent fuel to remain at West Valley until geologic repositories were operational.
- o The current conflict over spent fuel transport to Oyster Creek could have been avoided if DOE, NRC, and DOT had coordinated with all the States involved much earlier, for example, immediately following the court decision involving NYSERDA, NFS, and the utilities. NRC should have taken a leadership role and properly considered the interests of each of the involved States.
- o The Governor of New Jersey should have been able to say to his constituents that State officials designated the best and safest route of travel into and within the State, yet because of NRC denial of approval for the state-proposed Southern Route, New Jersey inhabitants had to accept (in their view) a less safe route.
- o New Jersey State officials were also somewhat irritated that utility personnel initiated their coordination of this spent fuel transport matter at the staff level within the State governmental structure, rather than making their initial contact at upper echelons.
- o The State should have become involved earlier.

There are parallels between the cases of Lacey Township and State of New Jersey vs GPU/JCP&L. Each suit involved regulatory provisions under Hazardous Materials Transportation Act and those of a lower political subdivision; each resulted in the initiation of legal action by GPU/JCP&L following unsuccessful attempts at resolution through negotiation; and each was resolved through expedited court action in lieu of the sometimes lengthy process of federal agency adjudication. Another parallel is suggested by the State's preference for a truck transport route that traversed more of Pennsylvania than New Jersey.

New Jersey's claim that conflict between utility and State officials could have been avoided if NRC had taken a leadership role in coordinating with all States involved much earlier is

unsubstantiated. NRC officially advised Governor Kean of New Jersey, and all other Governors of States affected, on September 27, 1983, advising:

- o Of imminent transport of spent fuel into New Jersey; and
- o The reasons for return of spent fuel from West Valley (including citation of the West Valley Demonstration Program Act).

The letter further invited the Governor (or his designees) to meet with the appropriate NRC Regional Administrator for a more detail discussion of NRC regulation of the safety and safeguard aspects of the projected shipments.

It is unfortunate that New Jersey officials in the Departments of Environmental Protection (NJDEP) and Transportation (NJDOT), Office of the Deputy Attorney General, and the State Police Department were not apprised of the contents of the cited NRC letter to the Governors, but clearly that was an intrastate communications problem.

The State's denial of a permit to GPU/JCP&L for transport of spent fuel over the Northern Route appears valid based on sworn affidavits submitted by New Jersey Department of Transportation and New Jersey State Police personnel as part of evidentiary data in the GPU/JCP&L versus State of New Jersey litigation. Although the Courts ruled against the defendant (State of New Jersey) in both the District and Appellate jurisdictions, the State's claim that planned repairs along I-287 S would hamper traffic flow and affect overweight truck transport of spent fuel, was not invalidated by the Court. Rather, this factor was rendered virtually useless in the New Jersey legal defense as the Court interpreted the New Jersey Department of Transportation and State Police affidavits simply as justification for the State to commence a search for an appropriate alternative route.

Under these conditions, the Court, having concurrent jurisdiction with U.S. Department of Transportation under the Hazardous Materials Transportation Act, needed only to determine whether NJDEP (the state-routing agency under HM-164) had complied consistently with the provisions of HM-164 in designating the Southern Route as an alternative route.

New Jersey officials pointed to the problem of ensuring reasonable continuity (of routes or routing) between two jurisdictions affected; the Court defended Pennsylvania's right to agree with that segment of the NRC-approved route passing through the northeast corner of its State and away from densely populated urban areas. New Jersey officials had argued that Pennsylvania officials were obligated to designate an alternative route because New Jersey had done so, in order to ensure reasonable continuity. The Court rejected this argument by stating that Pennsylvania officials did not initiate proceedings for designation of an alternate route and may not be forced to do so simply because New Jersey Officials had chosen to do so (U.S. District Court, 1984c).

Litigation perhaps could have been avoided if New Jersey officials had rescheduled the road and bridge repairs planned for the 4-1/2-mi stretch along I-287 S (see Figure 2-3), or if Pennsylvania and NRC officials had accepted the Southern Route as satisfactory. (From a purely safety and safeguards viewpoint, without considering mileage between shipping and receiving terminal, it would probably have qualified as an acceptable spent fuel transport route.) Had either of these occurred, a normal issuance of a permit to GPU/JCP&L by NJDEP would have followed, making legal action unnecessary. There was little chance of New Jersey State officials minimizing the importance of roadwork, given the affidavits of New Jersey Department of Transportation and New Jersey State Police.

GPU/JCP&L had no other choice than to seek relief through court action. Under court order to remove GPU/JCP&L fuel from West Valley by May 31, 1985, and urged by the Court to use its best efforts to eliminate the impact of obstacles to timely compliance with the court order, to have sought relief by filing an inconsistency petition to DOT would have been unwise.

Once litigation began, hearings were scheduled and expediently conducted (final decision rendered on December 24, 1984, 19 days after filing of the GPU/JCP&L complaint), and this probably minimized financial impact to both parties. The results demonstrated that disputes between Hazardous Materials Transportation Act provisions and State law pertaining to transport of spent fuel can be resolved without the necessity of deciding on the constitutionality of pertinent state law. Some state laws pertaining to transport of spent fuel (the New Jersey Radiation Protection Act, for example) can find application without conflict within the Hazardous Materials Transportation Act framework.

2.2.3.3 GPU/JCP&L versus New Jersey Turnpike Authority

As noted in the chronology (Appendix D), the GPU/JCP&L and New Jersey Turnpike Authority flared when the utility refused to comply with the Turnpike Authority's special conditions for permission to transport spent fuel over the 25-mi turnpike segment included in the NRC-approved road transport route. The special conditions involved the provision (by GPU/JCP&L or its agents) of a "backup four-axle tractor" within close proximity to the turnpike route segment to ensure removal of an overweight truck spent fuel shipment within 2 hours following a breakdown.

In this case, GPU/JCP&L was the defendant and New Jersey Turnpike Authority the plaintiff seeking to block the utility from shipping spent fuel unless the backup tractor was provided. The court

rejected the New Jersey Turnpike Authority complaint, because the backup tractor requirement was contrary to the Hazardous Materials Transportation Act, and denied a request for stay pending appeal. New Jersey Turnpike Authority abruptly dismissed its appeal and permitted passage of the first shipment of spent fuel along the turnpike route segment without confrontation.

New Jersey Turnpike Authority again pressed its complaint by refusing to permit the return of empty spent fuel casks to West Valley, apparently reasoning that provisions of the Hazardous Materials Transportation Act, cited in rejecting the original complaint, would not apply if spent fuel were not being transported. The Court did not agree and ruled that the return of empty casks was an integral part of the shipping campaign activity authorized under DOT and NRC regulations, with the result that New Jersey Transportation Authority was similarly enjoined from interfering with return shipments of empty spent fuel-casks.

The Court upheld the constitutionality of the Turnpike Authority's traffic control safety regulations and its right to enforce the weight limitations for overweight truck's pursuant to the Federal Aid Highway Act. Swift and unequivocal court adjudication avoided further negotiation and/or the seeking of resolution through regulatory authority administrative means, which would have been more time consuming and would have exacerbated matters (given that the utility was subject to trespass charges if its spent fuel were not removed from the West Valley fuel storage pool by a specified date).

Had four-axle tractors not been scarce and prohibitively expensive, and in return for the positive conclusion concerning overweight truck transport that resulted from New Jersey Transportation Authority's special study, GPU/JCP&L might have voluntarily complied with New Jersey Turnpike Authority's special conditions for overweight truck transport of spent fuel. The Court

found in HM-164, the basis for adjudication of a dispute over transport of spent fuel without the necessity of declaring basic state regulations pertaining to such transport unconstitutional, reinforcing the fact that State and lower political subdivision laws can coexist with the Hazardous Materials Transportation Act.

2.3 GINNA SHIPPING CAMPAIGN

2.3.1 Introduction

Rochester Gas and Electric Company (RG&E) was not a litigant in the court case that resulted in the West Valley spent fuel shipping campaigns (U.S. District Court, 1983). RG&E had reached an agreement with NYSERDA on the removal of RG&E-spent fuel prior to NYSERDA initiating legal action against Nuclear Fuel Services, Inc. (NFS) and the utilities. This agreement however, required RG&E to remove its spent fuel from the West Valley fuel storage pool upon demand by NYSERDA. In mid-August 1985, West Valley Project Office correspondence projected June 30, 1986, as the date desired for initial use of the fuel storage pool for West Valley Demonstration Program (Daugherty, 1985).

The West Valley to Ginna spent fuel shipping campaign, the last of four West Valley shipping campaigns subject to regulation by the NRC, began on June 30, 1985. This campaign was completed in March 1986 despite delays at various times due to (1) staging of the New York State Fair, (2) fuel-rod consolidation demonstration, and (3) an unscheduled reactor outage (Stiens and Hannum, 1986). Table 2-9 provides supplementary detail pertaining to the Ginna campaign.

2.3.2 Significant Events

Significant events occurring in the Ginna campaign are listed in Table 2-10.

**Table 2-9. West Valley to Ginna Shipping Campaign--
Supplementary Detail**

Owner/Shipper: Rochester Gas and Electric Company, Rochester, NY
 Generating Reactor: Ginna Power Station, Ontario, NY
 Shipper's Agent: Nuclear Assurance Corporation, Norcross, GA
 Carrier: Tri-State Motor Transit Company, Joplin, MO
 Cask Type: NLI - 1/2 (NRC Certificate of Compliance #9010)

- o Capacity - pressurized water reactor FA's
(or 2 boiling water reactor FA's)
- o Loaded Weight - 44,000 lbs.
- o Transport Mode - Legal-Weight Truck
- o Loaded Transport Weight - 158.5 mi

Total One Way Trip Mileage: 158.5 miles
 Projected Shipment Frequency: 1 to 7 shipments/week
 Total Number of Shipments: 81
 Total SNF-Shipment Miles: 158.5 mi/shipment x 81 shipments/
 campaign = 12,839 mi/campaign
 Total Metric Tons of Uranium-
 Miles (to complete campaign): 158.5 mi x 81 shipments/campaign x 31
 MTU/81 shipments = 4,914 MTU mi

Road Transport Route	Distance (mi)
<hr/>	
<u>New York</u>	
1. West Valley NFS Facility via Schwartz Road to US 219	4
2. US 219 to I-90 (NY Thruway)	32
3. I-90 E to NY 21 (Exit 43, NY Thruway)	85
4. NY 21 to Hackett Road	
Hackett Road to Yellow Mill Road	
Yellow Mill Road to NY 31	
NY 31 W to NY 31 F	37.5
NY 31 F to NY 350	
NY 350 to Ginna	
 Total (a complete intra-state route)	 158.5

Table 2-10. Significant Events of the
West Valley to Ginna Campaign

June 1985

Shipments begin.

August 1985

Shipments are temporarily suspended (about 1 week) due to the New York State fair.

December 1985

A second postponement occurs when RG&E, in conjunction with DOE, sponsor a demonstration of spent fuel rod consolidation techniques at West Valley using RG&E fuel.

January 1986

Shipments of unconsolidated fuel resume along with some shipment of fuel consolidated in the demonstration performed for RG&E and DOE by the Nuclear Assurance Corporation, RG&E's shipping agent. (Stiens, 1986).

March 1986

The DOE West Valley Project Office reports that there is an absence of conflict over issues arising due to transport of RG&E fuel from West Valley to Ginna.

A survey of news articles from major news media sources east of the Mississippi River similarly, did not contain any articles pertaining to the Ginna campaign. Even a recent public notice published in the Federal Register, advising and soliciting comments relative to RG&E's request for NRC certification of facility modifications to accommodate storage of consolidated fuel, has failed to generate concerns and issues relating to spent fuel transport involving Ginna. (Stiens, 1986).

March 1986

Shipments completed.

2.3.3 Discussion of Events and Issues

A utility spokesperson concurred with the DOE West Valley Project Office assessment that institutional issues and concerns (measured in terms of capacity to generate conflicts) have been negligible in the Ginna spent fuel campaign. This is attributed to effective public relations and information programs implemented by RG&E personnel in conjunction with the public affairs group out of the West Valley Project Office.

RG&E officials demurred in one respect. They stated that the state-desired escort (two patrol cars per shipment, one in front and one in back of the transport vehicle, with two troopers per vehicle) is "transport security overkill." RG&E provided the training for the state trooper escorts and also paid the troopers for their services (Cook, 1986).

As was observed in the West Valley to Dresden and Point Beach shipping campaigns, conflict resulting from issues and concerns arising over spent fuel transport usually occurs more frequently, and is more intense in interstate than intrastate situations. It was therefore expected that the West Valley to Ginna campaign would be relatively free of major institutional issues and concerns. The fact that the Ginna shipping campaign, starting as the third of four West Valley shipping campaigns subject to DOT and NRC regulations, was nearing completion may also account for a noticeable lack of issues in the Ginna campaign. Most of the troublesome issues, and other questions regulatory officials expected would arise as a result of the planned West Valley spent fuel shipments, had already occurred or been resolved prior to the start of Ginna shipments.

The relatively short (approximately 158 mi) intrastate transport route running west to east at approximately 10 to 12 miles south of Rochester, New York, (the only densely populated metropolitan area near the NRC-approved route) and the fact that RG&E is a domestic

corporation of the State are also factors apparently contributing to the singular absence of major issues or concerns in the Ginna campaign. Even though RG&E officials were not particularly pleased with the state-favored two-car escort arrangement for each shipment, they made no official attempt to oppose the practice by appealing to U.S. DOT pursuant to HMTA. Similarly, RG&E did not object to inspections and other regulatory requirements imposed on transport vehicles by the NYDOT/DOH contingent established offsite near the West Valley facility.

Although the West Valley to Ginna campaign has been relatively issue-free, what has occurred reinforces the finding that regulation under 10 CFR Parts 71 and 73 and 49 CFR (Part 177) does allow for interpretation that can be effective and expedient. Negotiation, accommodation, and compromise among the regulated, the regulators, and the general public directly and indirectly affected by spent fuel transport activity are integral to the regulatory framework that exists for spent fuel and high-level waste transport and storage.

2.4 IDAHO NATIONAL ENGINEERING LABORATORY SHIPPING CAMPAIGN

The West Valley to Idaho National Engineering Laboratory Shipping Campaign (INEL) was scheduled to start in spring 1986, but as of April 30, 1986, shipment to INEL had not begun. The West Valley to INEL campaign resulted from prior contractual negotiations between Nuclear Fuel Services (NFS) and DOE concerning previously NFS-owned spent fuel. Under the contract, NFS would give title to approximately 26 metric tons of uranium (spent fuel) to DOE and also pay the costs for new rail casks and transport to INEL at Idaho Falls, Idaho. The fuel was originally earmarked for shipment to Oak Ridge National Laboratory, starting in summer 1985 and ending in fall 1985 (Table 2-1). The destination was subsequently changed to INEL, and the shipment effort has evolved into a cooperative agreement between DOE and NFS to demonstrate the feasibility of transport and long-term storage utilizing dual purpose casks designed expressly for these

purposes. Because DOE will take title to the fuel prior to shipment, the shipments, including loading and preparation for transfer to a carrier, will be exempt from NRC authority.

Under an Agreement between DOE and NRC concerning transport of spent fuel from West Valley, DOE is required to consult with NRC to ensure that any concerns on cask design and use would be resolved prior to shipment, despite the fact that DOE-conducted shipments are exempt from NRC authority (Muasshardt, 1983). However, in August 1985, DOE's Office of Civilian Radioactive Waste Management (OCRWM) directed that NRC certified transport casks be used for shipment of nondefense related spent fuel outside the DOE sites. This policy decision had an impact on the start of the INEL campaign, since the NRC review and certification process for new cask designs normally requires a minimum of 6 months (Stiens, 1985b).

The OCRWM policy direction set a target date of June 30, 1986, for all spent fuel removal from the West Valley fuel storage pool. DOE officials however, are currently (May 1986) contemplating adjusting their plans because the NRC licensing process has proven to be more extensive than OCRWM officials anticipated. The two dual-purpose, 100-ton casks were scheduled to be loaded with the 40 pressurized water reactor and 85 boiling water reactor fuel assemblies, comprising the approximately 26 metric tons of uranium NFS was relinquishing to DOE. However, when questions were raised in summer 1985 over the equivalence of DOE's and NRC's cask certification process, DOE officials decided to defer to NRC for certification (Nuclear Fuel, 1985a). According to an article in Nucleonics Week (1986), the decision for NRC-cask certification by DOE officials was hailed by industry officials as politically wise. The article suggests that DOE anticipated the NRC certification process to take less than 9 months. The two casks, the TN-REG and TN-BRP, are the first large capacity casks to be subjected to the NRC licensing process.

As indicated in Table 2-11, the actual rail route from West Valley to INEL is undecided as of this report. Further, because the INEL campaign is not subject to NRC regulation, DOE's generic routing procedures apply; therefore the actual route might not be made public. The shipments however, are subject to regulation under DOT regulations. Shipment-miles, assuming a highway transport mode, is approximately 300 to 400 miles greater than the Brookhaven to INEL run of 2370 miles, or approximately 2700 miles. Actual rail mileage will probably be slightly more.

As of April 15, 1986, there had been no reports from West Valley concerning institutional issues arising over the planned shipments (excluding issues involved in NRC-certification of the two casks), nor had a survey of media coverage located articles relating to this matter.

Table 2-11. West Valley to Idaho National Engineering Laboratory
(INEL) Spent Fuel Shipping Campaign - Supplementary Detail

Owner/Shipper:	Nuclear Fuel Services/U.S. Department of Energy
Generating Reactor:	RG&E's Ginna Power Station and Consumer Power's Big Rock Pt. Power Station
Carrier:	Unknown - Transport Mode Projected to be Rail
(As of March 1986)	
Cask Type(s):	Two 100 ton dual purpose casks (transport and storage) designed for one-time usage. Designed by Transnuclear Inc.
	TN-REG*
	o Capacity - 40 PWR FA's
	TN-BRP*
	o Capacity - 85 BWR FA's
Total One-Way Trip Mileage:	Actual rail mileage unknown at this time. (Highway mileage: 2,700)
Rail Transport Route:	Unknown at this time
Total Number of Shipments:	1

*SAR's for TN-REG and TN-BRP currently are undergoing review by the
NRC for cask certification.

3.0 NON-WEST VALLEY CASE HISTORIES

In this section, non-West Valley spent fuel shipping campaigns are examined. The campaigns, listed in Table 3-1 with appropriate descriptive information, include both Nuclear Regulatory Commission (NRC) and non-NRC regulated shipments:

- o NRC-Regulated: Monticello to Morris, Cooper Station to Morris, and Chalk River to Savannah River.
- o Non-NRC-Regulated: Surrey to INEL and Brookhaven to INEL.

As indicated in Table 3-1, two of the campaigns are via the rail transport mode. All campaigns are subject to regulation by the DOT. Chalk River to Savannah River shipments are authorized under an NRC import license issued to the Nuclear Assurance Corporation (NAC), which acts as agent for Atomic Energy of Canada, Limited (AECL). These shipments are also subject to NRC authority (Palladino, 1982).

The remaining two campaigns, because they are DOE-managed, are exempt from NRC authority, under 18 U.S.C. 832(c). Shipments of spent fuel managed by DOE in support of its research and development activities, as opposed to defense-related shipments, however, are subject to DOT authority. Although exempted from NRC authority, the events and experiences of these campaigns contribute to the history that exists for nondefense spent fuel transport.

In the first of the following sections, the Monticello to Morris campaign is described in detail. Shorter sections follow to describe the Cooper Station, Chalk River, Surry, and Brookhaven campaigns.

Table 3-1. Non-West Valley Spent Fuel Shipment Campaigns
Source: R. Stiens, 1985; E. Ingels, 1986; R. Hannon, 1985

Point of Origin/Shipper	Destination	Transport/ Mode/ Cask	Number of Assemblies/ Type	Number of Shipments	Approximate Start	Estimated Completion	Comments/Status
<u>Campaigns Subject to NRC Authority</u>							
Cooper Station Brownsville, NE Nebraska Public Power District (NPPD)	Morris Opns., Morris, IL	Rail/IF-300*	1056/BWR	30	8/84	1994	Ongoing. Shipments made in 1984 and 1986
Monticello Monticello, MN Northern States Power (NSP)	Morris Opns., Morris, IL	Rail/IF-300*	1058/BWR	30	11/84	1995	Ongoing. Shipments made in 1981 and 1985
Chalk River Ontario, Canada Atomic Energy of Canada Ltd. (AECL)	Savannah River Aiken, SC DOE	Truck/Unknown	Unknown	Unknown	Unknown	Unknown	Shipment details are a function of annual contractual negotiations between DOE & AECL Ltd.
<u>Campaigns Exempt from NRC Authority**</u>							
Brookhaven NL., (BNL) Upton, Long Island, NY Department of Energy	INEL Idaho Falls, ID; DOE	Truck/GE-700 (Modified)	Unknown	Unknown	Resumed	Unknown	Original GE-700 was NRC-certified. It has been modified to increase capacity from 10 to 20 fuel assemblies.
Surry Power Station Surry County, VA (Norfolk area) Virginia Electric Power Co. (VEPCO)	INEL Idaho Falls, ID; DOE	Truck/TN-8L		50	7/85		Storage of previously-owned VEPCO fuel at INEL is for demonstration of dry storage and certification of GNS Caster V Storage cask.

*GE Morris is shipping agent and alternates use of 3 IF-300s between Cooper Station and Monticello campaigns on an annual basis, and in other cases such as a scheduled long reactor outage, which occurred at Cooper Station in 1985.

**All campaigns listed are conducted under DOE auspices. The Brookhaven NL to INEL campaign (like the West Valley to INEL campaign) however, is subject to the recent OCRWM policy requiring use of NRC-certified spent fuel casks.

3.1 MONTICELLO TO MORRIS OPERATIONS CAMPAIGN (NRC-REGULATED)

3.1.1 Introduction

The Monticello to Morris Operations spent fuel shipment campaign and the Cooper Station to Morris campaign resulted from out-of-court settlements between the General Electric Company (GE) and the utilities, Northern States Power (NSP) and the Nebraska Public Power District (NPPD). The issue concerned buy-back clauses in fuel contracts signed between the parties several years ago (Nuclear Fuel, 1986; Mausshardt, 1983). Under the settlements, General Electric is required to store some core loadings from NSP's Monticello and NPPD's Cooper Station.

According to an NSP spokesman, utility officials and the GE Morris Operations management worked out an agreement on the disposition of the 1058 boiling water reactor fuel assemblies covered under the original supply contract (when Morris Operations contemplated spent fuel reprocessing activity). Under the agreement, GE's Morris Operations (GEMO) assumed the responsibility for (1) shipping the assemblies to GEMO, including making arrangements with rail carriers; (2) paying for the shipments; and (3) paying for the cost of storage at GEMO until DOE accepts and takes title to the fuel prior to transport for disposal under the Nuclear Waste Policy Act (NWPA). Northern States Power, in turn, agreed to pay DOE fees, as required under the NWPA, for transport and final disposal at a geologic repository (NSP Officials, 1985).

NSP officials, as a result of the agreement reached with GE, originally anticipated a 5-year shipping campaign with 6 shipments occurring over a 6-month period of each year. Two GE-owned IF-300 casks, for rail transport, would be used per shipment to transport a maximum of 36 BWR fuel assemblies. GE would then follow this shipment sequence, from NPPD's Cooper Station for an estimated 5-year period or until all spent fuel included in agreements GE made with NSP (and apparently, with NPPD) had been transported to GEMO.

The first spent fuel shipment from Cooper Station was in August 1984. This was the only 1984 shipment from Cooper Station because the Cooper reactor entered into a lengthy outage (fall 1984) and NPPD was not able to continue the campaign. As a result, Monticello shipments began in November 1984 and continued through October 1985 (NSP, 1985).

From November 1984 to October 1985 and continuing to the present (April 1986), a number of issues arose between and among the participants and parties affected by the Monticello shipping campaign. Some of the issues required court litigation for resolution, others required only the threat of litigation. Issues and events that occurred because of them will be discussed following brief summaries of the rail route evaluation and fuel cask assessment performed by NSP. These activities relate directly to major issues arising in this campaign.

NSP-Sponsored Rail Route Evaluation: GE contracted with the Burlington Northern and Elgin, Joliet, and Eastern Railroads as carriers for the shipments. The NRC-approved rail transport route (see Figure 3-1, and Table 3-2) passes through the Minnesota cities of Minneapolis and St. Paul, then enters Wisconsin at Prescott and continues for 230 miles along the borders of Minnesota, Wisconsin, and Iowa until it reaches the Illinois border. The Wisconsin segment of the route is along the eastern bank of the Mississippi River, passing through the city of La Crosse, Wisconsin.

Figure 3-1. Minnesota-Wisconsin Segment of Monticello to Morris
Spent Fuel Rail Route
Source: St. Paul Press, December 1984

**Table 3-2. Monticello Nuclear Power Plant to Morris
Operations Campaign--Supplementary Detail**

Owner/Shipper:	Northern States Power Company, Minneapolis, MN
Generating Reactor:	Monticello Nuclear Power Plant, Monticello, MN
Shipper's Agent:	General Electric
Carrier(s):	Burlington Northern (BN) and Elgin, Joliet, and Eastern Railroads (EJE)
Cask Type:	IF-300 (NRC Certified of Compliance No. 9001) <ul style="list-style-type: none"> o Capacity - 18 boiling water reactor FA's (or 7 pressurized water reactor FA's) o Loaded Weight - 63.5 ton o Transport Mode - Rail
Total One-Way Trip Mileage:	471.9 miles (per NRC approved rail route)
Projected Shipment Frequency:	6 shipments/year @ (2 to 3 rail casks/shipment or 36 to 54 boiling water reactor FA's/shipment)
Total Number of Shipments:	30 (estimate)
Total Number of Shipments through 1985:	19 (680 boiling water reactor fuel assemblies)
Total SNF-Shipment Miles	471.9 mi/shipment x 19 shipments/campaign = 8,966 mi/campaign
Total Metric Tons of Uranium-Miles (through 1985):	471.9 mi x 19 shipments/campaign x 182 MTU/30 shipments/campaign = 54,394 MTU mi

Road Transport Route	Distance (mi)
<hr/>	
<u>Minnesota</u>	
1. Monticello to Robbinsdale	30.2
2. Robbinsdale to Prescott, WI	39.0
Subtotal	69.2
 <u>Wisconsin</u>	
3. Prescott, WI, to Aurora, IL	368.4
Subtotal	368.4
 <u>Illinois</u>	
4. Aurora to Morris, IL	34.3
Subtotal	34.3
Grand Total	471.9

Prior to NRC approval of the rail route, NSP contends that the selected route and four alternative routes had been evaluated via computerized analysis techniques by ALK Associates, a transportation industry consultant. ALK Associates evaluated several other possible rail routes in addition to the five mentioned, for:

- o A more direct path with more efficient changes between railroads (considering track length and quality, and number of railroad company changes);
- o Lower total and hazardous accidents; and,
- o Lower population density adjacent to the rail corridor.

The computerized methodology package used by ALK Associates was developed to evaluate hazardous material railroad routing according to NSP. NSP indicated that the ALK Associates evaluation determined the rail route (Figure 3-1) to be better than any alternative route for shipping spent fuel from Monticello to Morris Operations because:

- o It is a direct route with a high percentage of high quality main-line trackage, and,
- o It has the lowest total accident index.

NSP spokesmen noted that ALK Associates undertook the evaluation because Minnesota and Wisconsin State Officials expressed an interest in evaluating alternative routes for shipping Monticello spent fuel (NSP, 1985).

NSP Assessment of IF-300 Cask Performance: NSP officials, commenting on the performance of the GE IF-300 rail cask, claim it did not perform as they expected with regard to radiation levels. Utility officials did not discover the problem until after the sixth shipment of spent fuel, all six consisting of older spent fuel. The seventh

shipment of material had about twice as much activity as the previous shipments, and the cask radiation levels increased from 40 percent to as high as 90 percent of the regulatory limit.*

NSP officials noted that Cooper Station personnel did not experience a similar problem with their earlier shipment of spent fuel to Morris, but attributed the anomaly to differences in the design between Monticello and Cooper fuel. Starting with its eighth shipment of fuel, NSP implemented a strategy for placement of assemblies within the IF-300 cask that results in older assemblies in peripheral locations, shielding newer (higher radiation level) assemblies in interior locations (NSP, 1985). The assembly placement strategy was partially effective as a radiation shield. NSP believes it was fortunate to discover the anomaly early in the shipping campaign, because there were enough old assemblies available for strategic placement.

3.1.2 Significant Events

"After A Year, Shipments Still Fuel Controversy" was the front page headline of an Aurora, Illinois, daily newspaper on October 20, 1985, nearly 1 year after the first shipment of spent fuel from Monticello to Morris Operations (Beacon-News, 1985). The article also referred to the Cooper Station to Morris shipments scheduled to be resumed in December 1985 and featured opinions of those involved in or affected by the Monticello shipments. The shipments through Minnesota, Wisconsin, and Illinois had continued since August 1984. Comments ranged from the concern of midwest environmental and public interest groups that Monticello shipments were getting 'hotter' (higher radiation levels) to the State of Wisconsin petition to the NRC concerning rulemaking affecting regulation of spent fuel transport.

*This was the basis of the concerns expressed by public interest groups in fall 1985.

During the 11-month shipping period through October 1985, 19 shipments (36 boiling water reactor assemblies per shipment) were made to Morris Operations. NSP has removed approximately 684 assemblies from Monticello's storage pool and extended its storage pool capacity to the year 2000. The utility estimates 10 more shipments (e.g., nine 2-cask shipments and one 3-cask shipment) will be required to complete the transfer of 1058 assemblies to GEMO. NSP expects to resume the Monticello Campaign by June 1987 (NSP, 1985). Controversy over the shipments still existed as NSP was ending the initial segment of the campaign 11 months after the initial shipment, although a number of issues were resolved between November 1984 and November 1985. The chronology of events is outlined in Table 3-3 and given in detail in Appendix E.

3.1.3 Discussion of Events and Issues

The issues characterizing the Monticello campaign are shown in Table 3-4.

There were two issues characterizing the start of shipments:

- o The Wisconsin requirement for NSP to provide spill prevention and cleanup contingency plan data, and
- o The Maiden Rock, Illinois, restrictive transport ordinance.

Neither action halted transport of spent fuel through the respective jurisdictions.

Table 3-3. Significant Events--Monticello to Morris Operations

April through October 1984

April 1984	NSP holds press conference to officially announce the utility's plans to ship 1058 fuel assemblies from Monticello to Morris Operations in late 1984.
June 1984	According to NSP spokesmen, utility representatives initiated discussion and negotiations with the Wisconsin Department of Natural Resources (DNR) concerning conditions, characteristic, and requirements relating to the planned shipments.
September 1984	The Wisconsin Environmental Review Board makes known its opposition to the planned Monticello spent fuel shipments.
October 1984	Minnesota State senate subcommittee holds public hearing in concerning planned shipments of spent fuel from Monticello to Morris.
October 9, 1984	The Minnesota Environmental Quality Board refuses to order a state-sponsored study of NSP's Monticello to Morris shipment plans.

November through December 1984

Early November 1984	The St. Paul, MN, City Council approves a resolution asking for an evaluation of the proposed Monticello shipments and the City's ability to respond to an accident resulting from this transport.
November 5, 1984 (About)	A spokesman for the Wisconsin Department of Natural Resources (DNR) acknowledged to the media that Monticello spent fuel shipments would probably begin in late November 1984.
November 9, 1984	NSP advises media sources that it intends to go ahead and begin spent fuel shipments from Monticello.
November 9, 1984	Wisconsin authorities announce plans to halt the shipments.
November 20, 1984 (On or about)	Initial shipment passes through the Town of Maiden Rock, WI (population 614), violating a hastily passed town ordinance.
November 21, 1984	First shipment of spent fuel leaves Monticello enroute to Morris Operations.
November 22, 1984	The initial shipment of 7 tons (approximately 6.4 metric tons of uranium) of spent fuel arrive at Morris Operations and are immediately inspected for radioactive contamination.
November 21-22, 1984	Residents and officials in Rochelle, Illinois, react to initial shipment of spent fuel passing through their area.
November 30, 1984 (On or about)	Office of the Governor of Wisconsin spokesman advises media that the State still desires to ban spent fuel shipments.
December 17, 1984	The NRC docketed a petition received on December 13, 1984, from the State of Wisconsin requesting the Commission to establish a regulatory process to provide an opportunity for public participation in evaluating and approving proposed shipments of irradiated fuel.
December 27, 1984	NSP officially notified of the existence and violation of the Town of Maiden Rock's restrictive transport ordinance.

Table 3-3. Significant Events--Monticello to Morris Operations (continued)

January 1985 through April 1986

January 2, 1985	The Wisconsin DNR issues an administrative order banning further shipments.
January 3, 1985	The State of Wisconsin obtains a court-ordered temporary restraining order (TRO) preventing NSP from continuing shipments in defiance of the State-issued administrative order.
January 7, 1985	NSP formally asks DNR to schedule a hearing on the Dane County Circuit Court temporary restraining order.
January 7, 1985	NSP files a legal complaint in U.S. District Court against the Town of Maiden Rock, WI, seeking a preliminary and permanent injunction of enforcement of the Town's restrictive spent fuel transport ordinance.
January 8, 1985 (On or about)	The TRO prohibiting shipment is lifted, and NSP immediately resumes shipment of spent fuel from Monticello to Morris Operations.
January 16, 1985	Final arguments are heard in Dane County Circuit Court on whether the DNR can order NSP to write a spill prevention and clean up plan before the utility is permitted to continue with the Monticello campaign.
January 23, 1985	Residents and local government officials hold town meeting to decide whether to enforce or rescind its ordinance restricting spent fuel shipments through the Town of Maiden Rock.
January 25, 1985	Wisconsin's request for a temporary injunction (cited above) is denied.
January 24, 1985 (About)	Maiden Rock, Wisconsin notifies the U.S. District Court, State of Wisconsin, that it will not enforce its ordinance restricting spent nuclear fuel shipments.
March 4, 1985	The NSP/DNR conflict continues.
April 5, 1985	The Attorney General, State of Illinois, advises media that Illinois has submitted comments to the NRC in support of the petition for proposed rulemaking submitted by the State of Wisconsin in December 1984.
June 6, 1985	Judge Charles Jones, Dane County Circuit Court, grants summary judgment to NSP.
August 1985	The Illinois Safe Energy Alliance (ISEA) files a 10 CFR § 2.206 petition with the NRC requesting the Commission to prepare a full federal EIS on the General Electric Morris Operations storage facility.
Late October 1985	News article in the Aurora, IL, Beacon-News cites the nearly 1-year continuation of the Monticello campaign and the continuing controversy over the spent fuel shipments.
November 1985	The NRC denies the Illinois Safe Energy Alliance petition.
April 14, 1986	The Wisconsin petition to the NRC (Dkt-PRM-71-10) for proposed rulemaking affecting regulation of spent fuel transport is still under staff consideration.

Table 3-4. Issues and Concerns Characterizing the Monticello Campaign

Basic Issue/Concern	Action	Parties Involved	Resolution Mechanism
1. State officials voice concern about the adequacy of emergency preparedness and response measure to be taken by shipper of SNF through State of Wisconsin.	<ul style="list-style-type: none"> o State attempts to enforce requirement for submission of certain emergency management procedures by prospective shipper (utility) as a pre-condition for approval to ship SNF through the State. Issues administrative order banning shipments until a satisfactory spill prevention and mitigation plan is submitted by utility seeking to ship SNF through the State (obtains temporary restraining order - TRO). o Utility initiates legal action seeking removal of TRO. o State asks NRC to intervene; Request denied o Actions by utility and State lead to litigation in District Court concerning the legality of States administrative ban and requirement of spill prevention and mitigation plan as a condition for shipment approval. 	<p>Utility - Northern States Power Company Wisconsin State Government Officials: Dept. of Natural Resources, Governor, Attorney General etc.</p> <p>NRC (indirectly)</p>	Court declares state administrative order unconstitutional. Grants summary judgement to NSP
2. Local government voices concern about SNF shipments through jurisdiction without some local control relating to:	<ul style="list-style-type: none"> o Local government debates whether to enforce a restrictive SNF transport ordinance after ordinance is violated with initial shipment of SNF. o Utility continues to ship, but also initiates legal action seeking to have restrictive ordinance declared invalid. 	<p>Utility - NSP; Local Government - Town of Maiden Rock, Wisconsin</p>	Town of Maiden Rock declines to seek enforcement of restrictive ordinance
3. State of Wisconsin expresses concern about several aspects of regulation of SNF transport, alleging that the current regulatory process (among other things) does not:	<ul style="list-style-type: none"> o State of Wisconsin petitions the NRC with a notice of proposed rulemaking related to regulation of spent fuel transport. o NRC docket the petition and initiates a formal review and determination of findings process. 	State of Wisconsin, NRC,	NRC will issue official findings and render a decision on the petition in 1986. The results will be published in the Federal Register.
<ul style="list-style-type: none"> - provide an opportunity for public participation in evaluation and approving proposed SNF shipment; and, - provide for the determination of the need for a particular shipment of SNF. 			
4. Illinois Public Interest Group voices concerns about the environmental acceptability of Morris Operations as a SNF storage site.	<ul style="list-style-type: none"> o ISEA submits 10 CFR 2.206 petition seeking among other things the preparation of an EIS for the General Electric Morris Operations facility. o NRC docket the petition and begins formal review and determination process. 	<p>ISEA, NRC (Morris Opns - indirectly)</p>	NRC denies the ISEA petition.

The issues of the Monticello campaign are analogous to the issues characterizing the West Valley to Oyster Creek campaign. For example, in each of these campaigns: (1) a state agency attempted to impose state rules and requirements on an activity regulated exclusively by federal regulations and (2) a local government attempted to enforce a locally enacted restrictive transport ordinance. The Wisconsin DNR's requirement for a spill prevention and mitigation plan from NSP (detailing, essentially, what the utility planned to do to avoid an accident involving a potential radioactive spill, and, what it planned to do if one occurred) as a condition for transport, is analogous to the requirement the New Jersey Turnpike Authority sought to impose on GPU/JCP&L.

3.1.3.1 Wisconsin Issues and Concerns: Spill Prevention and Mitigation Plans

In an interview conducted with Wisconsin officials representing the DNR and Office of the Governor, it was explained (in response to written questions) that the State did not enter frivolously into negotiations with NSP over submission of a spill prevention and clean-up contingency plan. The issuance of the DNR administrative order on January 2, 1985, establishing submittal of emergency planning data as a condition for continuance of spent fuel shipments, was not meant to be anti-NSP nor anti-nuclear. The order's intent was well-meaning and was to provide DNR (according to Bureau of Environmental Impact personnel) some additional assurances on minimizing potentially adverse environmental impacts, in the event of a transport incident resulting in radioactive substance release (Wisconsin DNR, 1985).

The DNR spokesmen also noted the government (State and local) and public concern about safety of shipments from Monticello, since the approved rail route passed through a portion of an upper

Mississippi River fish and wildlife refuge. The Monticello shipments, possible future repository shipments (assuming the first repository is located in Hanford, Washington), and other hazardous materials transport through this upper river area pose threats to the refuge. The State and its populace are determined to protect this refuge through any means legally available. The reaction of the public and governmental officials was considered a natural response "to the inherent dangers in spent fuel transport" by DNR spokesmen.

State officials and NSP had an amiable relationship prior to the contingency plan controversy. In fact, the State had given NSP an award for excellent services provided and civic interest exhibited. As negotiations on contingency planning continued, however, State officials began to believe the actions of the negotiators might have been directed by upper management. For example, NSP used public relations personnel (rather than technical personnel) to conduct negotiations on spill prevention and mitigation plans. This approach hampered meaningful negotiations in Wisconsin State's viewpoint; State personnel believed the utility was not negotiating in good faith. Further eroding good faith in NSP, was the continuation of spent fuel shipments from Monticello (after the court lifted a temporary restraining order the State had secured on January 3, 1985), while negotiations continued. Recent (April 1985) media coverage on Monticello spent fuel shipments indicate continued controversy after nearly a year of shipments. DNR officials indicated that the public is reacting to an apparent breach of faith by NSP.

The original NSP schedule for the series of shipments of spent fuel from Monticello to Morris was to be over a 5-year period, requiring approximately six train shipments (two casks per shipment) scheduled annually. Owing to economic priorities, and since the NPPD Cooper Station was down for repairs, NSP accelerated shipments such that more than 50 percent of the planned shipments were completed in less than 1 year.

DNR did not attempt to impose the requirement for submission of spill prevention and mitigation plan data (from 1983 to 1984) on WEPCO SNF shipping campaigns (Morris Operations and West Valley to Point Beach), while awaiting the outcome of Supreme Court action on the NYDOH versus U.S. DOT case. The Supreme Court opted not to review the Appellate Court decision relating to State and local government regulation of radioactive waste transport (in February 1984); DNR then imposed its spill prevention and mitigation plan on all spent fuel shippers. (DNR, however, did not impose the order on WEPCO, a domestic corporation, and the shipper of record in each of the cited 1983 to 1984 campaigns; however, the two campaigns had commenced prior to the Supreme Court action.)

The June 1985 Dane County Circuit Court decision held that the Wisconsin DNR lacked authority to impose Order 2A-84-1246. Wisconsin officials nonetheless were concerned about the Monticello shipments, but realized they could do little to exert influence under existing regulations. A spokesman from the Office of the Governor added that the State had decided to take a different approach in showing its concern for spent fuel transport by directly petitioning the NRC for rule changes (Wisconsin DNR, 1985).

3.1.3.1 Wisconsin Petition to NRC (State Viewpoint)

Wisconsin DNR officials felt the State had indirectly made room for storage of Monticello fuel at Morris by agreeing to the return of spent fuel from Morris to Point Beach. Yet, Wisconsin is denied the opportunity to obtain additional assurances from the shipper regarding emergency management procedures in the event of an incident in 30 shipments over 5 years. The State spokesman also expressed that federal regulators, unintentionally, gave incorrect information to the public on those agencies actually in charge of spent fuel transportation. State officials suggested that the overlapping regulatory authority held by DOT and NRC with respect to spent fuel transport, tends to give the appearance that no single Federal agency is in charge.

Wisconsin accepts the NRC mandate from Congress to ensure the safety and security of fuel shipments, but believes NRC also should determine the need for shipments, holding that if the NRC does not determine shipment need, the State officials would like that responsibility and the authority to fulfill that responsibility, assigned to the State (Wisconsin DNR, 1985; Wall Street Journal, 1985).

3.1.3.1.2 Refusal to Submit Data and Other NSP Comments (NSP Viewpoint)

The NSP position (see details in 3.1.2) on spill prevention and mitigation plan data includes the claim that some emergency response planning data were submitted. The refusal to submit a worst-case scenario was based on the belief that the DNR order was unconstitutional and inconsistent with federal regulations governing spent fuel transport.

In an interview in October 1985, NSP provided information on the breakdown in negotiations between the utility and Wisconsin State agencies which resulted in court litigation when the temporary restraining order was obtained on January 3, 1985. Utility officials described personality clashes between NSP and State personnel, once NSP let it be known it would not submit worst-case scenario response planning data.

NSP claims they asked Wisconsin agency officials* if local governments along the approved route wished NSP assistance in emergency preparedness and response training; NSP was told by agency officials that they did not. NSP personnel subsequently made a

*The particular Wisconsin state agencies are not identified here; and, because these State personnel were not interviewed, no State reactions to the NSP viewpoint are provided.

special effort to contact local government officials (particularly at the county level) concerning utility-sponsored emergency preparedness and response training and discovered that these people did wish our assistance, claims a utility spokesman.

The comparatively few protest activities and issues in Minnesota (compared to other States affected by the fuel shipments) were accredited to NSP's public relations campaign and the state acceptance of federal regulatory responsibility and authority for transport of spent fuel. There were a few bills introduced in the Minnesota legislature that were restrictive or anti-nuclear, but they were never enacted. One such bill would have caused an 1800 percent increase in spent fuel transport costs had it become law, officials claimed. NSP officials, however, advised that Minnesota does have an active rail shipment ordinance which requires a \$1,000 per cask per shipment transport fee. The utility complies with this State regulation and does not contemplate challenging it as unconstitutional, inconsistent, or in conflict with other federal statutes applicable to spent fuel transport (Bushee, Bizzano et al., 1985).

As a result of the out-of-court settlement with General Electric (GE) over "buy-back" provisions of prior contracts, GE defrays the cost of spent fuel transport from Monticello to Morris. GE ownership of IF-300 casks and cask availability probably (according to NSP officials) contributed heavily in GE's preference for rail in lieu of a truck transport mode. According to NSP, Burlington Northern (BN) and Elgin, Joliet, and Eastern (EJE) railroads required assurances from the utility of insurance coverage, specifically for radiological incidents. The railroad agreed with NSP that Price-Anderson coverage was adequate to cover transportation-related incidents involving adverse radiological impact. NSP also provided special assurance to EJE officials that the weight of the rail shipments of spent fuel would not exceed the weight capacity of a bridge on the approved route (near Morris, Illinois). The bridge in question previously had been damaged when struck by a barge.

According to NSP officials, the Federal Railroad Administration (FRA) performed inspections at least once during each shipment. State agencies (Departments of Health, Transportation, and Nuclear Safety or equivalents) inspected at state borders, and a utility health physicist rode along on all fuel shipments to provide radiological support. NSP noted that the railroads, BN and EJE, approached the transport of spent fuel the same way they approach the transport of any other industrial commodity.

3.1.3.1.3 Summary

Wisconsin State officials confirmed in interviews that they monitored the progress of the New York DOH versus U.S. DOT litigation until February 1984, when the Supreme Court refused to review the Appellate Court ruling that Federal law governing spent fuel transport preempts State law. Even if State officials reasoned beforehand that the Wisconsin ban on Monticello shipments would not hold up in court, the concern for plans for spill prevention and mitigation of environmental impact in the event of a spill in an environmentally sensitive transport corridor led the State to insist on submission of emergency response data.

Whether or not the actions of Wisconsin DNR officials were strictly to halt nuclear waste transport, the issue was resolved quickly through legal channels. States and lower political subdivisions continue to challenge the supremacy of federal regulations and laws governing spent fuel transport even though the number of legal precedents applicable to such situations suggest they will not be successful. However, action by State and local governments notify the federal regulatory system that participation in the regulatory process is desired.*

*In October 1985, Wisconsin was in the process of adopting the U.S. DOT regulations governing spent fuel transport. This policy is encouraged by U.S. DOT. More state governments may see in federal regulation adoption a means of obtaining more control and authority in the regulation of spent fuel transport in their jurisdictions.

It is clear that spent fuel shipments subject to DOT and NRC authority cannot be halted by State and local government rules and regulations if those rules are legally challenged. Shippers and carriers, however, do not always challenge State and local rules and requirements. NSP complied with Minnesota's active rail shipping ordinance, which requires a \$1,000 per cask per shipment transport fee. So, in the Monticello to Morris campaign, NSP used the full power of federal regulations and statutory authority to avoid compliance with Wisconsin's attempt to impose State requirements in a federal regulatory domain, yet did not challenge state regulations in its home state.

Apparently, the payment of transport fees imposed by State officials is a minor inconvenience, and utilities prefer compliance rather than confrontation.* Voluntary compliance with State transport fees for spent fuel transport may be viewed as a form of accommodation (of State interests) by shippers and carriers. Federal regulators might consider addressing this matter, particularly as the practice could be cited as inconsistent application of federal regulations by State Officials.

Based on assessment of interview comments and news articles, it is highly probable that the Wisconsin petition to the NRC for proposed rulemaking affecting 10 CFR Parts 71 and 73 was submitted primarily as a result of:

- o DNR's failure to reach a satisfactory agreement with NSP on submission of spill prevention and mitigation plan data after 6-1/2 months of negotiation; and,

*Not in all cases. In May 1985, WEPCO filed an application for an inconsistency ruling to DOT challenging an Illinois state provision that assesses a fee of \$1000 per cask for spent fuel shipments through the State (FR 45187, October 30, 1985).

- o Overall concern by state officials, the general public and Indian tribes residing in the State for the selection of Wisconsin as one of seven States (selected by DOE) for consideration as a candidate site for the second geologic repository for nuclear waste.

Given the existing statutory framework governing spent fuel transport, it does not appear likely that any of the amendments to 10 CFR Parts 71 and 73 proposed by Wisconsin officials will be approved.

Probably, no steps could have been taken to avoid litigation between NSP and the State of Wisconsin and the submission of the petition to NRC. In the NRC petition, a number of unfounded allegations on the role of the NRC as a regulatory authority for transport of spent fuel are made. For example, the Commission is cited for "not evaluating the need for the shipments," which is clearly not one of its responsibilities under the specified parts of the governing regulations (Federal Register, 1985).

Related to the petition submittal is the litigation between NSP and Wisconsin authorities. Given the time period between initial announcement of plans by NSP to ship, in April 1984, and issuance of the restrictive state order in January 1985, Wisconsin officials had ample time to make inquiries and express their concerns about the proposed shipments to the proper federal authorities (the NRC, DOT, and FEMA). Wisconsin officials were sufficiently experienced with the regulatory framework for hazardous materials transport to have known that the DNR order was unconstitutional and, therefore, unenforceable.

Wisconsin officials also submitted the petition for proposed rulemaking affecting regulation of spent fuel transport prior to the Dane County Circuit Court deliberation and final opinion on the legality of the DNR order. This action gives further support to the contention that the two actions (issuance of the administrative order and submission of the petition to NRC) by Wisconsin officials, and

their timing, were part of an overall effort to show concern for a comparatively large volume of spent fuel movement through the State.

The concern of Wisconsin for selection as a second repository site probably also suggests that here, as in other states and regions directly or indirectly affected by contemporary spent fuel transport and NWPA implementation simultaneously, there is evidence of presence of the NIMBY syndrome.

Reiterating, Wisconsin's reaction, particularly the petition submittal, is a familiar reaction for a jurisdiction subject to relative high volume contemporary spent fuel transport and to the future prospect of being a host state for permanent disposal of spent fuel and high-level nuclear waste. One New York government official stated during post-campaign interviews conducted concerning the West Valley spent fuel campaigns:

We (state officials) react to our constituents' expressions of concern regarding the safety of federally regulated nuclear waste transport, whether their concern is real or perceived (Devito, 1985).

There is probably little federal authorities can do to prevent the emergence of issues of this sort, save the continued exercise of public information programs that are already being administered by the utilities and federal regulators of spent fuel transport. These efforts are now being included by DOE outreach programs.

3.1.3.2 Maiden Rock Restrictive Transport Ordinance

Appendix E describes the Maiden Rock, Wisconsin, spent fuel issue. The restrictive ordinance enacted by the township, and knowingly violated by NSP in its first shipment had been proposed by a State politician. Maiden Rock officials hastily enacted its

restrictive ordinance, using the model ordinance that was being touted by the campaigning politician. The end of the ordinance as an issue came following the show of no state-support for Maiden Rock concerns. In January 1985, the Wisconsin Radioactive Waste Review Board failed to recommend that the State Attorney General assist the town in responding to the legal complaint filed by NSP, challenging the legality of the ordinance.

The Maiden Rock/NSP conflict, like the Lacey Township/JCP&L conflict, is another example in which resorting to legal action is the more expedient and efficient way of resolving the issue of locally enacted spent fuel transport ordinances. Swift legal challenge in addressing hastily enacted restrictive ordinances gains further overall public acceptance of federal control of hazardous waste transport than does negotiation and accommodation.

3.1.3.3 Public Interest and Environmental Groups

Noted in Appendix E, midwest-based public interest and environmental groups were also active in expressing issues and concerns about Monticello to Morris rail shipments. Representatives of two of these groups were interviewed:

- o Minnesota Public Interest Research Group (MPIRG): a nonprofit, student-directed corporation that works for improvement and citizen participation in the areas of energy, environmental quality, consumer affairs and governmental accountability according to a MPIRG spokesman and legal counsel (MPIRG, 1985); and,
- o Illinois Safe Energy Alliance (ISEA): a coalition of grass roots groups whose overall purpose is educating the general public about electrical utility issues - not just nuclear activities and issues, but various forms of power generating systems activities; ISEA's focus is on overall energy planning in the public interest, in terms of an integrated viewpoint (ISEA, 1985b).

Both MPIRG and ISEA are members of the Radwaste Transport Coalition, a multistate (Minnesota, Illinois, and Wisconsin) regional coalition that monitors the safety of high-level waste transport. A very large percentage of the MPIRG membership is composed of college students, but also includes retirees and professionals. Summaries of the key concerns and issues raised by these groups over the Monticello (and Cooper Station) campaign follow.

MPIRG's basic complaints and concerns on the Monticello spent fuel rail shipments centered on (B. Johnson, personal communication):

- o Perceived inadequate testing of spent fuel casks;
- o Whether emergency preparedness and response capability along the rail transport corridor is adequate;
- o Whether the safest route has been chosen; and
- o The need for the fuel shipments.

The cask testing issue was similar to that previously discussed (destructive testing) and is not discussed here. The emergency preparedness and route issues were addressed in the previous sections--NSP and the Wisconsin DNR. The final issue--the need for spent fuel shipments--drives the MPIRG Radwaste Project.

Before the Monticello campaign began in November 1984, MPIRG announced through public education and other information dissemination activities that the alternatives of shipment to Morris Operations or on-site dry storage at Monticello were public policy questions which deserved public debate. The MPIRG position favors on-site dry storage in lieu of transport to an away-from-reactor (AFR) storage facility as a means of addressing the utility's need for full-core reserve storage capacity.

MPIRG spokespersons indicated that at various times before and after the start of the Monticello campaign, NSP cited the following reasons and/or justifications for the fuel shipments:

- o AFR storage is needed to extend the useful life of the Monticello reactor beyond the early 1990's;
- o A purely business decision based on sound economics (i.e., in contrast to the alternative of on-site dry storage); and,
- o The force of an out-of-court negotiated settlement with General Electric's Morris Operations.

According to MPIRG, NSP indicated (in open hearings or through their public relations staff) that on-site dry storage of 1058 fuel assemblies at Monticello would cost approximately \$17 million to \$24 million, much more than the cost of transport to and storage at Morris Operations. But MPIRG claims that through amortization, the total cost of on-site dry storage of the spent fuel scheduled for transport, could have been borne by the rate-payers at an estimated cost of \$1.00 per customer per year, over a 10-year period--a better alternative to the movement of spent fuel from Monticello to Morris. Because the question as to whether the shipments were really necessary has the public interest at stake, it should be openly debated.

Other comments obtained during the MPIRG interview were:

- o Although MPIRG was not involved in the NSP/General Electric contractual and out-of-court negotiations over storage of Monticello spent fuel, it considers the arrangement invalid because the original reason for fuel acceptance no longer existed. (That arrangement virtually forced GE to accept NSP fuel that was originally earmarked for reprocessing.)
- o MPIRG disagreed with the NSP claim that a massive and effective public information program was conducted for the Monticello campaign. The Group cited NSP's refusal to debate the issues in a public forum and suggested that their information dissemination activities were more public-relations oriented than public informing.

- o MPIRG indicated that the Minnesota Department of Health (DOH) seems to be doing a creditable job in monitoring and inspecting the fuel shipments, despite recent evidence that NSP was shipping fresher (higher radioactivity) fuel. MPIRG spokespersons stated that they have had no problems obtaining official inspection reports on the shipments. They produced a copy of one report covering the 12th shipment (June 26, 1985) which contained a radiation reading nearly exceeding the 10 CFR § 71.5(a)(2) limits for one particular survey area of the cask. They pointed to an apparent explanation and waiver of one particularly high radiation reading as proof that NSP was shipping fresher fuel and cited the accelerated pace of the originally announced 5-year shipping campaign as the reason for the appearance of high radiation readings.
- o MPIRG supported the Wisconsin DNR in its legal struggle with NSP over submission of a spill prevention and mitigation plan based on a radioactive spill during rail transport. The Group filed a friend-of-the-court brief on behalf of the defendant (MPIRG, 1985).

ISEA has concerns similar to MPIRG's. For example, ISEA strongly believes that there is insufficient attention paid to State and local comments, particularly in Illinois, on decisions made about initiating transport of spent fuel. "In particular, there is a definite lack of input by public interest groups like ISEA, and this should not occur," complains R. Zalman the Chicago-area co-chairperson of ISEA. Because of this, ISEA's spokesperson stated they spend most of their time in:

- o Educating the public about the fuel shipments;
- o Participating in spent fuel transport litigation where possible; and,
- o Supporting other activities with the primary objective of ensuring that decisions involving spent fuel transport are made in the public interest.

An ISEA verbal assessment of the NSP public information program indicated it was more a public relations, company-oriented exercise, rather than a public education effort. The ISEA director, Zalman, added that a similar assessment does not apply to the Morris Operations public information activity. G. Voiland, Chief, Morris Operations, in particular, was cited and commended by ISEA for public information activities (which Zalman noted as definitely educational). ISEA believes there should be more activity of this type.

Most of the Alliance's criticism relating specifically to the Monticello (and Cooper Station) fuel shipments were directed toward State authorities. ISEA does not fault NSP for slanting its public relations activities in the utility's favor. Instead, the Alliance criticizes the Illinois State government, because, as Zalman contends,

State officials also have a responsibility to develop and implement a comprehensive public information program concerning spent fuel transport and storage, but have fallen down on the job.

This situation, according to Zalman, gives the impression of complicity between State officials and the utilities, because some citizens view the inaction of State officials as being the result of utility lobbying efforts. The alleged out-of-tolerance radiation measurement recorded on one of the inspection reports for a Monticello rail shipment was cited as one example of laxity.* "Even if the alleged reading did not exceed standards, our State personnel still should have come forward with a voluntary explanation of the near discrepancy," claims the ISEA spokesperson.

*Minnesota DOH and Illinois DONS personnel performing radiological monitoring of Monticello spent fuel shipments acknowledged the MPIRG assertion that the latest shipments of spent fuel appeared to have had higher radioactive content (a statement corroborated by NSP), but all readings were still within federal standards (Beacon-News, 1985).

To improve the public's confidence in Federal and State agency competence in regulating spent fuel transport, the ISEA spokesperson (R. Zalman) suggested eliminating apparent deficiencies in State organizations with respect to nuclear matters. Illinois, unlike many States, does not have a radioactive waste review board. The Illinois DONS is the only official State agency to appeal to when concerned about radwaste transport and associated issues. The ISEA believes Illinois DONS and DOT are staffed with well-trained and competent personnel; however, effectiveness of their assistance and education programs administered with local governments is uncertain. Alliance officials acknowledged that DONS did contact and coordinate with State hospital personnel on radiological safety, preparedness, and response in the event of an incident involving the Monticello shipments.

The ISEA co-chairperson indicated that the recent submission of a 10 CFR § 2.206 petition to the Commission is one way Alliance members believe they can react to state lethargy in advising residents about nuclear activities on-going in the State (ISEA, 1985).

The MPIRG issue for public debate on decisions about spent fuel transport would have substance if the Commerce Clause and other statutory provisions governing spent fuel transport did not exist. These statutes do not require public debate for initiating spent fuel transport and probably not for transport of other hazardous materials.

The safety and security issues raised by MPIRG and ISEA are covered in the enabling legislation and Federal regulations. Further, either of the reasons cited by utility officials (or a combination thereof), is sufficient justification for implementing the Monticello campaign. The inference that the utility was being devious in stating a number of reasons for the fuel shipments appears unfounded. Utility officials know that public debate of the basis for transport is not required (or encouraged) by statutes.

The right to dissent with perceived deficiencies in the legislation governing spent fuel transport is also supported by statutory provisions. MPIRG, therefore, may rightfully raise the issue related to determining the need to transport spent fuel (or alternatively, publicly debating decisionmaking involving start of transport), as part of its program of informing the public on energy issues. The MPIRG complaint however, would be more appropriately addressed to a congressman contemplating introduction of proposed legislation* affecting transport of spent fuel.

At times, public interest and environmental group spokespersons in their adversarial role with the nuclear technologist (and as monitors of government accountability), wrongly implicate federal regulators of complicity with the regulated. For example, utilities have a right to factor economic priorities into decisions made relative to spent fuel transport. The federal regulators could ignore this type of criticism. NRC and DOT public information dissemination programs should be examined to ensure adequate explanations of the NRC and DOT regulatory roles in relation to rights guaranteed to the nuclear industrialist under the Commerce Clause of the U.S. Constitution.

3.2 COOPER STATION TO MORRIS OPERATIONS

3.2.1 Introduction

The Cooper Station to Morris Operations spent fuel shipping campaign was originally scheduled to start in fall 1983, but did not begin until summer 1984. Nebraska Public Power District (NPPD) completed the first and only shipment from Cooper Station on August 21 and 22, 1984. Following this incident-free, 3-cask rail shipment

*Appendix J contains a summary of legislation pending in the 99th Congress with applicability to spent fuel transport.

of 54 boiling water reactor fuel assemblies, Cooper Station shut down for preventive maintenance and repairs that lasted over 6 months. NPPD resumed spent fuel shipments to Morris in December 1985 and are contemplating continuance of fuel shipments throughout 1986 (Ingel, 1986a).

Table 3-5 lists and Figure 3-2 shows the route to Morris. Approximately 182 metric tons of uranium (1054 boiling water reactor fuel assemblies) were to be removed from Cooper Station. Approximately 270 of the 1054 fuel assemblies scheduled to be transported over a 5-year period have been shipped. Operationally, the campaign is very similar to the Monticello campaign.

Up to now (April 1986), there has been no major conflict over issues involving spent fuel transport comparable to that occurring in the Monticello campaign. For example, there has been no litigation between principals involved in the shipping activity nor have there been any petitions submitted to the NRC or DOT opposing some aspect of the Cooper campaign (excluding the ISEA 10 CFR § 2.206 petition relating to the Morris facility). However, during the campaign planning stages, there was organized opposition to the fuel shipments. When the Cooper campaign resumes, there is good reason to assume that ISEA will continue to voice concerns similar to those expressed for Monticello fuel shipments.

3.2.2 Significant Events

Shipments made since the initial 3-cask shipment in August 1984 were at the normal 2-casks (36 BWR fuel assemblies) per train shipment level. Thus, there have been seven incident-free rail shipments of spent fuel from Cooper Station to Morris (Ingel, 1986b). A chronology of events and issues characterizing the Cooper campaign follows in Table 3-6. A more detailed description of events is provided in Appendix F.

**Table 3-5. Cooper Station Nuclear Power Plant to Morris
Operations Campaign--Supplementary Detail**

Owner/Shipper:	Nebraska Public Power District (NPPD), Columbus, NE
Generating Reactor:	Cooper Station Nuclear Power Plant - Brownsville, NE
Shipper's Agent:	General Electric
Carrier(s):	Burlington Northern (BN) and Elgin, Joliet and Eastern Railroads (EJE)
Cask Type:	IF-300 (NRC Certificate of Compliance No. 9001) <ul style="list-style-type: none"> o Capacity - 18 boiling water reactor (or 7 pressurized water reactor) assemblies o Loaded Weight - 63.5 tons o Transport Mode - Rail
Total One-Way Trip Mileage:	616.2 (per NRC Approved Rail Route)
Projected Shipment Frequency:	6/yr @ (2 to 3 rail casks/shipment or 36 to 54 BWR fuel assemblies/ shipment)
Total Number of Shipments:	30 (Estimate)
Total Number of Shipments (through 1985):	4 (162) boiling water reactor fuel assemblies)
Total SNF-Shipment Miles (through 1985):	616.2 mi/shipment x 4 shipments/ campaign = 2,464 mi/campaign
Total Metric Tons of Uranium - Miles (through 1985):	616.2 mi x 4 shipments/campaign x 182 MTU/30 shipments/campaign = 14,953 MTU mi

Road Transport Route	Distance (mi)
<hr/>	
<u>Nebraska</u>	
1. Brownsville to Cooper Spur	2.5
2. Cooper Spur to Pacific Junction	144.3
Subtotal	146.8
 <u>Iowa</u>	
3. Pacific Junction to Burlington	279.0
Subtotal	279.0
 <u>Illinois</u>	
4. Burlington to Eola	158.0
5. Eola to Morris	32.4
Subtotal	190.4
Total	616.2

**Figure 3-2. Cooper Station to Morris Operations Spent Fuel Rail Route
(Walsh, 1983)**

Table 3-6. Significant Events--Cooper Station to Morris Shipping Campaign

Early 1982	An out-of-court settlement involving buy-back clauses in fuel contracts between GE and NPPD paved the way for initiation of plans to ship in 1983.
August 1982	Nebraska State Legislature conducts hearing on interim study on NPPD's plans to ship spent fuel.
August 1982	White paper issued by a coalition of groups to inform public of spent fuel shipments through their areas. NPPD responds with counter white paper followed by a Sandia report.
January 1983	Rail route approval requests submitted in 1982 are approved by the NRC without comment.
August 21, 1984	First and only shipment leaves Cooper Station for Morris Operations.

3.2.3 Discussion of Events and Issues

The Cooper Station campaign has not been characterized by litigation, the enactment of restrictive transport ordinances, nor the submission of 10 CFR § 2.206 petitions in opposition to fuel transport. There is no conclusive proof that the public information activities sponsored by NPPD, such as the rebuttal white paper, are responsible for the reduced level of conflict arising over institutional issues. The Cooper campaign is possibly the recipient of benefits of effective issue resolution of previous campaigns.

NPPD's public information dissemination campaign may have been quite effective in reducing public concern over the Cooper Station campaign. For example, in its news releases, in testimony before the State legislature's Agriculture and Environment Committee, and in its white paper, the utility was forthright in stating that the impetus for the fuel shipments was an out-of-court settlement, which had received the approval of a Federal District Court judge. This was followed by an explicit statement that shipping the fuel would permit the Cooper facility to remain operational through the term of its operating license. The alternative, advised the utility would be an earlier closing of the reactor facility. Finally, utility officials cited Cooper Station as providing the cheapest supply of electricity on NPPD's total system, with the exception of hydro-electric facilities (NPPD, 1982). The candor and forthrightness which the NPPD exhibited in disseminating information about the Cooper shipments, and the manner in which it appealed for public acceptance of its belief in the safety and need of the shipments, are well founded and probably are the reasons that there has been no major issue or conflict between parties over the Cooper shipments.

3.3 CHALK RIVER TO SAVANNAH RIVER CAMPAIGN

3.3.1 Introduction

The Nuclear Assurance Corporation (NAC) operating under an import license issued by the NRC and under a contract with Atomic Energy of Canada, Ltd. (AECL), arranges for transport of spent fuel from Chalk River, Ontario, to DOE's Savannah River, South Carolina, facility. AECL has a contract with DOE for reprocessing nuclear fuel, which is part of an over-all agreement between the United States and Canada for a guaranteed supply of enriched uranium for Canadian research reactors. Despite the DOE-AECL contractual relationship, spent fuel shipments from Chalk River, by virtue of the import license, are subject to the authority of the NRC and DOT (Palladino, 1982; Federal Register, 1984).

Operational details (such as quantity of fuel to be shipped, frequency of shipments, etc.) are functions of annual contractual negotiations between DOE and AECL as shown in Table 3-1. Supplementary operational detail about this campaign is not available; NAC however, advised that casks used are of AECL design, and that the approximate one-way trip mileage range is 1100 to 1325 miles, depending upon which NRC-approved route is used. Tri-State Motor Transit Company is the carrier and the transport mode is legal-weight truck (LWT) (Danese, 1984).

The start of Chalk River fuel shipments predate the West Valley, Monticello, and Cooper Station campaigns with shipments originating prior to 1979. The shipments continued into the 1980s. Prior to 1979, highway shipments of spent fuel from Chalk River to Savannah River entered the United States by way of the Ogdensburg (NY) Bridge across the St. Lawrence River (part of an NRC-approved route). In 1980 however, the Ogdensburg Bridge and Port Authority (OBPA) adopted rules and regulations that banned shipments of radioactive

materials. Concurrently, St. Lawrence County (at the foot of the Ogdensburg Bridge), enacted a ban on commercial spent fuel shipments. OBPA later amended its rules to incorporate the provisions of the St. Lawrence County Law.

Initially, NAC did not challenge the transport restrictions; instead, NAC secured NRC approval in 1981 and 1982 for five alternative routes entering the United States in Michigan, New York, and Vermont. The following chronology (by NAC) presents the 1982 events where NAC attempted to resume the Chalk River campaign utilizing the new route approvals. Note the difference between the Vermont action and the comparable New York action. The latter constitutes an order, whereas, the former appears to be a promise. This difference figured prominently in subsequent rulings by DOT in response to NAC's Application for Inconsistency Rulings.

- o The Michigan Fire Safety Board and Department of Health (DOH) enacted rules governing spent fuel transport that were more stringent than Federal rules; these rules prevented NAC from entering the United States on an approved route through Michigan.
- o The New York Thruway Authority banned spent fuel shipments from Chalk River; Thousand Islands Bridge Authority and Jefferson County, New York, imposed a restrictive permit requirement based on substantial insurance coverage in local regulations for spent fuel transport; this forced NAC to attempt to enter the United States on an approved route through Vermont.
- o Eight of eleven planned shipments through Vermont were permitted until safeguards information was apparently compromised. To preclude possible civil action, the Governor of Vermont asked NAC to interrupt its shipments through the State. Subsequently, the Governor notified NAC that Vermont did not intend to permit further through shipments of spent fuel until such time as the responsible federal agencies established and enforced a uniform national policy regarding such shipments.
- o Following the action by Vermont officials, NAC obtained approval for a sixth route through New York, to complete the remaining shipments in the series. However, prior to use of this route, New York's Governor directed his

emergency management official, D. Devito, to advise NAC to suspend spent fuel shipments through New York pending development of a policy applied uniformly, nationwide, covering transportation of radioactive materials. (Federal Register, 1984)

Following the New York suspension of fuel shipments, NAC could complete only half the Chalk River campaign. In October 1982, NAC initiated its first challenge to the series of alleged restrictive state and local transport regulations, by filing separate applications for inconsistency rulings seeking preemption of:

- o Restrictive regulations enacted in Michigan;
- o The ban on transport of spent fuel enacted by the New York State Thruway Authority (NYSTA);
- o The alleged "suspension order" issued by the Governor of Vermont; and
- o The suspension order issue by the Governor of New York's designee.

NAC did not seek inconsistency rulings with regard to the restrictive regulations enacted by the OGBA, St. Lawrence County, the Thousand Islands Bridge Authority, or Jefferson County. However, as these restrictive regulations were deemed by DOT officials to affect the ability of carriers to comply with the provisions of HM-164, DOT unilaterally elected to consider the issue of inconsistency of these regulations. DOT later initiated an inconsistency proceeding concerning the radioactive materials transport regulations of the Vermont Agency of Transportation, which were adopted soon after NAC filed for administrative resolution of transport restrictions pursuant to 49 CFR § 107. In 1982, DOT initiated proceedings pursuant to 49 CFR § 107 on nine separate applications for inconsistency rulings, IR-7 (State of NY Suspension of shipments) through IR-15 (State of Vermont spent fuel transport rules).

Figure 3-3 depicts the routing conflict in the Chalk River campaign. The DOT administrative proceedings required 2 years, and the Department issued "the most significant and comprehensive rulings to date, regarding transport of hazardous materials by highway" on November 20, 1984 (Economides, 1986). Summarized extracts from the comprehensive and detailed issuance of DOT Inconsistency Rulings IR-7 through IR-15 published in the Federal Register, Vol. 49, No. 229, November 1984, are presented below. The summarized rulings (with some analysis comments) are preceded by selected information from the General Preamble to DOT's inconsistency rulings. These data have been included to help clarify the discussion of inconsistency rulings.

As part of the formal issuance of inconsistency rulings IR-7 through IR-15 (Federal Register, 1984), DOT restated the authority and preemption under the Hazardous Materials Transportation Act (HMTA) as follows:

The HMTA at section 112(a) (49 U.S.C. 1811(a)) preempts...any requirement of a State or political subdivision thereof which is inconsistent with any requirement set forth in the HMTA or regulations issued under the HMTA. Congress did not intend that the HMTA and its regulations, the HMR, preclude entirely, any State or local actions. The HMTA preempts only those State and local requirements that are inconsistent.

To implement the preemption language of the HMTA, DOT incorporated provisions published in 49 CFR Part 107 which cover the issuance of inconsistency rulings. Inconsistency ruling, DOE claims, provides an alternative to litigation for determining the relationship between federal requirements and those of a State or local government. DOT further claims that the determination as to whether a state or local requirement is consistent or inconsistent with the Federal statute or federal regulation is traditionally judicial in nature. On the basis of the judicial character of inconsistency ruling procedures, DOT Materials Transportation Bureau officials

Figure 3-3. Routing Conflict in the Chalk River Shipping Campaign

incorporated case law criteria for determining the existence of conflicts between a federal requirement and a State or local government requirement into its determination proceedings. The criteria are (1) whether compliance with both the non-federal requirement and the HMTA or its regulations is possible and, (2) the extent to which the non-federal requirement is an obstacle to the accomplishment and execution of the HMTA and its regulations.

DOT applied these criteria, termed the "dual compliance" test and the "obstacle" test, respectively, to each of the 15 inconsistency applications prior to issuing its final rulings. DOT indicated that in applying the obstacle test, it is necessary to look at the full purpose and objectives of Congress in enacting HMTA, and the manner and extent to which these purposes and objectives have been carried out through DOT's regulatory program.

The General Preamble to the inconsistency rulings also cites the relationship of 49 CFR Part 177 (HM-164) (Code of Federal Regulations, 1982) Appendix A to DOT's inconsistency proceedings. Appendix A, according to DOT, is not a regulation that imposes obligations to act; rather, it is the Department's interpretation of the general preemptive effect of its regulation on State and local requirements. Appendix A is not determinative in inconsistency rulings pursuant to the HMTA. Appendix A provides that DOT generally regards a state or local government requirement to be inconsistent (with HMTA or its regulations) if it:

- o Conflicts with physical security requirements which the Nuclear Regulatory Commission has established in 10 CFR Part 73 or requirements approved by the Department of Transportation under § 173.22(b) of this subchapter;
- o Requires additional or special personnel, equipment, or escort;
- o Requires additional or different shipping paper entries, placards, or other hazard warning devices;

- o Requires filing route plans or other documents containing information that is specific to individual shipments;
- o Requires prenotification;
- o Requires accident or incident reporting other than as immediately necessary for emergency assistance; or
- o Unnecessarily delays transportation.

The following are summarized extracts of inconsistency rulings (IR) 7 through 15. IR-11 through IR-15 summary extracts are omitted in the interest of report brevity. IR-7 through IR-15 focus on the most significant of issues involved at Chalk River. FR-46632 through 46667 (Federal Register, 1984) contains the complete DOT inconsistency rulings on hazardous materials transportation.

IR-7: New York State; Letter from Governor's Designee Advising Suspension of Spent Fuel Shipments (from Chalk River).

Ruling: Letter from Governor's designee constitutes a state requirement. DOT rules subject letter not to be inconsistent with HMTA.

Analysis: In actuality, the NY letter had advised NAC to suspend shipments of spent fuel through the state specifically via two noninterstate routes in the urban areas of Albany-Schenectady-Troy, which NAC had been using to circumvent restrictions on the use of the New York Thruway. In its comments letter to DOT during proceedings, New York officials pointed to the approved all-interstate route entering Vermont, which NAC had used previous to the route opposed by New York. Applying the "Obstacle Test," Department of Transportation found the New York suspension order presented no impediment to accomplishment and execution of the HMTA.

IR-8: State of Michigan; Radioactive Material (RAM) Transportation Regulations of the State Fire Safety Board (SFSB) and Department of Health.

Ruling: RAM transport rules of the Michigan SFSB and DOH constitute a regulatory scheme which in several aspects is inconsistent with HMTA. The DOT ruling specified certain SFSP and DOH rules to be inconsistent and therefore preempted. Other rules cited were not preempted.

IR-9: State of Vermont; Letter from governor concerning highway shipment of spent fuel through vermont.

Ruling: Letter from the Governor of Vermont does not constitute a state requirement within the meaning of the HMTA. Therefore, the issue of inconsistency with HMTA does not arise.

Analysis: Upon receipt of the Governor's letter, NAC chose to suspend activities in Vermont until the issue discussed in said letter was resolved. DOT determined NAC's action to be a "matter of business judgment," because the letter did not order a cessation of shipments. It only announced the Governor's intent if shipments were continued. Because there was no legal injunction, nothing prevented NAC from continuing Chalk River shipments through Vermont. Thus, the Vermont letter failed the "dual compliance test" and was ruled an invalid state requirement (precluding determination of inconsistency with HMTA).

IR-10: NYSTA restrictions on the transport of RAM.

Ruling: Section 102.1(q) of Rules and Regulations of the NYSTA, which contained a number of restrictions on RAM transport, ruled inconsistent with the HMTA and its regulations and is, therefore, preempted.

Analysis: Section 102.1(q) contained a rule which would permit RAM shipments on the New York Thruway only when NYSTA was properly indemnified for any exposure resulting from the cargo. DOT reasoned that the NYSTA rule denying use of the Thruway to any RAM shipment not offering what NYSTA considers to be proper indemnification, directly results in the diversion of such shipments into other jurisdictions. Because such diversion generally increases overall time in transit, the overall exposure to the risks of RAM transport is increased and exported. For this reason, the NYSTA rule poses an obstacle to the accomplishment of congressional objective in enacting HMTA of enhancing hazardous materials safety.

DOT also found the NYSTA rule posed an obstacle to the accomplishment of the other congressional objective in enacting HMTA of national uniformity in hazardous materials transport regulation. Because NYSTA is not a state routing agency, and did not designate an alternative to use of the Thruway, its restrictive ban effectively blocked use of Interstate System highways without ensuring the availability of alternative-preferred routes.

The DOT rulings IR-7 through IR-10 effectively cleared the way for NAC to resume and complete the remaining shipments in its interrupted series. This was true despite the DOT ruling upholding the New York suspension of spent fuel shipments utilizing segments of non-interstate routes in lieu of available preferred interstate routes. By ruling NAC's claim against the Governor of Vermont invalid (recall the Governor's letter did not constitute a valid state requirement), DOT reminded NAC that it must risk the chance of Vermont officials obtaining a court injunction against spent fuel shipments, rather than relying on DOT to rule a veiled threat as inconsistent with HMTA. The rulings against the Michigan and NYSTA restrictions also revalidated the use of other routes previously approved by the NRC for NAC use in resuming the Chalk River campaign.

As previously stated, NAC was not the applicant in Inconsistency Rulings IR-11 through IR-15, which concerned restrictive RAM transport regulations enacted by the OGBA, St. Lawrence County, the TIBA, Jefferson County, and the Vermont Agency of Transportation. DOT elected to become the applicant in these proceedings. In all rulings, there were findings of inconsistency with HMTA and, therefore preemption; however, in selected cases, certain state and local requirements were not ruled inconsistent nor preempted.

3.3.2 Summary

The proceedings that produced IR-7 through IR-15 provide an administrative deliberative process with a background comparable to the precedential value of the court cases that examined the constitutionality and workability of HM-164. The analyses, particularly the application of the "two-prong" test for inconsistency (dual compliance and obstacle tests) to examine challenges to the federal statute and regulations, provide a view of the regulatory framework that is not readily apparent when consulting the HMR directly.

Besides resolving the issues and conflict characterizing the Chalk River campaign, five of the inconsistency rulings (IR-11 through IR-15) indicate that occasionally, DOT may exercise its authority under 49 CFR § 107.209(b) and issue rulings of inconsistency (and preemption), notwithstanding that application for a ruling has not been filed. Should DOT decide to exercise this option more frequently, it might reduce the sometimes capricious enactment of restrictive transport ordinances by local governments.

Michigan and Vermont officials filed appeals to IR-8 and IR-15 within the 30-day period following issuance of rulings. As of May 18, 1986, DOT had not issued rulings on these appeals.

The action of New York officials in ordering the suspension of fuel shipments over non-interstate highways, "pending development of a policy applied uniformly, nationwide covering transportation of RAM," pointed out that following the "path of least resistance" in conducting spent fuel transport may not always be the better alternative. New York officials obviously well understood HM-164 as shown when they objected to NAC's ignoring potential opposition to its use of preferred routes in Vermont. New York, which has not designated a state routing agency pursuant to HM-164, carefully noted the existence of an available preferred route which was entirely interstate. This route was the NRC-approved route which NAC had previously used; however, NAC decided to use another route upon receipt of the Vermont letter threatening official opposition to use of Vermont highways.

The practice of encouraging and granting multiple route approvals (not just a primary and an alternative) as was done for NAC in the Chalk River campaign, might prove to be effective in mitigating conflict over fuel transport in campaigns with a high shipment frequency or in campaigns of a recurring nature (such as Chalk River to Savannah River). Although 49 CFR 177.825(b) specifies that RAM transport be conducted over preferred routes selected to reduce time

in transit, it may be that routing of spent fuel collectively would be characterized by less conflict if trades are made between: (1) the use of multiple-approved routes through various jurisdictions; and (2) selection of routes to reduce time in transit. In other words, federal authorities might wish to consider instituting the necessary regulatory policy that would address the issue raised by New York officials, who objected to NAC's intent to use New York roads excessively, to complete its last series of shipments in 1984.

It should be noted that Chalk River shipments resumed in 1984 prior to the issuance of DOT inconsistency rulings IR-7 through IR-15. Given that NAC had sought administrative relief from perceived restrictive regulations issued by New York, Michigan, Vermont, and NYSTA officials, and that only two of these applications resulted in rulings favorable to the respective NAC applications, resumption of shipment must be credited to successful negotiation and accommodation. On this note, and in retrospect, the NAC, armed with several NRC-approved routes, demonstrated the power of accommodation, by nearly completing the 1984 series of fuel shipments before having to confront organized opposition to Chalk River shipments.

3.4 SURRY TO INEL CAMPAIGN (NON-NRC)

3.4.1 Introduction

The VEPCO Cooperative Demonstration Program for dry cask storage constitutes the Surry to INEL spent fuel shipping campaign. This campaign began in July 1985 and is currently on-going (as of May 1986). When VEPCO decided (early 1980s) to pursue on-site dry storage of spent fuel as a means of extending the useful life of its Surry reactor facility, it faced imminent loss of full-core reserve pool capacity at Surry by 1987. VEPCO at the same time encountered opposition to its plans to increase storage capacity at North Anna by transshipping Surry fuel to North Anna.

VEPCO, in 1982, joined with DOE in a spent fuel storage demonstration program. This program, using dry cask storage technology, included licensed dry cask storage at VEPCO's Surry facility, and R&D activities at DOE's INEL in support of the licensed program at Surry (Smith and Wakeman, undated).

The INEL R&D project involves three dry storage demonstration casks and approximately 120 spent fuel assemblies to be moved from Surry. The casks were purchased by VEPCO through competitive bid, titled to DOE, and delivered to INEL. The 120 fuel assemblies from Surry which will be titled to DOE at Surry are to be shipped to INEL by highway and stored in the demonstration casks in a controlled storage demonstration. DOE will retain title to the spent fuel following completion of the demonstration and will be responsible for subsequent storage until geologic repositories are operational.

According to utility and DOE officials, the Surry to INEL campaign will provide valuable experience to both DOE and VEPCO in transport of spent fuel under conditions similar to those contemplated under the NWPA. At the same time, it will help VEPCO to address spent fuel storage problems at Surry. The overall DOE-VEPCO Cooperative Demonstration Program also meets the objectives of Section 218 of the NWPA which are:

- o To demonstrate a dry-storage alternative;
- o To determine performance characteristics, economics, and licensability of dry storage options; and,
- o To assist utilities in meeting their own interim spent fuel storage requirements.

3.4.2 Significant Events

The Surry pressurized water reactor fuel assemblies are transported in the TN-8L spent fuel cask, which has a capacity of

three fuel assemblies. Casks are transported by overweight truck; a four-axle tractor, three-axle trailer combination, as was used in the Oyster Creek campaign. There have been concerns voiced about Surry spent fuel shipments, but there has been no official action to halt the shipments (i.e., lawsuits, administrative petitions, etc.). The chronology of events, beginning with the early 1980s events are summarized in Table 3-7. A more detailed description of events is provided in Appendix G.

Table 3-7. VEPCO Demonstration Project Surry to INEL Campaign--
Significant Events

Early 1980s	VEPCO officials encounter opposition to its plan for extending the reactor's useful life.
March 1983	County ordinance ruled unconstitutional; but appealed by the county.
Spring 1984	VEPCO decides to pursue on-site dry-cask storage.
June 1985	After three postponements and a 24-hour delay, the first segment of shipments begins. Fifteen shipments were completed in two segments of 7 and 8 shipments each (3 assemblies per shipment) without major incident. This DOE-managed shipment campaign was routine.
July 1985	An unscheduled stop due to mechanical problems in the tractor occurs.
September 30, 1985	NRC issues letter of approval and a safety evaluation report for the topical report on the Castor V cask, manufactured by a foreign firm, Gesellschaft fuer Nuklear-Service mbH following performance testing at INEL.
November 1985	Route changes in the Surry campaign cause some expression of concern in neighboring Tennessee.
April 1986	The third segment of the Surry to INEL campaign begins.

3.4.3 Discussion of Events and Issues

The Surry to INEL campaign was characterized by many of the same issues and concerns that surfaced in non-DOE managed spent fuel shipping campaigns. The fact that all three counties are served by the same utility system did not matter apparently. VEPCO opted to pursue a feasible but unproven technology in lieu of resisting local opposition to transshipment or increased pool storage. This action by the utility tends to support the efficacy of accommodation and negotiation between institutions involved in decisionmaking or affected by spent fuel transport. More important, the VEPCO initiatives and DOE initiatives in furthering on-site dry storage technology for spent fuel should have significant impact in reducing fuel transport to away-from-reactor storage facilities. This should reduce the number of times that fuel transport becomes an issue.

3.5 BROOKHAVEN TO INEL CAMPAIGN (NON-NRC)

3.5.1 Introduction

Shipments from Brookhaven National Laboratory (BNL) to INEL began around 1954 and continued for 22 years until New York City placed a ban on shipments of that type. Court litigation followed, and in January 1985, after 10 years of federal court litigation, administrative law proceedings, and various other forms of conflict, negotiation, and accommodation, shipments from BNL to INEL resumed. Again shipments were halted, in July 1985, when BNL officials decided to modify the NRC-certified GE-700 cask,* by increasing its capacity

*The GE-700 replaced the DOE-owned MH-1A in May 1985 when NRC and DOT raised concerns over the process by which the cask had been certified. NRC concern over MH-1A certification caused DOT to question the equivalence of DOE and NRC cask certification processes. As a result of the ensuing publicity, DOE/BNL management elected to replace the DOE-certified MH-1A with the NRC-certified GE-700. Subsequently, the decision to increase the capacity was made. The 1985 OCRWM policy initiatives which directed use of NRC-certified casks in spent fuel transport involving OCRWM activities, is not directive upon the DOE/BNL R&D Program (Grimm, 1986).

from 10 to 20 fuel assemblies. The NRC approved the modification in August 1985. New York congressmen had protested use of the GE-700 over the previously used DOE MH-1A cask, which has a capacity of 32 fuel assemblies, alleging that the additional shipments required (due to the smaller capacity), would increase the risk of an accident. DOE spokesmen however, indicated the 3-month moratorium (July to October 1985) was placed on the shipments because the extra shipments would have increased costs (Nuclear Fuel, 1985b).

Despite intervention of the Supreme Court and a recent denial of New York City's application for a nonpreemption determination of its ban on transport of spent fuel through the city, issues and concerns are still being raised by local government officials opposed to the area routing of fuel shipments from BNL. In May 1986, shipments continued over the route shown in Figure 3-4 without incident.

3.5.2 Significant Events

From 1954 to 1976, BNL (operated by Associated Universities, Inc. (AUI)), made 330 shipments of spent fuel without incident. From 1976 to 1985, the campaign was halted over route selection issues; the current campaign has continued without incident although one gap occurred from July to October 1985. Occasional media coverage indicates there is restrained opposition to the shipments by New York City and some congressional representatives. A chronology of the events occurring during the Brookhaven campaign, presented briefly in Table 3-8, are given in detail in Appendix H. A major portion of the information was contributed by D. Schwerner of DOE/BNL during an interview in August 1985.

Figure 3-4. Route of BNL Spent Fuel Shipments (NY Times, 1984)

Table 3-8. Brookhaven to INEL Shipping Campaign--
Significant Events

January 1976	New York City amends its health code to establish a permit requirement for each shipment of specified RAM transported into or through the City.
	The federal government files for a temporary injunction in the New York City requirement. When the injunction was denied, the government sought alternative routes for fuel transport
April 8, 1976	Transport restrictions adopted by Connecticut officials bar route through Connecticut, and last shipment is made.
1977	AUI (BNL) files application for an administrative ruling on the question of whether § 175.111(1) of the New York City Health Code is inconsistent with HMTA, and therefore preempted.
April 20, 1978	DOT, in its first Inconsistency Ruling (IR), rules the New York City Health Code amendment not inconsistent with the HMTA or its present rules, and therefore not preempted.
June 1978	Connecticut authorities enact restrictive transport ordinance affecting spent fuel shipments.
Summer 1978	New London, Connecticut, authorities deny DOE/BNL a permit to make 6 to 15 shipments of spent fuel through the area.
August 1978	DOT initiates rulemaking action on highway routing of RAM under docket HM-164.
January 19, 1981	DOT adopts and issues a Final Rule, HM-164, which establishes, a system of preferred routes for transport of spent fuel, comprising the highways of the Interstate Highway System supplemented by non-interstate highways selected and approved by state routing agencies* as defined in the Final Rule. (HM-164 is codified at 49 CFR §§ 171-173, and 177 and became effective in February 1982.)
March 1981	New York City renews its application for a waiver of preemption of its Health Code.
March 25, 1981	New York City files a complaint in District Court seeking to invalidate HM-164 on numerous grounds.
January 1982	The District Court for the Southern District of New York issues a temporary restraining order against the preemptive effect of HM-164 on the New York City Health Code.

Table 3-8. Brookhaven to INEL Shipping Campaign--
Significant Events (continued)

February 1982	The District Court rules that HM-164 violates both HMTA and the NEPA in its preemption of state and local bans on the transport of spent fuel along highways in densely populated areas.
May 1982	The District Court amends its decision so as to invalidate HM-164 only insofar as it preempts the New York City Health Code.
1983	DOT and intervening nuclear utilities appeal the District Court ruling, citing that HMTA does not require DOT to maximize safety in spent fuel transport but rather authorizes the Department to set acceptable levels of safety for each mode of transport.
August 1983	The District Court ruling is reversed and the validity of HM-164 is upheld in all respects.
August 1983	New York City officials file (1) an appeal of the Appellate Court decision to the Supreme Court and (2) a motion for a stay of the Appellate Court order so that the NYC fuel transport restriction would continue until resolution by the Supreme Court.
November 1983	The District Court, on instructions from the Appellate Court, issues judgment dissolving its injunction against enforcement of HM-164 and dismissing the legal action prohibiting shipments from BNL.
1983	Appellate Court rules that DOT's refusal to consider shipping spent fuel from BNL to Connecticut by barge) (in the context of a national highway routing rule) violated neither the HMTA nor the National Environmental Policy Act (NEPA).
February 27, 1984	Supreme Court elects not to review Appellate Court decision upholding the validity of HM-164 in its preemption of a local ban on highway transport of spent fuel in the densely populated New York City area. Action also lets stand the appeals hearing on HMTA and NEPA.
March 1984	Shipments resume over the route from Connecticut, by ferry, and around New York.
March 1984	NYC officials request guidance on appropriate methodology and data which would be required to support their application for a non-preemption determination (NPD).

Table 3-8. Brookhaven to INEL Shipping Campaign--
Significant Events (continued)

April 1984	Mayor Koch (New York City) requests the Secretary, DOT, to grant the City a temporary waiver of HM-164 insofar as BNL's shipments are concerned, until NYC officials have completed the necessary studies to support their application for an NPD.
December 24, 1984	New York City officials submit application for a waiver of preemption of its Health Code, but with regard to only Subsection (4) of § 175.111(1).
January 1985	DOT docket's NYC's application and publishes a notice and invitation to comment with a deadline of March 1985.
February 1985	DOE resumes spent fuel shipments having advised New York City officials earlier that the Department could not allow the City's negotiation with DOT concerning its nonpreemption application to affect DOE plans for resumption of fuel shipments.
May 1985	BNL replaces DOE-certified MH-1A casks with NRC-certified GE-700 casks.
July 1985	BNL temporarily stop shipping due to increase costs of using smaller casks. BNL officials begin process to modify NRC-certified GE-700 casks to increase capacity.
August 1985	NRC approves modification of GE-700 casks.
September 9, 1985	The DOT Office of Hazardous Materials Regulation issues its first nonpreemption determination--No. NPD-1--and denies New York City's petition for a waiver of preemption of the City's ban on transportation of spent nuclear fuel.
September 1985	Last shipment of spent fuel transported through New York City.
October 1985	Shipments resume. New route uses the Orient Point Ferry to New London, Connecticut, and highway to the Savannah River, South Carolina, site. Appeal filed by NYC official on NPD-1.
As of May 30, 1986	NYC officials motion for appeal of NPD-1 is still under review by DOT counsel.

3.5.3 Discussion of Events and Issues

The chronology indicates that the only issue of the BNL campaign was the route used for spent fuel transport. That issue led to issuance of HM-164 (although it was not entirely responsible for its promulgation). Further, New York City's subsequent challenge of the validity of HM-164, though an unsuccessful exercise for the plaintiff, set the stage for an early and comprehensive interpretation of the HMTA and the HMRs, particularly with respect to the role of states and their prerogatives under the HMTA.

Federal legal officials were particularly pleased that legal decisions following the resolution upheld the administrative nonpreemption and inconsistency procedures and supported the DOT claim that the Department did not violate NEPA by determining in an Environmental Assessment that HM-164 promulgation did not require preparation of an Environmental Impact Statement. Another significant aspect of the resolution is in the Appellate Court decision, which declared that the burden of proof in inconsistency and waiver of preemption proceedings cannot be shifted from state to federal authorities.

The central issue of the BNL campaign--routing--was also addressed by means other than federal court and administrative proceedings. DOT reasoned that "there is no basis to conclude that the nonavailability of an urban Interstate circumferential route is a per se exceptional circumstance such that application of federal routing fails to provide an adequate level of safety." DOT also reasoned that the City's population density argument was based on the consequences of a "worst-case" accident scenario without regard to its probability of occurrence.

Departmental policy pursuant to HMTA is that routing decisions should not be based solely upon a concern for worst-case consequences, but upon all factors which contribute to overall transportation risk. Thus, DOT concluded that New York City had failed to make the necessary threshold showing of exceptional circumstances for which Congress created the nonpreemption remedy. Because the threshold showing was not realized, DOT declared there was no need to consider the two statutory criteria (burden of proof elements), and no justification for granting extraordinary relief in the form of a waiver of preemption. DOT also noted in its ruling that its denial of a waiver of preemption did not preclude the City from seeking the relief it desires (rerouting of fuel shipments) by exercising its prerogatives under HMTA provisions for state designation of alternative-preferred routing.

The evidence shows that negotiation, accommodation, and coordination between principals on both sides of the issues characterizing the BNL campaign contributed to bringing about the relatively quiet resumption of shipments following the 10 year impasse. Even the NRC, which has no jurisdiction in the BNL campaign (save its involvement by virtue of BNL electing to use the NRC-certified GE-700 cask) was involved in behind-the-scenes coordination and accommodation. A BNL spokesman indicated that the route now used for shipments (refer to Figure 3-4) was suggested by NRC officials (New York Times, 1984).

Several concessions were requested by New York City and area congressional representatives following the Supreme Court entrance in the conflict in February 1984. Some concessions were granted and others denied, as the imminence of shipments required that New York City officials broaden negotiations with federal officials in the interest of airing New York City views with respect to site-specific safety considerations and other concerns. New York City and BNL officials were able to effect a formal agreement involving expansion

of fuel-storage racks at BNL (with partial funding by the City) in return for further delay in resumption of shipments, even before submission of the City's Non-Preemption application.

A BNL spokesman* (in an August 1985 interview focusing on institutional issues) commented that the highly visible aspect (location) of the Laboratory, has contributed to the controversial nature of the BNL campaign:

Because of the high visibility, BNL officials have been very careful in fashioning and implementing the Laboratory's public information program. For example, at BNL we have always attempted to be completely open, and in constant contact with public officials and the media in New York, New Jersey, and Connecticut concerning fuel shipments out of the Laboratory. We knew that once shipments resumed that they would not be passing through Connecticut (because of HM-164), but we included Connecticut officials in our information dissemination loop and briefed them as well.

Under the BNL public information program, Laboratory personnel briefed emergency preparedness and response personnel, highway patrol personnel, environmentalists, health and transportation personnel at the state, county, and lower political subdivision level, as well as congressional representatives. Between June 1984 and August 1985, BNL personnel trained over 100 state, county, and local government personnel in "hands-on" radiological safety procedures. The BNL briefings are in "layman's terms" and include worst-case scenario responses.

BNL representatives also appeared on radio and television-talk shows, face-to-face with representatives from public interest groups such as the Sierra Club. Brookhaven staffers also prepared a media campaign package that included:

*D. Schwerner, Manager, Brookhaven Area Office.

- o Videotapes of spent fuel cask crash tests;
- o Pamphlets on other shipping activities; and,
- o Prenotification, et cetera.

As resumption of shipments neared, a local congressman successfully convened a hearing on transport of nuclear spent fuel. This event affected BNL's media campaign thrust somewhat, but Laboratory staffers eventually got the required information out. Subsequently, BNL coordinated with New York State and New York City officials on logistical details involving transport of spent fuel (e.g., coordination to effect state-provided escorts for all shipments through the New York City area).

As a result of an "open and candid" approach in public information dissemination activities, BNL officials believe they have excellent rapport with New York City officials, New York State officials, neighboring State and local government officials, and all parties involved in the BNL to INEL campaign. BNL officials indicated that they feel area public officials have also been open with Laboratory personnel as well; the relationship is one of mutual respect and reciprocation. What BNL has accomplished through media campaigns and training of State, county, and lower political subdivision personnel in radiological safety procedures, however, was done at a significant cost.

BNL officials indicated that they cannot overemphasize the importance of presenting knowledge and facts to gain the acceptance and confidence of the general public. BNL will continue to do this even though the Laboratory does not have to, because shipments are under statutory authority.

BNL representatives believe they must meet with public officials as well as with representatives from the environmental and

public-interest groups; but, they will not entertain situations such as a media event to be castigated publicly. Secrecy, is not the issue, rather accommodation and information must be imparted in a safe and secure manner that is positive and beneficial to all parties.

The BNL spokesman summarized the Laboratory position:

In summary, in attempting to gain the public's confidence, trust and acceptance, it is essential that the nuclear technologist try to meet with all appropriate personnel that have concerns. This public fear of things radioactive is not going to go away, so we, and others must continually deal with it, by presenting the facts, being flexible, that is, being accommodating in some cases and being willing to negotiate. It includes being open with the politicians, informing the media and other concerned parties, so as not to leave the arena to ones' adversaries, without putting up a good fight--based on presentation of facts. As I remarked to a certain area public official who has clout, and in who, I believe, we have gained acceptance, "you will never have to find out what's going at BNL on nuclear spent fuel transport from the media first--even if we have to give you sensitive information, then trust you to handle it judiciously."

4.0 FINDINGS AND RECOMMENDATIONS

In this concluding section, significant findings and observations resulting from the case histories of West Valley and non-West Valley spent fuel campaigns are presented. Recommendations, generalized from these findings and events included in the case histories are also presented. The findings and recommendations are generalized for application to the conduct and regulation of future spent fuel transport campaigns. These findings and recommendations are also summarized in the Executive Summary.

Recommendations are not presented as absolute solutions to future conflict over institutional issues and concerns associated with spent fuel transport. The nature, sensitivity, and diversity of issues and concerns surrounding spent fuel transport combine to present a problem far too complex to permit a solution based on the study of a few contemporary spent fuel campaigns. For example, "the politicizing of radwaste issues," may have been responsible for many of the problems and issues described in this report, yet assessment of this issue is beyond the scope of this study effort. However, the findings and recommendations can be useful in planning for regulation and conduct of spent fuel transport under the Nuclear Waste Policy Act (NWPA), as well as other near-term shipping campaigns.

4.1 FINDINGS

Public Information Campaigns Essential: The development and implementation of comprehensive public information (and educational) programs that seek to explain the technical, operational, safety, and security aspects of spent fuel transport in layman's terms, are indispensable to the conduct of a successful spent fuel shipping campaign. However, even with implementation of an effective public information program, there is no guarantee that conflict over issues will be reduced.

The experiences in the Brookhaven National Laboratory (BNL) to Idaho National Engineering Laboratory (INEL), Monticello to Morris, and West Valley to Dresden and Point Beach spent fuel shipping campaigns suggest that the intensity of feeling relative to certain issues (e.g., routing) can overpower the effectiveness of campaign public information programs.

Shipping Issues Common for Agencies: The major concerns associated with spent fuel transport are basically the same, no matter who's authority they come under: NRC authority or non-NRC authority, as are the nondefense-related shipments of spent fuel managed by DOE and subject to DOT regulations.

Cask Evaluation and Certification Should be Uniform: Some state officials interviewed stated that they have no great concerns about safety and security of spent fuel transport as regulated by Federal authorities. The same officials, however, stated they feel the methods for spent fuel cask evaluation and certification should be uniform and consistent among federal agencies. According to these officials, they are not assuaged when the DOE says its criteria and procedures for ensuring radiological safety is equivalent to the NRC's since they cannot inspect to see if the DOE statement is true. The DOE/OCRWM policy initiative which directs a switch to NRC cask certification now applies.

Federal Regulators Criticized: The usual federal regulatory policy of not challenging the imposition of State regulatory requirements on shippers and carriers of spent fuel unless action is initiated by shippers and carriers, generates criticism of federal regulators from both the nuclear industry and some State officials.

Although their success rate in challenging State and locally enacted regulations and ordinances affecting spent fuel transport is high, shippers still criticize the federal regulators for not taking the lead in this type action.

Officials in certain States that either adopt or fully accept the supremacy of federal regulation of spent fuel transport, complain that federal regulators are inconsistent in application of regulations.

Courts Recognize Need for Coexistence of Jurisdictions: The federal court system in its adjudication of disputes between institutions over issues associated with spent fuel transport seems to be cognizant of the need for coexistence between certain State rules and regulations applicable to spent fuel transport and HM-164 (as well as rail transport regulations). DOT, in its inconsistency rulings IR-7 through IR-15, reinforced the above condition in the general preamble to its rulings by explaining how Congress, in enacting the HMTA, did not intend that the HMTA or the HMRs completely occupy the field of spent fuel transport, so as to preclude any State or local action. In this regard, HM-164 allows for state or local actions as long as they are consistent with the Federal regulations.

In the JCP&L versus NJDEP and JCP&L versus NJTA litigation in the West Valley to Oyster Creek campaign, the court ruled in favor of JCP&L in each case without declaring State regulations administered by the NJDEP and the NJTA unconstitutional or inconsistent with the HMTA.

Federal Courts Effective in Resolving Issues: The institutional and regulatory environment for spent fuel transport benefited enormously from the court litigation ensuing in the Oyster Creek, Monticello, BNL, Dresden, and Point Beach shipping campaigns. A similar claim can be made for decisions rendered under administrative law proceedings pursuant to NRC and DOT regulations governing spent fuel transport regulation. (The majority of the decisions and findings favored the regulatory side; however, this is not the basis of the finding).

Benefits are derived because of the interpretations of the intent of the regulations that were issued governing spent fuel. These interpretations are not readily apparent by routine perusal. Referring to the legal interpretations should prove useful to public information staffers in the development of public information programs related to this activity.

Immediate legal challenge in federal court appears to be the most effective way to resolve transport ordinances and regulations.

In most cases (at least in the cases covered in this report), action by the court is swift and conclusive. Inadvertently, this minimizes the financial burden of the defendants, who in many cases are urged to enact restrictive ordinances by political and other activists. In some cases, the threat of legal action is sufficient to cause withdrawal of some restrictive ordinances.

Negotiation Can Expedite Shipment Approval: Interpretation of spent fuel regulation (10 CFR 71 and 73 and 49 CFR 177) does not have to be rigid to ensure compliance. Negotiation, accommodation, and comparison among the regulated and the regulators is the normal way spent fuel campaigns are carried out, especially between States and utilities. If properly done, shipments can still be in compliance and safely, securely and expediently shipped. In some cases, however, lack of rigidity can have both positive and negative results.

The WEPCO/State of Ohio and CommEd/State of Ohio "Agreements" effectively ended state opposition to the transport of fuel from West Valley through the State. The Agreements however, contained provisions that may have been found to be inconsistent with HMTA had the specific provisions (e.g., special prenotification) been challenged in federal court or by administrative forum.

A NYDOH and NYDOT unit required braking tests and subjected all West Valley campaign transport vehicles to state inspection requirements during the series of shipping campaigns. Although the effort of this offsite NYDOT/DOH contingent greatly assisted the quality assurance effort of DOE/WVNS at West Valley, the NRC- and DOT-regulated shippers and carriers could have challenged the state-imposed regulation under the HMTA and analogous NRC petitioning procedures.

DOE/OCRWM opted for NRC certification of spent fuel casks in all future spent fuel transport external to DOE facilities, although not required to do this pursuant to the DOE exemption from NRC regulation under the Atomic Energy Act. Brookhaven management not subject to the OCRWM policy initiative, similarly, followed OCRWM's lead, by choosing to use NRC-certified casks for the remaining spent fuel shipments to INEL.

The practice of some utilities to accept the imposition of State requirements for spent fuel shippers (such as transport fees, permits, and other requirements) in their home States,

but to reject or oppose the imposition of analogous requirements in alien States, contributes to State regulatory inconsistencies.

One utility entered into an agreement with agency officials in one State relative to special requirements for spent fuel transport through that State and, subsequently, filed a petition to recover spent fuel transport fees paid in a neighboring State. (Neither State was the home State of the utility involved.)

Some States Might Not Adequately Notify Local Jurisdictions: NRC requirements for safeguarding actual shipments may inadvertently cause some State officials to become so preoccupied with safeguarding shipment information that they fail to utilize the advanced notification information to maximum effectiveness in dealing with local governments.

Based on interviews made during this study, local governments in densely populated areas (e.g., Syracuse, NY and surrounding county) want to know when shipments are scheduled to enter their jurisdiction. NRC could help the State governors or designates by clarifying the requirements for the release of safeguard information to allow necessary local governments to know when shipments are scheduled.

Media Coverage Can Be Misleading: The lack of frequent media coverage of the issues among institutions is not always an indication that issues do not exist or that the problems have been effectively resolved or muted by an effective public information program or some other issue resolution mechanism. In contrast, the near continuous media coverage of conflict between institutions in certain campaigns is not necessarily an indication that real issues exist or remain.

Media coverage of institutional conflict in the BNL to INEL campaign is illustrative of the latter observation. Despite Supreme Court action on routing in the New York City and Department of Energy/Department of Transportation (DOE/DOT) dispute, nearly a year of concessions by DOE, a nonpreemption ruling by DOT, and a management decision to use NRC-approved casks, there is still occasional media coverage of officials favoring fuel transport by barge from Long Island to Connecticut.

Media coverage of the Monticello campaign is illustrative of the observation that no coverage does not mean there are no issues.

Other than continuing public information campaigns to the media and others, there is not much that can be done to address this item.

Not-in-my-Backyard Syndrome Persists: Presence of the "Not In My Backyard" (NIMBY) syndrome persists as a problem for institutions involved in radioactive waste transport and storage. In many cases, it is the presence of the so-called NIMBY syndrome, more so than a fear of real or perceived hazards implicit in radioactive materials transport, that triggers opposition by local and State governments and public interest and environmental groups. The reaction was particularly intense with the States being considered as candidates for siting a second repository.

Although the case studies list various reasons for the emergence of institutional conflict in a given shipping campaign, the NIMBY syndrome possibly contributed in the following examples:

- o Lacey Township's opposition to return for storage of spent fuel previously generated by Oyster Creek;
- o Spottsylvania and Louisa Counties' opposition to increased spent fuel storage and contemplated large-volume transshipment within the VEPCO grid;
- o New York City's opposition to fuel shipments through the city, that formerly were routed through Connecticut, and similarly, Connecticut's reaction; and,
- o New Jersey's preference for the "Southern Route" (through Pennsylvania) for return of spent fuel from West Valley to Oyster Creek and similarly, Pennsylvania's reaction.

Multiple Routes May Avoid Conflicts: The availability (or assignment) of prearranged multiple-approved highway routes for spent fuel transport (for a specific shipping campaign) in lieu of a single primary route (or an occasional alternative route in addition to the primary, as is sometimes approved by the NRC), can be used effectively in avoiding some opposition to spent fuel transport before it occurs.

Although the Nuclear Assurance Corporation was ultimately forced to file for administrative relief of an onslaught of hastily enacted State and local transport restrictions during conduct of the Chalk River shipping campaign, the company nearly completed its shipments through use of multiple-approved routes.

4.2 GENERAL OBSERVATIONS

Post-evaluation of these case history studies has resulted in a few general observations common to many of the shipping campaigns. These observations appear to offer some potential for easing future shipping campaigns, however, the reader is cautioned that they may not be applicable in all cases. In general, the nature of the specific issues that arose was unique for each campaign. There also was a great variety among institutions in the degree of interest or concern expressed on an issue. Given this, several factors persisted in the successful shipping campaigns. These common factors included:

- o Early education of interested, uninformed parties;
- o Early communication of concerns among institutions; and
- o Negotiation and compromise within the confines of the regulations where difficulties arose.

Other observations were:

- o Legislative, legal, or administrative challenges to the shipments often resulted if the concerned institutions failed to engage in the above factors, or if the views of an opposing institution to an issue were too disparate. In the campaigns studied, challenges seeking an outright ban on shipments were unsuccessful.
- o In some instances, States were able to negotiate with shippers and Federal agencies for additional precautionary measures during shipment campaigns.

From these observations, it was concluded that pursuit of the factors common to successful campaigns by concerned institutions holds the best promise for maximizing acceptability and minimizing disruption of future shipping campaigns.

4.3 RECOMMENDATIONS

Based on the findings of this study, a few recommendations are made that may help in alleviating some of the issues in future shipments. There is no priority placed on the recommendations nor guarantee that they will succeed.

- o Improve Preshipment Public Information Campaigns
- o Encourage Shippers to Seek Multiple Routes
- o Help States with Transfer of Information to Affected Local Jurisdictions
- o Encourage States to Standardize Transportation Permits

Improve Preshipment Public Information Campaigns: For spent fuel shipping campaigns involving extensive preshipment controversy, as was the case following the NYSERDA vs. NFS litigation, the NRC should respond with a repeat of activity and effort similar to that exerted during the pre-West Valley campaigns (e.g., letters to the Governors of States affected by the NRC-approved routes; formal responses to State and local government inquiries, and elevation of certain inquiries to the formal administrative proceeding process). Commission staffers might also include an explanation of the NRC role in regulating a series of spent fuel shipments.

The MPIRF, ISEA, and personnel in the Wisconsin Department of Natural Resources questioned the need of the Monticello to Morris spent fuel shipments. They appeared to believe that "determination of need" to transport spent fuel was under federal regulatory purview.

Encourage Shippers to Seek Multiple Routes: Shippers should be encouraged to submit requests for multiple route approvals pursuant to 10 CFR 73.37.

Outright use and availability of multiple-approved routes, as opposed to using them to avoid areas of known opposition to spent fuel transport, might serve to reduce the impact of the NIMBY syndrome in certain areas. For example, in the Chalk River campaign, New York officials issued a ban on use of non-preferred highway segments by NAC carriers, and the ban was not ruled inconsistent by DOT. Based on interview comments, New York officials had reacted to NAC's attempt to follow the "line of least resistance." It may be that if the political

jurisdiction through which an approved route (or routes) passed are aware that a carrier, periodically, would be switching to alternative-approved routes (in the interest of balancing risk, assuming the highway system permits assignation of multiple routes), it could cause an individual jurisdiction to be more receptive to spent fuel transport through its area. (This recommendation relates to the concept of "regional coordination in route approvals" that has been suggested by NRC transportation program management.)

Help States Transfer Information to Local Jurisdictions: In implementation of its public information programs relating specifically to spent fuel transport for the benefit of State and local governments, Commission personnel should emphasize that 10 CFR 73.21(a) specifies that "Information protection procedures employed by State and local police forces are deemed to meet the NRC requirements for the protection of safeguards information." This should be done in conjunction with dissemination of information regarding the advance notification requirement pursuant to 10 CFR § 73.37, to encourage States to inform affected local jurisdictions in a timely manner.

Local governments are (in some cases) able to reduce public tension and unrest over fuel transport in their jurisdictions through judicious release of shipment information. State officials might also be reminded to consider use of secure teletype links for safeguards information dissemination similar to that used by New York officials.

Encourage States to Standardize Transportation Permits: Efforts should be made to encourage States to standardize permit, inspection, and other requirements as much as possible for spent fuel. This is one aspect of the situation: spent fuel transport is supposedly subject to only federal regulation, but, on a practical basis, must admit to some state-enacted transportation requirements. Of course, if DOT were to obtain 100 percent cooperation in its program to encourage States to adopt the HMRs, uniformity could be achieved.

Although there have been no major transportation-related accidents in the spent fuel campaigns studied in this report, the experiences with transport vehicle road-worthiness in two of the West Valley campaigns completed to date suggest that the motive aspect of spent fuel transport needs more emphasis.

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APPENDIX A. SYNOPSIS OF THE REGULATORY
ENVIRONMENT FOR SPENT FUEL TRANSPORT

Department of Transportation/Nuclear Regulatory Commission Dual
Statutory Responsibility

The Department of Transportation (DOT) and the Nuclear Regulatory Commission (NRC) have statutory responsibility over spent fuel transport. DOT was given the authority to regulate safety in transport under various provisions of Hazardous Materials Transportation Act (HMTA) (and other DOT enabling legislation); NRC was given the authority to license and regulate the receipt, possession, use, and transfer of spent fuel under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended. The respective DOT and NRC responsibilities are further delineated in a Memorandum of Understanding (MOU) signed on June 8, 1979, which superseded a 1973 agreement between DOT and the Atomic Energy Commission.*

Essentially, the MOU specifies that NRC is responsible for regulating transport security (safeguards) for Type B radioactive material (RAM) (spent fuel)** and, subject to its statutory authority, will

- o Develop safety standards for design and performance of spent fuel;

*Federal Register, 1979, Vol. 44, No. 128, pp. 38690.

**Type B RAM is a quantity of spent fuel that exceeds 100 g in net weight, is exclusive of packaging, and has a dose rate in excess of 100 rems/h at a distance of 3 ft from any accessible surface without intervening shielding (10 CFR § 73.1).

- o Adopt packaging standards for spent fuel, and appropriate regulations, administrative, procedural, and technical requirements necessary to protect public health and safety, and ensure the common defense and security;
- o Review, evaluate, approve, or deny approval of packaging designs for Type B RAM;
- o Conduct an inspection and enforcement program within its jurisdiction to ensure compliance with NRC requirements;
- o Require of its licensees the notification and reporting of all accidents, incidents involving spent fuel, if they occur prior to delivery to a carrier for transport or after delivery to a recipient;
- o Take the lead responsibility in investigating accident/incidents involving spent fuel transport and preparing the report of investigation; and
- o Exchange and consult with the DOT on matters affecting spent fuel transport and establish joint working arrangements with the DOT for the purpose of administering the MOU.

Pursuant to the MOU, and subject to its statutory authority, DOT will develop safety standards for

- o Classification, labeling, and marking of all spent fuel packages and transport vehicles;
- o Mechanical conditions, construction requirements, tie-down requirements of carrier equipment;
- o Qualifications of carrier personnel;
- o Procedures for loading, unloading, handling, and storage in transit; and,
- o Any special transport controls (excluding NRC safeguards) necessary for radiation safety, and for all safety requirements exclusive of NRC-developed safety standards for spent fuel.

As part of its comprehensive regulations for packaging and transporting RAM, DOT will also adopt and issue regulations that impose on shippers and carriers those standards developed by NRC for spent fuel, those developed (as above) by DOT, and any additional requirements (such as NRC safeguards) necessary to protect the public health and safety during spent fuel transport. The DOT/NRC MOU also states that nothing in the MOU affects the statutory exemption of shipments of RAM made by or under the direction or supervision of the DOE or the Department of Defense pursuant to 18 U.S.C. 832(c). Pursuant to 18 U.S.C. 832(c), DOE-managed shipments of spent fuel are exempt from NRC authority. Shipments of spent fuel managed by DOE in support of its research and development activities, as opposed to defense-related shipments, however, are subject to DOT regulations.

Key Provisions of DOT Highway Routing Rules for Spent Fuel

Section 105(a) of HMTA identifies routing as one form of regulation that DOT can use to ensure the safe transport of spent fuel. Pursuant to this authority, DOT promulgated highway routing regulations for RAM transport on January 19, 1981 (effective February 1982), in Docket No. HM-164. HM-164 applies specific routing requirements for spent fuel that include operating over a "preferred route." A "preferred route" or "preferred highway" is a highway for shipment of spent fuel so designated by a State routing agency and any Interstate System highway for which an alternative highway has not been designated by such State agency as provided by 49 CFR § 177.825b. A "State-designated route" means a preferred route selected in accordance with DOT "Guidelines for Selecting Preferred Highway Routes for Large Quantity Shipments of Radioactive Materials" or an equivalent routing analysis that adequately considers overall risk to the public. Designation must have been preceded by substantive consultation with affected States to ensure consideration of all impacts and continuity of designated routes. A "State routing agency" is an entity (including a common agency of more than one State such as

one established by Interstate compact) that is authorized to use State legal processes pursuant to 49 CFR § 177.825 to impose routing requirements, enforceable by State agencies, on carriers of spent fuel without regard to intrastate jurisdictional boundaries. DOT recognizes the special status of Indian tribal governments in the Federal system, and accordingly, HM-164 allows Indian tribal governments to exercise routing authority in a manner similar to State governments. The term "State routing agency" therefore includes Indian tribal authorities that have police powers to regulate and enforce highway routing requirements within their lands.*

In addition to the special routing rule for spent transport, HM-164 requires shippers and carriers to comply with related requirements for

- o Shipping papers (licensee to carrier),
- o Transport through tunnels,
- o Preparation and filing of route plans, and
- o Carrier driver training and certification.

The NRC physical security (safeguards) requirements (10 CFR § 73.37) designed to ensure protection of spent fuel from theft or sabotage during transit are incorporated in the DOT routing rules in 49 CFR § 177.825. These provisions include general safeguard requirements applicable to all modes of spent fuel transport such as

- o Advance notification of spent fuel shipment to NRC;
- o Carrier coordination with local law enforcement agencies while in transit;
- o Provisions for advanced route approval by NRC;

*Federal Register, 1981, Vol. 46, No. 12, p.5298.

- o Specific requirements regarding escorts, communications, and the transport vehicle; and
- o Advance notification (prenotification) to the Governor (or his designee) of each State of transport of spent fuel into or through his State (7 days by mail, 4 days by messenger).

Included in the prenotification requirement to Governors, is a notice to State officials, State employees, and other individuals, whether or not licensees of NRC, who receive spent fuel scheduling information that such information shall be protected against unauthorized disclosure pursuant to 10 CFR § 73.21.

Because HMTA grants DOT the authority to regulate the transport of spent fuel, a State or local regulation that is inconsistent with HMTA, or its regulations, including HM-164, is automatically preempted.* A State or local government having a requirement pertaining to spent fuel transport, or any person (e.g., a carrier) affected by the requirement may also obtain an administrative ruling as to whether the requirement is inconsistent with HMTA or its regulations, and whether it is therefore preempted by HMTA. Procedures for initiating these proceedings are codified at 49 CFR § 107.201-107.215.

*U.S. Code Service, 1981, Title 49, Transportation, § 1811(a).

APPENDIX B. DEFINITION OF INSTITUTIONAL ISSUE

The following definition was developed during the early phase of this study.

Definition:

INSTITUTIONAL ISSUE (within the context of Nuclear regulatory Commission/Department of Transportation regulation of transport of nuclear spent fuel from West Valley, New York, to various nuclear reactor facilities; from civilian nuclear reactor facilities to future federally owned and operated geologic repositories; between civilian reactor storage facilities (transshipment); and transport of spent fuel in support of Department of Energy research and development activities.

A matter that is in dispute, or a point of debate or controversy that emerges between or among the authorized regulators of the transport of nuclear spent fuel (the NRC, the DOT) and the institutions* that are directly or indirectly affected by such regulation such as:

- (1) The utilities generating, owning, and responsible for transporting spent fuel in a safe and secure manner;
- (2) The carriers who perform the actual transport for the utilities under contractual arrangements;

*Refer to Figure B-1.

- (3) The environmental and public interest groups who feel that they have an obligation to keep concerned individuals informed of nuclear waste disposal problems, analyze Federal nuclear waste policies, and determine what the implications are for management of both defense and commercial nuclear waste;
- (4) State and local political subdivisions through whose borders and areas nuclear spent fuel may pass or be temporarily stored; and
- (5) Various and sundry parties such as individuals, indigenous Indian tribes (or nations), bridge and tollway authorities, legislators speaking for their constituency, and other establishments.

Figure B-1. Institutional Framework and Issues of Spent Fuel Transport

APPENDIX C

Chronology of Events

West Valley to Point Beach and Dresden Campaigns

Events Prior to Shipments--June 1983 through September 1983

Following the U.S. District Court for the Western District of New York ruling in favor of New York State Energy Research and Development Administration (NYSERDA) directing removal of SNF from West Valley fuel storage pool, several civil suits were filed in District Courts and several 10 CFR § 2.206 petitions and letters of inquiry were filed and submitted to the NRC. Several were aimed at halting the shipment of hazardous waste based on safety concerns. All motions to prohibit the shipments were denied, and the Point Beach shipments were begun without further delay. Details of significant events are given below in chronological order.

June 30, 1983

U.S. District Court for Western District of New York rules in favor of NYSERDA in court case NYSERDA versus Nuclear Fuel Services, Inc. (NFS), WEPCO, CommEd, and GPU/JCP&L.

Ruling directs removal of SNF and utility-owned SNF from West Valley fuel storage pool (FSP) and return of same to original generating reactor sites or some other suitably chosen SNF storage site.

U.S. District Court, 1983

July 1983

Citizens Against Nuclear Power et al., Chicago, IL, file a 10 CFR § 2.206 petition with the NRC Regional Director.

The petition expresses concern about SNF cask safety and emergency response, and requests that all planned SNF shipments through and to Illinois be postponed until after a series of public hearings are held. Petition denied by NRC on September 13, 1983.

Rouse, 1983

August 24, 1983

Sierra Club inquiry to NRC challenges the validity of shipment licenses held by utilities and NFS.

Sierra Club, through its spokesman, Dr. Marvin Resnikoff, claims license amendments and a safety evaluation report on the West Valley facility should be rendered for safety reasons before shipments take place. NRC treats letter inquiry as a formal 10 CFR § 2.20b petition.

Rouse, 1983.

August 29, 1983

State of Ohio files a motion to intervene in the NYSERDA vs NFS et al., litigation.

In this effort, Ohio attempts to prevent the transport of SNF through the state, or failing to prevent shipment, to cause an upgrading of the safety and security of the shipments. The state claims that its emergency planning and response capability is inadequate.

U.S. District Court, 1983

September 1983

Attorney General of Ohio files a 10 CFR § 2.206 petition challenging shipment licenses and requesting that NRC prepare an environmental impact statement (EIS).

The petition also requests that NRC stop the start of shipments from West Valley pending resolution of all issues identified in the petition.

Rouse, 1983

Late September 1983

DOE West Valley Project and WVNFS personnel in final stages of 5-month effort preparing for SNF shipments from West Valley.

August 30, 1983

Board of Commissioners, Cuyahoga County, Ohio, submits inquiry to Chairman Palladino, NRC.

Inquiry expresses concerns about cask safety and routing of SNF through Ohio en route to Point Beach and Dresden.

Rouse, 1983

August 1983

Wisconsin Environmental Decade, Inc., contends in a letter to NRC that license admendment is required.

Letter states the operating license of Point Beach NGS does not authorize return of SNF from West Valley.

Rouse, 1983

September 1983

Cuyahoga County, Ohio, Board of Commissioners and two municipalities, Berea and Strongsville, file law suit in an attempt to block shipments.

Citing DOE, DOT, NRC, FEMA, EPA, and the Ohio State Police as defendants, the complaint alleges that area police and safety officials are unprepared to handle possible accidents and, further, claims injury because of the cost to train and equip local law enforcement officials.

Rouse, 1983

September 1983

CommEd and WEPCO negotiate agreements with DOE.

DOE, in conjunction with its subcontractor West Valley Nuclear Service Company (WVNS), will undertake all activities at the Center in connection with loading SNF for shipment, including the preparation of procedures for handling and loading casks, and for related quality assurance (QA) activities consistent with the utilities NRC-approved QA program. Under the agreements, DOE also must execute certification of SNF for shipment for utilities certifying that loading and all other activities associated with preparing SNF for transfer to a carrier for transport have been conducted in compliance with NRC requirements.

Shaw, Pittman, Potts, and Trowbridge, 1983a and 1983b

September 9, 1983

NRC formally advises the Governors of all affected states (New York, Pennsylvania, Indiana, Ohio, Illinois, New Jersey, and Wisconsin) of the planned SNF shipments from West Valley.

Included in letters to the govenors are background information and reasons for the imminent shipments, including the following:

- o The District Court order directing return of SNF stored at West Valley;

- o The relationship of the WVDPA of 1980 (to the shipments);
 - o DOT and NRC roles, authorities, and responsibilities with regard to the court-directed SNF shipments; and
 - o The availability of the appropriate NRC Regional Administrator for further consultation regarding planned shipments through and into their jurisdictions.
- NRC, 1983

September 14, 1983

NAC (acting for WEPCO) and Transnuclear (acting for CommEd) request route approvals pursuant to 10 CFR § 73 for transport of SNF from West Valley to Point Beach NGS and Dresden. NRC approves route requests.

Route recommended by the Governor of Ohio (through Ohio Disaster Service Agency) approved as primary route through State of Ohio. Route originally proposed by shipper agents approved by NRC as an alternative.

Cunningham, 1983

September 23, 1983

Governor Thompson of Illinois submits formal request to NRC for implementation of additional precautions.

Additional requirements include:

- o Perform pretransport inspections of all SNF or empty SNF cask scheduled to originate, pass through, or terminate in Illinois;
- o Require armed security escort of shipments at all times during transit through Illinois; and,
- o Ensure emergency response capability that can be delivered to local jurisdictions through which the planned shipments will pass.

Office of Governor, 1983

September 23, 1983

NRC formally replies to the Governor of Illinois inquiry of September 23, 1983, concerning pretransport inspections and continuous armed escorts for the shipments.

Pursuant to NRC regulations and license requirements, all SNF shipments are required to be inspected prior to transport. NRC regional personnel routinely audit a percentage of licensee inspections. The NRC audit frequency was increased to 100 percent for the GEMO to Point Beach shipments that preceded the initial West Valley shipments, and NRC will continue a similar inspection regimen for West Valley shipments--at both origin and termination points--until satisfied that requirements are being met. A return to the normal audit frequency (3 to 5 percent) is planned if no significant safety problems are found.

NRC regulations require shipments of SNF to be accompanied by armed escorts (one police officer or two private guards) in a separate vehicle(s) in addition to the driver and an unarmed escort in the cargo vehicle, only in heavily populated areas. No new information has been received since issuance of regulations that would indicate a need to increase this level of security. The Commission, therefore, concludes that current safeguards for SNF shipments are adequate and that there is no basis for additional armed security escorts as requested by Gov. Thompson and others.

Palladino, 1983

September 26, 1983

State of Ohio (Attorney General, Ohio Turnpike Commission, and Disaster Services Agency) and WEPCO execute an "Agreement" regarding special arrangements, procedures, and other matters.

The preamble of the Agreement refers to the state's 10 CFR § 2.206 petition filed with the Commission, seeking a stay of shipments pending hearings and the State's attempt to intervene in the NYSERDA vs NFS et al., court case, seeking similar relief. [The Agreement, perhaps, was a contingency should the 10 CFR § 2.206 be denied and/or intervention if NYSERDA vs NFS was denied.]

The Agreement stipulates that WEPCO agree to:

- o Provide prenotification of each SNF shipment through the State as required by the Ohio Revised Code;
- o Employ the NRC-approved route for SNF transport through Ohio;
- o Allow in-transit safety inspection and radiation level survey of vehicle and casks by Ohio Disaster Services Agency personnel;

- o Reimburse the state for providing border-to-border escort of all SNF shipments through the State;
- o Accept certain special restrictions on SNF shipments through the State that are related to (but not limited to) weather conditions, and bridge and road repair requirements; and
- o Provide, at utility expense, personnel to train local emergency response candidates in one seminar in three densely populated metropolitan areas along the NRC-approved route (Youngstown, Cleveland-Akron, and Toledo).

late September 1983

DOE West Valley Project and WVNFS personnel in final stages of intensive 5-month effort preparing for SNF shipments from West Valley.

Operational, engineering, and public information dissemination activities include:

- o Preparing detailed SNF handling, loading, and checkout procedures (the "Test Procedures" subsequently accepted by the utilities as proof that SNF would be prepared for shipment in compliance with NRC requirements);
- o Identifying and implementing other radioactive material safeguard practices;
- o Checking-out and refurbishing existing site equipment and procuring new equipment to meet upgraded requirements adopted since SNF was last handled at West Valley;
- o Continuing comprehensive training program developed and conducted to qualify fuel handlers at the West Valley fuel storage pool;
- o Conducting an extensive public information campaign throughout the New York State area affected by the planned SNF shipments:
 - Mailing over 2000 fact sheets on the planned shipments to community leaders;
 - Briefing area legislative law enforcement and emergency preparedness officials; representatives of U.S. congressmen and senators, state and county legislators; mayors; county executives and sheriffs; FBI agents; fire department personnel; State police supervisors; civil defense directors; and media representatives; and

- Processing of several hundred media requests for information by the West Valley Project public information department (supported by WEPCO, DOT, NRC, and American Nuclear Society personnel).

West Valley Demonstration Project, 1983

September 1983

NRC continues with "start of SNF shipment activities."

NRC regional personnel advised to coordinate SNF transport inspection programs with regional DOT offices, noting that DOT involvement is important because it will facilitate shipments and because it bears on the NRC inspection program. In an internal memorandum, NRC emphasizes policy position that

Issues related to the need to ship are between the utilities and NYSERDA as might be prescribed by the courts. We [NRC] should carefully avoid being implicated or drawn into these issues by virtue of the initiatives we undertake to provide safe and acceptable regulatory controls over shipments.

NRC, 1983b

September 30, 1983

NRC issues Director's Decision DD-83-14 under 10 CFR § 2.206 denying the petitions of the Sierra Club Radwaste Program and the Attorney General of Ohio.

NRC uses this DD-83-14 as the basis for denial of similar 10 CFR § 2.206 petitions concerning the planned SNF shipments and as a basic reference in response to queries not considered as formal 10 CFR § 2.206 petitions. Issuance of DD-83-14 did the following:

- o Declared that the utilities' general licenses granted under 10 CFR § 71.12 as amended, provided the authority needed by CommEd and WEPCO to deliver SNF to a carrier for transport. Thus, the utilities were not required to amend their licenses prior to shipping SNF. The NRC-approved quality assurance programs of the utilities were cited as the basis for this ruling;
- o Described the NRC role at West Valley as it was for the WVDPA of 1980 when WVNS was the DOE prime contractor. NRC does not license or regulate the activities of a DOE prime contractor. The prime contractor's activities are exempt from NRC license requirements under 10 CFR §§ 30.12 and 70.11. NRC can review DOE activities at West Valley through informal, consultative procedures;

- o Explained that issues concerning safety in transport of SNF over approved highway routes were under the authority of the Department of Transportation;
 - o Explained that there is not a radiological safety or physical security reason (areas under jurisdiction of NRC) to reject the approved primary route. The casks to be used had been certified and the primary route had been approved as described under 10 CFR § 73.77;
 - o Rejected the request for an EIS prior to shipments citing the NRC action at West Valley would not significantly affect the environment (conceded by the petitioner from Ohio);
 - o Cited that although the West Valley facility indemnity coverage was suspended for the duration of the Demonstration Project (to a utility reactor site), the SNF shipment was insured for \$570 million (nuclear liability insurance required under 10 CFR § 140.91 Appendix A); and,
 - o Cited that the utilities' general licenses contain no provisions denying the right to receive by-product and special nuclear material (SNM), and the utilities are authorized by NRC regulations to receive the by-product and SNM (which constitute the SNF) to be removed from West Valley.
- NRC, 1983c

September 30, 1983

U.S. District Court in Cleveland refuses to issue a temporary restraining order (TRO) on West Valley SNF shipment requested by Cuyahoga County Board of Commissioners.

Denial of the TRO removed all legal impediments to the start of SNF shipments, although the Court will later decide whether to call for dispositive motions.

DOT/FHWA, 1983

September 30, 1983

U.S. DOT Materials Transportation Bureau (MTB) and Bureau of Motor Carrier Safety (BMCS), at the request of NRC, commit to inspect every vehicle and driver.

DOT inspections will be carried out by DOT Region I BMCS staffers at the point of dispatch for all West Valley SNF shipments to ensure safe vehicles and qualified drivers.

DOT/FHWA, 1983.

Events During Shipments--October 1983 through December 1984

The durations of the two campaigns were:

West Valley to Point Beach--October 4, 1983 to October 6, 1984

West Valley to Dresden--December 8, 1983 to November 6, 1984

October 4, 1983

West Valley to Point Beach shipments begin.

October 6, 1983

U.S. District Court denies State of Ohio motion to intervene in NYSERDA vs NFS et al., litigation.

The Court noted that Ohio's sole interest was "protection of its citizens from the hazards incident in the transportation of nuclear fuel through Ohio's urban areas." However, the Court ruled that protection of the health and safety of the public from the radiological risks of nuclear fuel is the exclusive responsibility of the national government under the Atomic Energy Act.

U.S. District Court, 1983

October 11, 1983 (approximately)

New York Department of Transportation (NYDOT) advises WEPCO officials that vehicle safety inspection requirements are mandatory for all subsequent SNF shipments

Key feature of overall NYDOT vehicle safety inspection requirements is a brake performance test conducted at 20 mph. Originally, a transport vehicle with loaded cask was to be tested; however, the utilities objected, and NYDOT agreed to conduct tests prior to loading SNF.

NYDOT safety inspection requirements, including the braking test, were originally designed for over weight trucks transporting large-quantity radioactive material (now referred to as highway-route controlled radioactive material). The inspection procedure was effective and was applied to all vehicles in the West valley shipments, including legal-weight trucks.

Chaurin, 1983

Pre-December 7, 1983

Local media representatives cover the West Valley facility continuously for several days prior to departure of the first shipment. The major television networks and state and local media also covered the events of the first shipment.

December 8, 1983

West Valley to Dresden shipments begin.

December 9, 1983 (second day of shipments to Dresden)

Tractor and trailer carrying SNF uncouples about 3 miles east of the Indiana-Illinois state line.

The Lake County, Indiana, Sheriff's Department reported incident to NRC's Region III Headquarters. The incident occurred on I-80 W (Indiana Toll Road) at about 2:00 pm CST. According to the police report, there was no damage to the truck, trailer, or cask. The trailer had separated from the tractor during the driver's attempt to avoid collision with another truck at a point where the highway narrowed. The tractor separated from an intermediate set of "joe-dog" axles, which remained connected to the trailer carrying the loaded cask and supported it. The brake lines and electrical cables disconnected, the brakes on the "joe-dog" axle actuated automatically, stopping the trailer with loaded cask. The tractor was stopped by the driver several truck lengths from the trailer.

Indiana State Police assisted carrier personnel in reconnecting the "joe-dog" to the tractor, and the reconnection was tested before the transport vehicle was allowed to proceed. A representative of the Lake County civil defense organization responded to the incident and performed a radiation survey which showed normal levels for a loaded SNF shipping cask (approximately 0.1 millirem per hour).

Illinois State Police performed a vehicle safety inspection when the transport vehicle reached the Illinois border (routine procedures for SNF shipments entering the state), and the shipment was allowed to continue. The licensee agreed not to make additional SNF shipments until the cause of the uncoupling was determined and corrective action taken. NRC Region III (Chicago, IL) public information personnel responded to one local media query.

NRC, 1983d

December 1983

NRC provides training seminar for Wisconsin radiological safety and health personnel on application of U.S. Department of Transportation (DOT) and NRC regulations to SNF shipments.

The state trainees were taken to GEMO for hands-on experience with SNF pre-shipment inspection procedures. NRC Region III personnel provided the training to enable Wisconsin personnel to maintain the 100 percent inspection frequency that had been implemented for the early shipments to Point Beach. Wisconsin personnel replace NRC Region III inspectors.

NRC, 1984a

January 20, 1984

The NRC Office of General Counsel (OGC) reviews DD-83-14 according to NRC policy and procedures.

OGC informed the Commission of the Director's denial of the Sierra Club and Ohio petitions and recommended no Commission review.

Malsch, 1984

March 5, 1984

The Commission declines to review DD-83-14.

In March 1984, Resnikoff and Celebrezze were officially notified that the Commission, by unanimous vote, declined to review DD-83-14. The Director's Decision therefore became the final agency action on the 10 CFR § 2.206 petitions.

NRC, 1984c

March 23, 1984

U.S. Court of Appeals, 2nd Circuit, New York City, affirms the lower court's decision (District Court of New York) denying State of Ohio's motion to intervene in the NYSERDA vs NFS et al., law suit.

The Appellate Court, in its decision, cited Ohio's right to assert its health and safety concerns before the NRC and noted that the State had already chosen to do so.

U.S. Court of Appeals, 1984; U.S. District Court, 1983

July 2, 1984

U.S. District Court, Cleveland, Ohio, dismisses suit filed by Cuyahoga County Board of Supervisors in September 1983, seeking to ban SNF shipments from WV from passing through Cuyahoga County.

Previously, County Officials were prevented from interfering with West Valley shipments by court denial of a temporary restraining order (September 1983). In dismissing the suit altogether, Judge Alvin I. Knenzler opined that legal standing depends on proof of actual or threatened injury but lack of preparedness and fear of nuclear accidents do not constitute actual injury.

Nuclear Fuel, 1984

October 6, 1984

West Valley-to-Point Beach SNF shipments end.

Total of 114 SNF shipments.

DOE, 1984

November 6, 1984

West Valley-to-Dresden SNF shipments completed.

Total of 205 FAs shipped (one was shipped as failed fuel assembly on June 6, 1985).

DOE, 1984

2.1.2.3 Events Following Shipments

In a report dated fall 1983, WVNS analyzed media coverage of events, beginning with the District Court Orders affecting NYSERDA vs NFS et al., and directing SNF removal and ending with the first shipment to Point Beach. The hundreds of articles published in the six states affected--New York, Pennsylvania, Ohio, Indiana, Illinois, and Wisconsin--and the major northeastern, middle atlantic, midwestern newspapers gave a balanced presentation, even in jurisdictions where resistance to shipments was greatest. DOE and West Valley personnel compiled the following state-by-state data.

New York: Printed reports regarding the District Court Order on fuel assembly removal, the destination of SNF, the actual shipment of SNF, and the reasons for shipment (i.e., fuel assembly clearance to allow space for waste solidification pursuant to the West Valley Demonstration Program Act (WVDPA)); the Sierra Club's Radwaste Program inquiry concerning validity of NYSERDA and utility licenses; and New York Thruway Authority approval for three SNF shipments via Thruway.

Pennsylvania: General articles indicated number of shipments expected to pass through State, route selection, and official announcement of initial shipment through the State; Pennsylvania Sierra Club opposition to SNF shipments through State and cited the Club's concern for cask safety--invalid NRC transport vehicle (with cask) crash tests--and NRC involvement in West Valley SNF shipments as indicating

APPENDIX D

Chronology of Events West Valley to Oyster Creek Campaign

Lacey Township vs GPU/JCP&L

March 1984

Lacey Township officials advise NRC/H.H. Denton of the Township's adoption of the Lacey Ordinance.

NRC is advised of the letter of March 1, 1984 (cited above), and of certain specifics of a meeting between Lacey Township and GPU/JCP&L officials to discuss alternatives to the return of spent fuel to Oyster Creek. The letter also requested NRC to send a federal representative to discuss further the issue of return and storage of GPU/JCP&L.

DeLo, 1984

July 23, 1984 (on or about)

GPU/JCP&L initiates legal action in the District Court of New Jersey against the Lacey Township.

GPU/JCP&L seeks declarative judgment, injunction, and other relief that the ordinance (above) is invalid and unenforceable because it violates the Constitution, Hazardous Materials Transportation Act, and the Atomic Energy Act of 1954.

U.S. District Court, 1984a

August 25, 1984

With the NYSERDA vs NFS et al., litigation pending, the Township of Lacey (an unincorporated village in Ocean County, NJ) enacts Ordinance Number 24-83.

This ordinance was intended "to prohibit the importation of spent nuclear fuel or radioactive waste for storage within the Township, and to regulate the storage of SNF and/or radioactive waste at Oyster Creek NGS located in the Township."

DeLo, 1984

September 24, 1984

Court determines that Lacey Ordinance is unconstitutional.

Court also issues an order preventing enforcement of the Lacey Ordinance.

The Township appealed and motioned for a stay pending appeal, which was denied by the Court on September 26, 1984.

U.S. District Court, 1984a

November 1, 1984

Court Order declares the September 24, 1984, court order equally applicable to a Lacey Township Penalty Ordinance.

The Penalty Ordinance imposed penalty fees on SNF shipments made in violation of Lacey Ordinance 24-83, and therefore, the Court order prevented enforcement of the Lacey Ordinance as amended by the Penalty Ordinance.

U.S. District Court, 1984a

November 29, 1984

Lacey Township appeals the District Court Order to the U.S. Court of Appeals.

U.S. Court of Appeals, 1985a

September 6, 1985

U.S. Court of Appeals files final opinions on appeals.

The Appellate Court affirmed the judgment of the District Court, which declared that the Lacey Spent Fuel Ordinance and Penalty Ordinance were inconsistent local regulations under provisions of the U.S. Code and as such are preempted by Hazardous Materials Transportation Act.

U.S. Court of Appeals, 1985a

GPU/JCP&L vs State of New Jersey Department of Environmental Protection

September 27, 1983

NRC officially advises the Governor of New Jersey of all pertinent information concerning the return of spent nuclear fuel from West Valley to Oyster Creek.

In this correspondence, NRC's Executive Director for Operations cited the court order directing return of spent nuclear fuel stored at West Valley, explained the relationship of the West Valley Demonstration Project Act of 1980, and the DOE role in return of spent fuel to the original generating reactors. Also cited were NRC and DOT authority and responsibilities with regard to the court-directed spent fuel shipments. Nearly identical letters were forwarded to Governors and State Liaison Officers in all states affected by the court order.

NRC also advised each governor of the availability of the appropriate NRC regional director to meet with State officials, at each governor's convenience, to discuss further the matter of spent fuel transport into and through the state.

Dircks, 1983

June 28, 1984 and July 22, 1984

Transnuclear, Inc. (transportation agent for GPU/JCP&L) submits route approval request to NRC pursuant to 10 CFR § 73 for transport of spent nuclear fuel to Oyster Creek from West Valley.

Transnuclear, Inc., 1984a; 1984b

September 18, 1984

GPU/JCP&L applies to the New Jersey Department of Environmental Protection, Bureau of Radiation Protection (DEP/BRP), for a Certificate of Handling (COH).

This application is in accordance with the New Jersey Radiation Protection Act of 1958, as amended for permission to ship spent nuclear fuel from West Valley to Oyster Creek.

Vincent, 1984

September 26, 1984

NRC notifies GPU/JCP&L of approval of route approval request.

Vincent, 1984

November 27, 1984

GPU/JCP&L complies with 10 CFR § 73 prenotification requirements.

GPU/JCP&L advised the Governor's designee of the proposed start of spent nuclear fuel shipments.

Vincent, 1984

November 27, 1984

State environmental officials notify GPU/JCP&L informally of its denial of a COH for proposed shipment of spent nuclear fuel along the NRC-approved route.

The denial is based on the prohibition by State Law (N.J. S.A. 26: 2D-23.1 et. seg or Radiation Protection Law) of spent nuclear fuel transport in counties that have an average population density exceeding 1000 persons per square mile.

[Note: The NRC-approved route contains a 37.5-mile segment of I-287 S that passes through densely populated areas such as Piscataway, Bridgewater, Somerset, Metuchen, and other communities west and southwest of Newark, New Jersey, as shown in Figure 2-3]

During prior discussions between State officials and GPU/JCP&L, State officials suggested an alternative route requiring more travel time and mileage through Pennsylvania than required by the 85-mile segment of Pennsylvania roads in the NRC-approved route (Table 2-1). General Public Utilities subsequently followed up its original route request with a second request to NRC containing the New Jersey proposed alternative route.

The proposed alternative route is the "Southern" Route; the NRC-approved route is the "Northern" Route.

Vincent, 1984

November 1984 (undated correspondence)

NRC advises GPU/JCP&L that "NRC will not approve the proposed alternative (Southern) route until it receives written notification from the State of New Jersey designating the proposed route as a "State-designated route."

Vincent, 1984

December 5, 1984

State officials deny GPU/JCP&L use of the Northern Route and propose the Southern route.

In proposing the Southern Route as an alternative, and as a prerequisite for issuance of a permit, New Jersey officials omitted the risk analysis and evidence of adjacent-State consultation required under State-designation of alternative-preferred routes pursuant to HM-164 provisions. They reasoned, that because the Southern Route involved only interstate road segments, except the approved local and state roads used to gain access to and egress from the Interstate System, and therefore are "preferred routes," that the cited HM-164 provisions did not apply.

New Jersey officials also cited the unsuitability of the 37.5-mile segment of the approved route along I-287 south to Exit 7A of the New Jersey Turnpike. This stretch of highway was scheduled for major roadwork during the period of proposed SNF shipments.
New Jersey Department of Environmental Protection, 1984

December 6, 1984

State of Pennsylvania officials advise NRC that the Southern Route designated by New Jersey officials is unacceptable to them.

The Southern Route would increase substantially the transit time of spent nuclear fuel shipments through Pennsylvania compared to estimated travel time via the Northern Route. As a result, Pennsylvania officials advised that they agree only with travel along State roads contained in the NRC-approved Northern Route
Pennsylvania Emergency Management Agency, 1984

December 1984

GPU/JCP&L seeks restraining order and injunction against the State of New Jersey to stop enforcement of the New Jersey statutes requiring a permit before permission to ship spent nuclear fuel is granted.

In the complaint filed, General Public Utilities/Nuclear cited the need to begin shipments immediately in order to complete the series of shipments by May 31, 1985 (per the NYSERDA vs NFS et al., of 1983).

U.S. District Court, 1984c

December 24, 1984

District Court of New Jersey rules in favor of JCP&L declaring the proposed Southern Route as invalid under the provisions of HM-164 (49 CFR § 177.825).

The court enjoined the State of New Jersey from enforcing the provisions of State law preventing spent nuclear fuel shipment and directing the State to issue JCP&L the required Certificate of Handling and to otherwise assist in the orderly completion of the New Jersey segment of the NRC-approved route.

The Court did not rule on the constitutionality of the New Jersey Radiation Protection Act, nor on the violation of the Commerce Clause of the U.S. Constitution; rather it limited its holding to a finding that State designation of the Southern Route was inconsistent with the provisions of federal law and regulations governing transport of spent fuel.

U.S. District Court, 1984c

January 2, 1985

New Jersey State officials notify NRC of its intent to comply with the cited court order.

In the same correspondence, New Jersey complied with an earlier NRC request requiring designation of alternative routes pursuant to HM-164.

New Jersey Department of Environmental Protection, 1985

January 4, 1985

State of New Jersey complies with the Court Order (cited above--January 4, 1984) and issues the required permit.

The State also noted a minor change to local roads in the vicinity of Oyster Creek NGS, which GPU/JCP&L accepted. NRC accepted the minor change instituted by State officials as being in compliance with HM-164.

New Jersey Department of Environmental Protection, 1985

February 1, 1985

State of New Jersey files an appeal of the U.S. District Court Order of December 24, 1984.

This appeal requested reversal of the final judgment invalidating the New Jersey alternative route designation and imposing injunctive relief.

U.S. Court of Appeals, 1985b

April 30, 1985

The U.S. Court of Appeals, 3rd Circuit (Philadelphia, PA) conducts hearings on the appeals of District Court orders entered by Lacey Township, State of New Jersey, and the New Jersey Turnpike Authority.

September 6, 1985

Appellate Court dismisses appeal.

In dismissing the State's appeal as moot, the Appellate Court remanded the matter to the District Court for further proceedings consistent with this opinion. This opinion, declared the Court, "results in the lower court's decision prohibiting the State from interfering with the shipments, to continue to have legal force."

The Court however, did not rule on the constitutionality of the New Jersey Radiation Protection Act nor on regulations promulgated thereunder. The Court did agree on the lower court's analysis that the State's action constituted a state "routing rule" inconsistent with Hazardous Materials Transportation Act because it would have prevented the transport of SNF between two points in New Jersey without providing an alternative route running between those same two points pursuant to 49 CFR § 177, App. A III.1; and

Because it did not ensure reasonable continuity between jurisdictions (Pennsylvania and New Jersey) pursuant to 49 CFR § 177 App. A III.2(d).

U.S. Court of Appeals, 1985b

New Jersey Turnpike Authority (NJTA) vs GPU/JCP&L

Federal law limits the maximum weight to 80,000 lb for vehicles using the Interstate Highway System (IHS); however, special permits can be issued in accordance with applicable State laws or under law or regulations established by appropriate State authority. NJTA adopted the federal weight limitation by its own regulations, NJAC § 19:9-1.9(a)12(iv). However, GPU/JCP&L did apply for a special permit under the exception provisions of federal law. The events that occurred following this action are given below in chronological order.

September 1984 - December 1984

The NJTA conducted a feasibility study to determine the structural ability of those sections of the Turnpike involved in the proposed transport route suitable to carry overweight trucks. The study results indicated that affected sections of the Turnpike were suitable for handling spent nuclear fuel in overweight trucks.

U.S. District Court, 1984b

September 1984 - December 1984

NJTA refuses to issue a special permit and necessary approvals for shipping spent nuclear fuel along the portion of the Turnpike contained in the NRC-approved route (September 26, 1984) unless certain conditions are met.

NJTA set special conditions:

JCP&L must use a four-axle tractor, three-axle trailer combination (to fully distribute the weight of the load over a greater road surface) (GPU/JCP&L agreed)

Prior to shipping, JCP&L must provide a "backup" four-axle tractor within sufficient proximity to permit safe removal of the overweight load from the Turnpike within 2 h of any breakdown.

Removal within 2 h is specifically required by NJTA traffic control safety regulations (NJAC 19.9-1.6(f)), but four-axle tractors are not readily available. GPU/JCP&L apparently advised that it would not or could not comply with the backup tractor condition.

Operations continued under the permit issued by New Jersey Department of Environmental Protection.
U.S. Court of Appeals, 1985c

January 3, 1985

With the first shipment of spent nuclear fuel from West Valley to Oyster Creek, NJTA sues to enjoin GPU/JCP&L from transporting spent nuclear fuel unless and until it complied with the backup tractor condition.

U.S. Court of Appeals, 1985c

January 3-6, 1985

District Court rejects the NJTA complaint.

The Court ruled that the backup tractor requirement was preempted by HMTA (49 U.S.C. §§ 1801-1812), as the requirement imposed an additional equipment requirement due to the nuclear nature of the cargo and was not related to enforcement of federal weight restrictions pursuant to the Federal Aid Highway Act, and as such was contrary to Hazardous Materials Transportation Act.

The Court order also denied the New Jersey Turnpike Authority motion for a stay pending appeal, ensuring continuation of spent nuclear fuel transport. With this denial, the NJTA voluntarily dismissed its appeal.

U.S. Court of Appeals, 1985c

January 6, 1985 (approximately)

First shipment completed without incident, and New Jersey Turnpike Authority refuses to permit the return of empty spent nuclear fuel casks from Oyster Creek to West Valley.

With this action, NJTA attempted to enforce its traffic and safety regulations reasoning that because SNF was not being transported, that HMTA preemptive provisions no longer applied.
U.S. Court of Appeals, 1985c

January 11, 1985

District Court determines that return shipments are part of the entire shipping campaign and thus governed by the provisions of HMTA.

U.S. Court of Appeals, 1985c

January 14, 1985

Court rules that NJTA was precluded from interfering with the return shipments of empty casks.

U.S. Court of Appeals, 1985c

February 26, 1985

Court enters final judgment dismissing the NJTA complaint and permanently enjoining the NJTA from interfering with the shipments (going or returning).

The court also denied NJTA's motion for a stay pending appeal.

U.S. Court of Appeals, 1985c

March 1, 1985

The NJTA files for appeal of the Court Order cited above.

U.S. Court of Appeals, 1985c

April 30, 1985

The U.S. Court of Appeals, 3rd Circuit (Philadelphia, PA) conducts hearings on the appeals of District Court orders entered by Lacey Township, State of New Jersey, and the NJTA.

September 6, 1986

Appellate Court dismisses the NJTA appeal.

Because the 6-month West Valley to Oyster Creek shipping campaign was complete, the Court rendered the injunction proceedings meaningless.

In retaining the authority to fashion a decree clarifying the lower court's decision, the Appellate Court vacated the District Court's decision and remanded (to the lower court) with direction to dismiss the action in order to strip the decision of legal consequences. In fashioning this decree, the Appellate Court stated that its action "clears the path for future relitigation of the issues between the parties and eliminates a judgment, review of which was prevented by happenstance."

Also, in the opinion rendered, the Court commented that there is no dispute that the NJTA has the authority to enforce provisions of the Federal Aid Highway Act with respect to passage of overweight loads over the IHS. "Where the NJTA failed," added the Court, "is in establishing reasonable expectation that overweight loads traveling over sections of the Turnpike were capable of repetition," citing that no evidence had been placed in the record that GPU/JCP&L-owned spent nuclear fuel will again be transported away from its present resting place at Oyster Creek NGS.

U.S. Court of Appeals, 1985c

Events and Issues Not Involving Litigation

Other events and issues of no lesser importance than those discussed above, and not requiring litigation for resolution, also emerged in this campaign. They begin with a state agency's response to a Sierra Club inquiry concerning the State's plans for addressing issues of the then imminent Oyster Creek campaign. The New Jersey response corroborates early positive statements made on spent fuel transportation.

Issues involving transport vehicle integrity, the provision of shipment escorts, and the need for improved dissemination of advance notification information following receipt at the state-level are also discussed.

October 15, 1984

New Jersey Department of Law and Public Safety Environmental Protection Section responds to Sierra Club that New Jersey accepts the Federal mandate established for regulation of spent fuel shipment.

Briefly, in the response signed by the Attorney General of New Jersey, the following statements were made (paraphrased):

- o Relative to the Sierra Club inquiry concerning enforcement of the NJ Radiation Protection Act (NJSA 26:2D - 23.1 et seq.) at the present time there is no need for court action by the State because the shipper, GPU/JCP&L, has filed an application for a Certificate of Handling as required by State law and the application is under review by competent state authority;
- o Relative to the inquiry concerning State regulations prohibiting spent nuclear fuel transport through communities with populations in excess of 1000 persons per square mile, State law prohibits such transport with certain defined exceptions. However, the State recognizes and accepts the supremacy of Federal law in this case, and realizes that State laws aimed at regulating radiological hazards associated with spent nuclear fuel transport are preempted by federal law. However, we are mindful of the provisions under federal law (49 CFR §§ 177.825 and Appendix A thereto) which permit a state role in regulation of SNF transport. Thus, in our review of GPU/JCP&L's application for a Certificate of Handling, the State of New Jersey interprets the restrictive provisions of State law consistently with the controlling federal regulations;
- o Relative to the Sierra Club request that the State not grant overweight truck permits for the proposed Oyster Creek shipments, the State Division of Motor Vehicles will be advised to ensure that applications for a Certificate of Handling are carefully reviewed and acted upon in accordance with State law; however, the purpose of such regulation of vehicles of excessive weight and dimensions is not intended for protection against possible radiological hazards. Rather, they are directed to State safety and road maintenance concerns and must be applied accordingly; and
- o Relative to a 1983 Sierra Club recommendation that the State intervene in the NYSERDA vs NFS et al., litigation (pending at that time), the State concluded - after noting that the Courts had earlier denied the State of Ohio the right to intervene in cited litigation, that the proposed shipments into New Jersey were permissible under N.J. SA 26:2D - 23.1 et. seq., provided that the shipper meet the requirements for a Certificate of Handling. Further, the State concluded that the utility companies were permitted under the licenses issued to them by the NRC to ship SNF to the original generating reactor sites. For these reasons, it is the Attorney General's opinion that the State had no credible grounds to oppose the Order entered by the U.S. District Court in Buffalo.

Stanley, 1984

January 9, 1985

The Governor responds to Onondaga County officials.

Through his annual message to the State legislature, Governor Cuomo stated that the New York State Police are to be directed to establish trained officers within each troop to escort any SNF shipments within the State whenever they occur.

Cuomo, 1985

January 7, 1985

County officials propose and approve a resolution "requesting the State Legislature to enact provisions requiring advance notification of the chief elected officials of any county in New York State of an impending shipment of spent nuclear fuel through his (or her) county.

Apparently, county officials did not receive an adequate answer from state officials regarding their concern and desire to be notified of impending SNF shipments into and through their jurisdictions.

Onondaga County Legislature, 1985

[Note: As of March 31, 1985, no state legislation had been enacted on the proposed advance notification proposal].

Concerns expressed and action initiated by Onondaga County officials did not result in any direct confrontation nor subsequent litigious conflict with GPU/JCP&L, since in the case cited, a county jurisdiction placed the responsibility for providing overall coverage of SNF shipments on State authorities. In this particular case, State authorities responded positively.

Recurring events (January 1985 - June 1985)

DOE/WVNS and NYDOT/DOH advise GPU/JCP&L and Transnuclear, Inc., of preferred manner of performing corrective action management (CAM) with respect to transport vehicle road worthiness.

The shipper's preference was to perform corrective action management on cracks detected in nonstructural weld areas of transport trailers at regularly scheduled preventive maintenance (PM) periods for transport vehicles. DOE and NYDOT prefer corrective action management when such cracks are detected to avoid unnecessary public concern concerning safety in transport.

Initially, utility personnel insisted that technical analysis of transport system capability supported their claim that cracks in nonstructural weld areas (resulting from normal and expected flexing in trailers under load conditions) did not unduly jeopardize safety in transport and, thus, justified postponing CAM until regularly scheduled PM periods. The utility's shipping

agent, Transnuclear, Inc., also indicated that it would not agree to a New York Department of Transportation-proposed inspection and recertification process for trailers suspected of having the "cracks in nonstructural welds" problem. However, after repeated exhortations to utility management by DOE/WVNS management - in which the importance and high visibility of the West Valley SNF shipping campaigns were cited, GPU/JCP&L and Transnuclear, Inc., voluntarily agreed to effect immediate CAM on detection of faulty or cracked welds as opposed to deferring repair until the regularly scheduled preventive maintenance period for transport systems.

Stiens, 1985

September 25, 1985

Onondaga County officials, in a letter to Governor Cuomo, express concern about safety precautions to be taken by the State during spent nuclear fuel shipments.

This letter was prompted by a GPU/JCP&L briefing to the Onondaga County government (Syracuse, New York, area) on the planned twice weekly shipments of spent nuclear fuel through the Syracuse metropolitan and suburban areas. Basically, the letter (which was given front page coverage by various New York newspapers) expressed concern about:

- o The absence of State Police escort, as was being provided by New Jersey and Pennsylvania authorities for the Oyster Creek shipments;
- o Whether provisions existed for radiation checks of shipments while en route;
- o Whether provisions existed for requiring overall communications network testing just prior to a shipment passing through a densely populated locality; and,
- o need for an advance notification (of shipments) system for local government officials.

County officials thus, were expressly asking their state government--not the utility or the federal regulators--to provide appropriate answers and make the appropriate decisions to ensure them that adequate coverage of SNF transport through their jurisdiction was being established prior to the start of shipments.

Pirro, 1985

APPENDIX E

Chronology of Events Monticello to Morris Campaign

April 1984 through October 1984

April 1984

Northern States Power (NSP) Company holds press conference to officially announce the utility's plans to ship 1058 fuel assemblies from Monticello to Morris Operations in late 1984.

According to NSP spokesmen, the press conference was preceded by prenotifications to public officials, such as mayors, utilities commission members, other local government and agency officials, and fire and law enforcement personnel advising them of the plan to ship spent fuel. In addition, NSP also sent copies of the announcement to major news media in the Twin Cities and to the media along the proposed route.*

NSP, 1985

June 1984

According to NSP spokesmen, utility representatives initiated discussion and negotiations with the Wisconsin Department of Natural Resources (DNR) concerning conditions, characteristics, and requirements relating to the planned shipments.

NSP, 1985

*See Figure 3-1 and details of Table 3-2.

September 1984

The Wisconsin Environmental Review Board makes known its opposition to the planned Monticello spent fuel shipments.

The Board stated that there were some unanswered safety and environmental questions concerning the planned shipments.

Chicago Tribune, 1984

October 1984

Minnesota State senate subcommittee holds public hearing concerning planned shipments of spent fuel from Monticello to Morris.

Proponents and opponents of the shipments commented at the hearings as follows:

NSP media services personnel hailed the safety and security precautions to be taken for planned shipments and cited incident-free prior transport experience for spent fuel;

Spokesman for the Minnesota Public Interest Research Foundation (MPIRF) denounced the shipments as potentially catastrophic. MPIRF also issued a request to the Governor to issue an Executive Order postponing start of shipments until the Legislature has had an opportunity to address the need for shipments, as well as safety issues;

Several State senators, although not stating that they believed the nuclear transport system is 100 percent failsafe, nevertheless, stated that they believed the authorities (DOT, NRC, State environmental, nuclear, and emergency management personnel, etc.) had done all they could to ensure safety in transport; and,

Other legislators opined that eventually the state government might enact legislation pertaining to spent fuel transport.

Minneapolis Star, 1984

October 9, 1984

The Minnesota Environmental Quality Board refuses to order a state-sponsored study of NSP's Monticello to Morris shipment plans.

Chicago Tribune, 1984a

November to December 1984

Early November 1984

The St. Paul, Minnesota, City Council approves a resolution asking for an evaluation of the proposed Monticello shipments and the City's ability to respond to an accident resulting from this transport.

The council resolution would specifically ask the city's emergency preparedness coordinator to review procedures to be followed by hospitals and emergency personnel in the event of an accident. The resolution also called on the Mayor to ask the Governor to investigate the need and safety of the proposed shipments before they begin, despite the fact the Governor had previously indicated, in an official statement, that he did not plan to intervene in the proposed shipment program.*

St. Paul Pioneer Press, 1984

November 5, 1984

A spokesman for the Wisconsin Department of Natural Resources (DNR) acknowledged to the media that Monticello spent fuel shipments would probably begin in late November 1984.

The spokesman also indicated that a dispute had arisen between DNR and NSP over transportation requirements the DNR says the company should meet before shipments can begin.

At issue is the list of minimum precautions NSP should take to prevent a spill (resulting from a transportation incident involving release of radiation or radioactive material) or minimize the environmental damage that would result should a spill occur. The so-called Spill and Mitigation Plan required by the DNR also includes:

Outlines of personnel training procedures for shippers and carriers;

*In an NRC/DOT-sponsored study of state-alternative route designation performed in 1985, Minnesota Officials expressed satisfaction with federal regulatory control of spent fuel transport, particularly, routing, and as a result, Minnesota did not consider it necessary to establish a state-routing agency for designating alternative routes pursuant to HM-164 (Deidre Krause, Div. of Emergency Services, Dept. of Public Safety).

Equipment testing, security, and emergency preparedness measures to be taken; and

Emergency response and evacuation plans.

According to a DNR spokesman, NSP submitted a fairly good plan for protecting human health in case of a spill, but failed to outline adequately the NSP plan for preventing or minimizing damage to the environment.

NSP, reacting to DNR's declaration that the Spill and Mitigation Plan submitted by the utility was inadequate, suggested that the DNR request was unreasonable and that NSP should not be required to meet any requirements beyond those mandatory requirements set forth by the NRC and the U.S. DOT. NSP further expressed concern to DNR that the utility was being singled out arbitrarily in being asked to submit a spill response plan before transport. NSP cited the West Valley to Point Beach shipments (completed in October 1984) and the previous Morris to Point Beach shipments which traveled through Wisconsin with no similar plan required for transport approval.

DNR responded to NSP by pointing out that the Point Beach shipments were not subject to DNR's spill prevention and mitigation plan requirements. The West Valley to Point Beach and Morris to Point Beach shipment plans were announced before Wisconsin statutes regulating spent fuel transport were strengthened in 1983 with the requirement for such plans. DNR vowed that requirements now being levied on NSP would constitute the basis for minimum requirements in all future instances of spent fuel transport in Wisconsin. For now, the DNR indicated the NSP fuel shipments are 'on hold' until NSP and DNR can effect a compromise on the spill and mitigation plan submission.

Wisconsin State Journal, 1984a

November 9, 1984

NSP advises media that it intends to begin spent fuel shipments from Monticello.

Despite the St. Paul City Council resolution and the Wisconsin DNR's position on a spill prevention and mitigation plan (with requirements NSP considers unreasonable), NSP prepares for shipments.

November 9, 1984

Wisconsin authorities announce plans to halt shipments.

If NSP does not provide the required details on emergency management and response plans, Wisconsin plans to halt the shipments.

Chicago Tribune, 1984a

On or about November 20, 1984

Initial shipment passes through the Town of Maiden Rock, WI (population 614), violating a hastily passed town ordinance.

The October 1984 ordinance, patterned after a model ordinance previously distributed by a former Wisconsin congressman required:

Advance notice (to town officials) of nuclear waste shipments scheduled to pass through the area;

Proof that the shipment is in the public interest;

A permit fee to be used to defray the cost of training emergency personnel; and,

Payment of a fine of up to \$1,000 per violation of the ordinance.

Following violation of the ordinance, Maiden Rock officials discovered that their community was the only one enacting the restrictive transport ordinance. The supporters for the ordinance had cautioned local governments of possible challenges upon ordinance enactment, but urged the communities to pass the ordinance as a way to express to NSP opposition to the spent fuel shipments.

The originator of the model ordinance noted some towns along the route declined to pass the ordinance believing that regulation of the Monticello shipments was a state responsibility. Others were reluctant because of the threat of legal costs in the event NSP challenged the ordinance.

NSP indicated to the media that the utility was aware of the Maiden Rock ordinance before the first shipment, but knowingly did not comply because of company policy. The utility policy is to ignore restrictive local transport ordinances pertaining to spent fuel transport until attempts are made by local officials to enforce them.

One town board member told the media that with an annual levy of \$65,000, the Town of Maiden Rock was not financially able to fight the utility in court in the event the ordinance was challenged. The ordinance sponsor indicated that NSP would be served a notice of violation and could then pay a fine or attempt to fight enforcement of the ordinance with litigation.

St. Paul Press, 1984b

November 21, 1984

First shipment of spent fuel leaves Monticello enroute to Morris Operations.

A Burlington Northern (BN) train loaded with two IF-300s on separate rail flat cars began the 425-mile trip through parts of Minnesota, Wisconsin, and Illinois without incident. The train carried no freight other than the spent fuel.

Protesters demonstrated in downtown La Crosse, Wisconsin, and Minneapolis, Minnesota, as the train, at under 35 mph, went through the city.

An Aurora (Illinois) Beacon-News feature story--"Nuke train rolls quietly"--reported that opponents were still upset over the shipments. The news article also stated that attempts by the Governor of Wisconsin to delay the start of shipments had failed. The Governor, 2 days earlier, had attempted to persuade NRC to halt the shipments until further guidelines could be written for handling such shipments.

The BN train was protected by armed guards; two escort teams of health physicists from the Illinois Department of Nuclear Safety (DONS) accompanied the train in vehicles near the rail route. The Beacon-News article noted, in quoting an Illinois DONS spokesman, that a health physicist was also aboard the train.

Beacon-News, 1984

November 22, 1984

The initial shipment of 7 tons (approximately 6.4 metric tons of uranium) of spent fuel arrive at Morris Operations and are immediately inspected for radioactive contamination.

Representatives of the Illinois DONS, the U.S. NRC, the Illinois Commerce Commission, and the Federal Railroad Administration monitored the arrival of the initial shipment.

Chicago Tribune, 1984c

November 21-22, 1984

Residents and officials in Rochelle, Illinois, react to initial shipment of spent fuel passing through their area. Cited in the press were NRC assurances that shipments would be closely monitored while traveling through the state. Rochelle officials noted that the local government had no plans to challenge the shipments, but that the city would develop evacuation plans delineating what action will be taken by police and fire departments in the event of an accident.

Dixon Telegraph, 1984

On or about November 30, 1984

Office of the Governor of Wisconsin spokesman advises media that the state still desires to ban spent fuel shipments.

Although the "eventless transport" of the initial shipment from Monticello to Morris was completed, the Governor's staff announced plans to petition the NRC to rescind its approval of the spent fuel shipments. The spokesman noted the petition may appeal the shipments on several grounds, including:

Asking for a review of NSP's license;

Appeal NRC approval of the rail route; or

Question the NRC authority to rule on the shipments.

Wisconsin State Journal, 1984b

December 17, 1984

The NRC docketed a petition received on December 13, 1984, from the State of Wisconsin requesting the Commission to establish a regulatory process to provide an opportunity for public participation in evaluating and approving proposed shipments of irradiated fuel.

Key features of the petition include:

A claim that no federal agency considers the need for a particular shipment of spent fuel or the propriety of the shipment in light of potential risks and that the public has no opportunity to participate in the decision.

The inclusion of a rule requiring advance approval to ship spent fuel in quantities exceeding 100 g and the inclusion of provisions in that rule stating that decisions involving approval to ship may require an Environmental Impact Statement (EIS) (often a lengthy process).

Federal Register, 1985

December 27, 1984

NSP officially notified of the existence and violation of the Town of Maiden Rock's restrictive transport ordinance.

U.S. District Court, 1985

January 1985 - April 1986

January 2, 1985

The Wisconsin DNR issues an administrative order banning further shipments.

Following failure (November 1984) to persuade the NRC to intervene and delay the start of fuel shipments from Monticello, Wisconsin sought to ban shipments. Wisconsin was still negotiating with NSP over submission of additional spill and mitigation plan data. DNR notified NSP on December 21, 1984, that its latest submission of plan data was still inadequate. The administrative order was to take effect in 10 days after issuance (January 12, 1985) unless NSP requested a hearing on the action.

Kankakee Journal, 1985

January 3, 1985

The State of Wisconsin obtains a court-ordered temporary restraining order (TRO) preventing NSP from continuing shipments in defiance of the state-issued administrative order.

January 7, 1985

NSP formally asks DNR to schedule a hearing on the Dane County Circuit Court temporary restraining order.

Simultaneously, the Circuit Court lifted the TRO granted earlier, citing that the DNR order had not yet gone into effect.

Nuclear Waste News, 1985

January 7, 1985

NSP files a legal complaint in U.S. District Court against the Town of Maiden Rock, Wisconsin, seeking a preliminary and permanent injunction of enforcement of the Town's restrictive spent fuel transport ordinance.

U.S. District Court, 1985

On or about January 8, 1985

The TRO prohibiting shipment is lifted, and NSP immediately resumes shipment of spent fuel from Monticello to Morris Operations.

Capital Times, 1985

January 16, 1985

Final arguments are heard in Dane County Circuit Court on whether the DNR can order NSP to write a spill prevention and clean up plan before the utility is permitted to continue with the Monticello campaign.

Wisconsin state attorneys arguing the case asked the court for a temporary injunction to stop the shipments until a scheduled January 29, 1985, meeting between NSP and DNR concerning the administrative order could be held.

Wisconsin State Journal, 1985a

January 25, 1985

Wisconsin's request for a temporary injunction (cited above) is denied.

In denying the injunction, Judge Jones, Dane County Circuit Court, stated that the DNR order goes beyond current federal regulations on transport of spent fuel.

Milwaukee Sentinel, 1985

January 23, 1985

Residents and local government officials hold town meeting to decide whether to enforce or rescind its ordinance restricting spent fuel shipments through the Town of Maiden Rock.

USA Today, 1985

About January 24, 1985

Maiden Rock, Wisconsin, notifies the U.S. District Court, State of Wisconsin, that it will not enforce its ordinance restricting spent nuclear fuel shipments.

Immediately prior to the town meeting (held on January 23, 1985) to make this decision, the town learned that the Wisconsin Radioactive Waste Review Board had declined to recommend that the State's attorney general help Maiden Rock respond to the legal challenge represented by the NSP legal complaint filed January 7, 1985.

Energy Daily, 1985

March 4, 1985

The NSP and DNR file briefs in Dane County Circuit Court; the Wisconsin governor contacts other State governors.

Several events continued the conflict:

The Wisconsin State Attorney General filed a brief in Dane County Circuit Court contending that DNR has a right to require NSP to submit a spill prevention and cleanup plan as condition for shipment;

NSP filed a counter brief contending that only the federal government has the right to regulate spent fuel transport;

The Governor of Wisconsin contacts the 49 other governors asking them to join him in petitioning the NRC for more participation and authority in regulating spent fuel transport.

Wisconsin Journal, 1985b

April 5, 1985

The Attorney General, State of Illinois, advises media that Illinois has submitted comments to the NRC in support of the petition for proposed rulemaking submitted by the State of Wisconsin in December 1984.

The Illinois Attorney General cited the 270 shipments of spent fuel made to Illinois in the last 2 years (without incident), but opined that there still remains a need for uniform safety rules for handling and transporting spent fuel. He also suggested that the Federal Government has no uniform emergency response with regard to potential transportation-related incidents.

Chicago Tribune, 1985

June 6, 1985

Judge Charles Jones, Dane County Circuit Court, grants summary judgment to NSP.

In this judgement it was held that the Wisconsin DNR lacked the authority to impose its administrative order (no. 2A-84-1246) on NSP. In rendering his decision the judge emphasized that:

The underlying issue is not will (or should) radioactive materials be shipped through the State of Wisconsin or will (or should) it be shipped by rail on the existing route. Those facts are a fait accompli.

Dane County Circuit Court, 1985

August 1985

The Illinois Safe Energy Alliance (ISEA) files a 10 CFR § 2.206 petition with the NRC requesting the Commission to prepare a full federal EIS on the General Electric Morris Operations storage facility.

ISEA, 1985a

Late October 1985

News article in the Aurora, Illinois, Beacon-News cites the nearly 1-year continuation of the Monticello campaign and the continuing controversy over the spent fuel shipments.

Comments, as in earlier Beacon-News articles, express that the 11 months of shipments represent both a real success story and a potential health threat to human population, depending on who is quoted. A sample of comments supports this claim:

The public information director for the NPPD commended NSP for shipping effectively, efficiently, and safely over 11 months in which over half of the estimated 30 shipments were made (the entire program was originally projected and announced to require 5 years);

Emergency services officials in Aurora and Kane Counties, Illinois, indicated that they knew of no problems that had occurred in the nearly 1-year program; NRC regional officials and officials from the Illinois Department of Nuclear Safety corroborated the observation of no incidents marring the shipments;

Environmentalists and public interest groups opposing the shipments, however, alleged that recent shipments from Monticello were getting "hotter," with radioactive output (activity) reaching 1.9 curies compared to output readings of 750,000 curies with initial shipments. Spokespersons from both the ISEA and MPIRF (public interest groups based in Illinois and Minnesota, respectively) claim the higher readings result indirectly from the shipping of 2-1/2 years of spent fuel in a period of 11 months;

Spokespersons for the Illinois DONS and the Minnesota Department of Health acknowledged the environmentalists' assertion that later shipments from Monticello appear to have a higher radioactive content, but confirmed that the readings are within federal standards;

Aurora officials expressed concern that elevated Burlington Northern railroad tracks in downtown posed a potential safety hazard; and

Wisconsin officials requested, through a petition to NRC, more State and local input in matters pertaining to spent fuel transport.

Beacon-News, 1985

November 1985

The NRC denies the Illinois Safe Energy Alliance petition.

The ISEA petition had sought an EIS on the Morris Operations facility prepared by the NRC.

Radwaste News, 1985

April 14, 1986

The Wisconsin petition to the NRC (Dkt-PRM-71-10) for proposed rulemaking affecting regulation of spent fuel transport is still under staff consideration.

NRC officials estimated the final decision and comments on the petition will be available in May 1986.

Hopkins, 1986

APPENDIX F

Chronology of Events Cooper Station to Morris Campaign

Early 1982

An out-of-court settlement involving buy-back clauses in fuel contracts between GE and NPPD paved the way for initiation of plans to ship in 1983.

August 1982

Nebraska State Legislature conducts hearing on interim study on NPPD's plans to ship spent fuel.

Among the spokesman providing testimony supporting the safety and security of spent fuel transport as regulated by the NRC and DOT were, R. Jefferson (Sandia National Laboratory), J. Pilant (Manager, Licensing and Quality Assurance, NPPD), L. Wallis (Health Physicist, GE), and R. Kuhlman (BN Railroad Company), and E. Voiland (Manager, GE's Morris Operations).

The Sandia spokesman cited data from transportation files at SNL showing that spent fuel casks are designed to survive catastrophic transportation accidents and are subjected to strenuous cycles of quality assurance testing to provide reasonable confidence that the casks will survive. J. Pilant provided testimony to the committee describing NPPD's overall plans for conducting the 5-year shipping campaign. In this testimony, the NPPD spokesman defended the utility's selection of shipment of fuel in lieu of on-site dry storage. Pilant rejected on-site dry storage, an alternative proposed by opponents to the fuel shipments, as costly and untested. The NPPD spokesman noted that (in August 1982) demonstration projects for on-site dry storage were in the preliminary testing stages and had not yet proved to be licensable. Pilant added that project costs for on-site dry storage of approximately 182 MT of spent fuel would require an expenditure of \$30 million, and more, if licensing problems were encountered in the future. The rail transport option, in contrast, was projected to cost between \$1.5 million to \$2.0 million.

R. Kuhlman testified that the railroads do not approach the transport of nuclear spent fuel in a leisurely manner. The BN spokesman reminded committee members that regulations are stringent, and that commercial handling of spent fuel by railroads has the highest degree of safety he is aware of. E. Voiland of Morris Operations cited the incident-free transport record the nuclear transport industry has enjoyed for greater than 30 years.

NPPD, 1982

August 1982

White paper issued by a coalition of groups to inform public of spent fuel shipments through their areas. NPPD responds with counter white paper followed by a Sandia report.

The anti-shipment white paper entitled "Cooper Station's Special May Be Coming Through Your Town," addressed five basic areas of concern as follows:

- o The safety aspect of rail casks;
- o Whether Lincoln (or any Nebraska jurisdiction) could ban the shipments;
- o A preference for on-site storage in lieu of transport;
- o The volume and frequency of shipments; and,
- o What further action citizens could take to oppose the shipments.

The coalition sponsoring the white paper opposing the Cooper shipments included the following organizations:

- o Brotherhood of Locomotive Engineers (a local union);
- o United Transportation Union;
- o University of Nebraska - Residence Hall Association;
- o Nebraskan's for Peace;
- o The Sierra Club;
- o University Place Community Organization;
- o Lincoln (NE) Alliance;
- o Dr. John H. Hanson - Physicians for Social Responsibility.

The NPPD responded to the anti-shipment white paper by publishing a counter-white paper (NPPD White Paper - The Cooper Station Special..., August 1982), which responded to each of the concerns expressed in the former. According to the NPPD white paper, the coalition's concerns appeared to be well-written and documented, but as utility officials claimed, contained primarily the same references as found in the Council of Economic Priorities (CLP) publication, The Next Nuclear Gamble.

NPPD responded using a format identical to that used in the federal response to the CLP publication. The federal response (SANDIA Report, SAND 82-1250, "Analysis of Recent Council on Economic Priorities Newsletter," May 1982; April 1983) to the CLP publication, followed point by point the claims made in the anti-shipment white paper. Utility spokesmen expressed that

the real concern involves establishing credibility and public acceptance of the safety and the need for the planned spent fuel transportation project. By compliance with prescribed regulations, by rigidly adhering to quality assurance programs, by imposing rigorous training, inspection, and approval procedures, NPPD can assure the safety of its spent fuel shipments... In the last analysis, unless the general public is willing to accept nuclear materials transport as an essential part of its everyday energy, industrial and medical needs, there is grave concern for the future of this valuable technology and energy option.

January 1983

Rail route approval requests submitted in 1982 are approved by the NRC without comment.

As shown in Figure 3-2, the approved route runs through several southeast Nebraska towns and cities, including Lincoln, before it crosses the Nebraska/Iowa border. From Pacific Junction (see Table 3-4), the route continues along tracks of the BN railroad across Iowa and into Illinois. At Eola (near Aurora, Illinois) station, the EJ&E railroad assumes carrier responsibilities and completes the trip to Morris Operations.

Lincoln Star, 1983; NPPD, 1982

August 21, 1984

First and only shipment leaves Cooper Station for Morris Operations.

The BN and EJ&E trains transporting the spent fuel consist of:

- o One locomotive
- o Two cask cars nominally (so far, only the initial shipment has used 3-cask cars)
- o Three empty cars (with one empty car separating cask cars from each other, and from cabooses and locomotive respectively;

- o One escort caboose; and
- o One crew caboose.

A chase car follows the train from point of origin (Brownsville, Nebraska) to final destination (Morris, Illinois). Communications are maintained between the chase car and escort personnel (Nebraska Public Power Security) continuously.

DOT, 1983

APPENDIX G. CHRONOLOGY OF EVENTS
VEPCO DEMONSTRATION PROJECT SURRY TO INEL CAMPAIGN

Early 1980s

VEPCO officials encounter opposition to its plan for extending the reactor's useful life.

Louisa and Spottsylvania County officials opposed VEPCO's plan to transship Surry fuel to VEPCO's North Anna reactor site in 1982 by filing 10 CFR § 2.206 petitions with the NRC objecting to the route approved (or submitted) for this purpose. Subsequently, Louisa County officials, joined by a citizens' group, intervened against VEPCO applications filed with the NRC concerning an increase in pool storage and transshipment receipt and storage at North Anna. The county also enacted a restrictive transport ordinance, and litigation continued throughout 1982 and 1983.

Federal Register, 1982

Smith and Wakeman, undated

March 1983

County ordinance ruled unconstitutional; but appealed by the county.

Spring 1984

VEPCO decides to pursue on-site dry-cask storage.

When Louisa County officials learned of the decision, they agreed to drop their protest actions. This approach meant transshipments to North Anna and less storage at North Anna than originally projected. Under the agreement, which the County Board of Supervisors passed by a vote of 5-2, the county dropped its appeal of the court decision on the restrictive transport ordinance, and withdrew the petitions filed with the NRC.

Washington Post, 1984

June 1985

After three postponements and a 24-hour delay, the first segment of shipments begins. Fifteen shipments were completed in two segments of 7 and 8 shipments each (3 assemblies per shipment) without major incident. Excluding the initial postponements and delay, this DOE-managed shipment campaign was routine.

Richmond newspapers noted the three postponements and the 24-hour delay that was experienced with the first shipment in June 1985.

Richmond News Leader, 1985a

July 1985

An unscheduled stop due to mechanical problems in the tractor occurs.

Media coverage included complaints of local officials on an apparent lack of any party to accept responsibility for the breakdown. The article quoted both a VEPCO spokesman as denying utility responsibility and a state emergency management official, who absolved his agency by citing his department's advisory capacity.

The article also noted that local officials observing the breakdown, towing and subsequent repair of the disabled transport vehicle, were critical of trip planning that appeared to lack consideration or have a back-up plan for mechanical failure in the transport vehicle.

According to the news article, an on-scene DOE spokesman advised that the incident did not impact the safety of the shipment and, thus, did not warrant a re-evaluation of the department's contract with Tri-State Motor Transit Company, its carrier. VEPCO officials, however, advised the press that utility officials planned to meet with DOE and Tri-State officials and make their concerns known about "glitches" occurring in the shipment campaign.

Richmond News Leader, 1985b

November 1985

Route changes in the Surry campaign cause some expression of concern in neighboring Tennessee.

DOE announced plans to switch to the Southern Route for the second series of shipments to INEL. A Nashville newspaper carried a front page story on DOE plans to use I-40 and I-81 in Tennessee as part of its "winter route for truck shipments of spent fuel to DOE facilities in Idaho."

The news article summarized particulars describing the Surry campaign, then quoted State and local officials who voiced concern about the shipments and use of interstate highways in Tennessee.

State Representative T. Wheeler remarked that the planned transport through Tennessee would create another issue at a time when DOE is trying to "sell" the Legislature, the Governor, and the public on MRS. Wheeler claimed the shipments would just aggravate what is already a controversial issue. The area's public service commissioner, who opposes the location of an MRS facility in Tennessee, suggested that DOE limit their Surry to INEL shipments to the warmer months of the year. The commissioner reasoned that by completing spent fuel shipments into and through Tennessee, the Department was seeking to establish that transport of radioactive waste through the State is a fait accompli. The commissioner also vowed to continue to protest DOE plans to use the Southern Route.

The same news article also quoted M. Huggins, the Deputy Commissioner of the State Department of Health and Environment (DOH&E) as alleging that there were positive aspects to DOE's plan to ship spent fuel from Virginia through Tennessee. "It provides a trial in terms of developing a working relationship between the State and DOE on the kinds of transportation concerns that would be part of an MRS in Tennessee."

A DOE official announced to the Tennessee press (and apparently, to appropriate officials), that State officials would be notified of individual shipments as a courtesy, though not required to do so.

News-Sentinel, 1985

September 30, 1985

NRC issues letter of approval and a safety evaluation report for the topical report on the Castor V cask, manufactured by a foreign firm, Gesellschaft fuer Nuklear-Service mbH following performance testing at INEL.

The Castor V is the first commercially available cask to be approved by the NRC for dry storage of spent fuel. Approval of the Castor V, a nuclear newsletter reports, should clear the way for approval of VEPCO's license application to the NRC to build and demonstrate an independent dry storage facility for unconsolidated fuel at Surry. If successful, the result will provide an alternative for VEPCO in addressing storage problems at Surry. VEPCO's dry storage application which was submitted in 1982 (as previously cited), references the Castor V topical report would allow use up to 84 casks. The utility may later submit an application for dry storage of consolidated fuel following subsequent phases of performance testing at INEL under the Cooperative Agreement. The Castor V is also designed for spent fuel transport, and the U.S. subsidiary of the cask manufacturer, plans to submit an application to NRC for transport certification in 1986.

Nucleonics Week, 1985

April 1986

The third segment of the Surry to INEL campaign begins.

Two routes approved by DOE, designated the Northern and Southern Routes for use in summer and winter, respectively, are used. Both essentially use interstate highways, although there is some use of non-interstate highways. One-way shipment mileage via the Northern route is approximately 2600 miles, and via the Southern route, approximately 200 miles longer.

Long, 1985

APPENDIX H. CHRONOLOGY OF EVENTS
BROOKHAVEN CAMPAIGN

January 1976

New York City amends its health code to establish a permit requirement for each shipment of specified RAM transported into or through the City.

This requirement effectively banned commercial shipments of spent fuel and other radioactive material through New York City.

New York City Health Code, undated

The Federal Government files for a temporary injunction in the New York City requirement. When the injunction was denied, the government sought alternative routes for fuel transport

April 8, 1976

Transport restrictions adopted by Connecticut officials bar route through Connecticut, and last shipment is made.

BNL was using the Orient Point Ferry to New London, Connecticut, and alternative highway routes through Connecticut.

1977

AUI (BNL) files application for an administrative ruling on the question of whether § 175.111(1) of the New York City Health Code is inconsistent with HMTA, and therefore preempted.

April 20, 1978

DOT, in its first Inconsistency Ruling (IR), rules the New York City Health Code amendment not inconsistent with the HMTA or its present rules, and therefore not preempted.

Recognizing the implications of this ruling, with respect to a growing number of State and local bans on transport of radioactive material, DOT announced its intent to examine the need for federal routing regulations and advised that the New York City restriction could be affected in the future as a result of DOT rulemaking along these lines.

Federal Register, 1978

June 1978

Connecticut authorities enact restrictive transport ordinance affecting spent fuel shipments.

Summer 1978

New London, Connecticut, authorities deny DOE/BNL a permit to make 6 to 15 shipments of spent fuel through the area.

August 1978

DOT initiates rulemaking action on highway routing of radioactive material under docket HM-164.

January 19, 1981

DOT adopts and issues a Final Rule, HM-164, which establishes, a system of preferred routes for transport of spent fuel, comprising the highways of the Interstate Highway System supplemented by non-interstate highways selected and approved by state routing agencies* as defined in the Final Rule. (HM-164 is codified at 49 CFR §§ 171-173, and 177 and became effective in February 1982.)

During the rulemaking process under Docket HM-164, New York City officials repeatedly urged DOT to consider transporting by barge an alternative for transporting spent fuel around urban centers not served by circumferential highways, as is the case for New York City. While acknowledging that a state routing agency could designate an established ferry route as part of an alternative-preferred route, DOT considered the barging provision to be inappropriate for inclusion in a highway rulemaking of national applicability.

In addition to declining to incorporate a barging provision in the Final Rule, DOT also denied as premature a New York City request to DOT to accompany the Final Rule with a determination waiving preemption of the City's restriction of highway transport of spent fuel.

*Refer to Appendix A for the definition of a state routing agency as extracted from HM-164.

March 1981

New York City renews its application for a waiver of preemption of its Health Code.

DOT's preliminary response to New York City officials that the City's request would probably be denied if processed as originally submitted. No further waiver of preemption of its Health Code was submitted and no further action was taken.

March 25, 1981

New York City files a complaint in District Court seeking to invalidate HM-164 on numerous grounds.

January 1982

The District Court for the Southern District of New York issues a temporary restraining order against the preemptive effect of HM-164 on the New York City Health Code.

February 1982

The District Court rules that HM-164 violates both HMTA and the NEPA in its preemption of state and local bans on the transport of spent fuel along highways in densely populated areas. The Court enjoined the enforcement of HM-164 on the New York City Health Code amendment restricting spent fuel transport through the City.

May 1982

The District Court amends its decision so as to invalidate HM-164 only insofar as it preempts the New York City Health Code.

1983

DOT and intervening nuclear utilities appeal the District Court ruling, citing that HMTA does not require DOT to maximize safety in spent fuel transport but rather authorizes the Department to set acceptable levels of safety for each mode of transport.

August 1983

The District Court ruling is reversed and the validity of HM-164 is upheld in all respects. The ruling also specified that DOT's refusal to consider the barging alternative in the context of a highway routing rule of national applicability violated neither HMTA nor NEPA.

August 1983

New York City officials file (1) an appeal of the Appellate Court decision to the Supreme Court and (2) a motion for a stay of the Appellate Court order so that the NYC fuel transport restriction would continue until resolution by the Supreme Court.

A counter motion was filed by federal authorities which resulted in the Court denying the New York City motion.

November 1983

The District Court, on instructions from the Appellate Court, issues judgment dissolving its injunction against enforcement of HM-164 and dismissing the legal action prohibiting shipments from BNL.

1983

Appellate Court rules that DOT's refusal to consider shipping spent fuel from BNL to Connecticut by barge) (in the context of a national highway routing rule) violated neither the HMTA nor the National Environmental Policy Act (NEPA).

U.S. Court of Appeals, 1983

February 27, 1984

Supreme Court elects not to review Appellate Court decision upholding the validity of HM-164 in its preemption of a local ban on highway transport of spent fuel in the densely populated New York City area. Action also lets stand the appeals hearing on HMTA and NEPA.

Supreme Court, 1984

March 1984

NYC officials request guidance on appropriate methodology and data which would be required to support their application for a non-preemption determination (NPD).

NYC previously initiated then abandoned an NPD application in March 1981 when DOT advised it would be denied due to deficiencies in data submitted.

Hannon, 1984

April 1984

Mayor Koch (New York City) requests the Secretary, DOT, to grant the City a temporary waiver of HM-164 insofar as BNL's shipments are concerned, until NYC officials have completed the necessary studies to support their application for an NPD.

Mayor Koch asks the Secretary, DOE, to require BNL to route its spent fuel shipments by barge around New York City pending resolution of the City's nonpreemption application to DOT, or continue to store the fuel at BNL. Congressman M. Biaggi (19th District, New York) also requests federal officials to make a favorable decision on the mayor's request.

The appeals to DOT and DOE were given front page and feature-story coverage in the area's major newspapers: The New York Times, New York Tribune, and the Wall Street Journal. Connecticut dailies also covered the situation because of the implications of the barging alternative favored by NY officials.

Negotiation, accommodation, and coordination continued between New York City and federal officials through November 1984.
Hannon, 1985

December 24, 1984

New York City officials submit application for a waiver of preemption of its Health Code, but with regard to only Subsection (4) of § 175.111(1).

DOT interpreted the application to mean that the City sought a nonpreemption determination to enable it to resume enforcement of its preempted ban on the transport of spent fuel exceeding 20 curies through the City

DOT, 1985

January 1985

DOT docketed NYC's application and publishes a notice and invitation to comment with a deadline of March 1985.

February 1985

DOE resumes spent fuel shipments having advised New York City officials earlier that the Department could not allow the City's negotiation with DOT concerning its nonpreemption application to affect DOE plans for resumption of fuel shipments.

May 1985

BNL replaces DOE-certified MH-1A casks with NRC-certified GE-700 casks.

July 1985

BNL temporarily stops shipping due to increase costs of using smaller casks.

BNL officials begin process to modify NRC-certified GE-700 casks to increase capacity.

August 1985

NRC approves modification of GE-700 casks.

September 9, 1985

The DOT Office of Hazardous Materials Regulation issues its first nonpreemption determination--No. NPD-1--and denies New York City's petition for a waiver of preemption of the City's ban on transportation of spent nuclear fuel.

NPD-1 explains that the burden of proof in such deliberations is borne by the petitioner, and is composed on three elements:

- o The threshold showing of exceptional circumstances necessitating immediate action to secure more stringent regulations;
- o A showing that the preempted state or local requirement affords an equal or greater level of protection to the public as compared with the Federal standards; and,
- o A showing that the preempted state or local requirement does not unreasonably burden commerce.

Failure to demonstrate any one of these elements is a basis for denial of the petition. With regard to the first element, New York City officials cited two factors which they claimed constituted "exceptional circumstances" warranting the extraordinary remedy of nonpreemption:

- o New York City is the most densely populated area in the nation; and,
- o New York City does not have an Interstate System bypass or circumferential beltway available to carriers of spent fuel emanating from Long Island, New York.

Because of this combination of unique circumstances, the New York City petition asserted "that the problems in confronting an accident are so great as to warrant avoiding the city if at all feasible."

September-October 1985D

Appeal filed by NYC official on NPD-1.

As of May 30, 1986

NYC officials motion for appeal of NPD-1 is still under review by DOT counsel.

Economides, 1986

APPENDIX I

Federal, State, and Local Government Roles in Emergency Preparedness and Response Capability

Federal agency responsibilities and assignments (i.e., Department of Transportation, (DOT), Nuclear Regulatory Commission (NRC), DOE, Environmental Protection Agency, and Federal Emergency Management Agency (FEMA)) in connection with State and local government emergency preparedness and response measures applicable to radiological accidents and incidents involving transport of radioactive material (RAM) are set forth in Title 44, Code of Federal Regulations, Parts 350 and 360 (44 CFR § 351.1-360.5). These parts define the FEMA role for establishing policy and providing leadership through the Federal Radiological Preparedness Coordinating Committee (FRPCC) in coordinating all Federal assistance and guidance to State and local governments for developing, reviewing, assessing, and testing the transportation portions of State and local government radiological emergency plans (REPs).

The FRPCC consists of FEMA, which chairs the Committee, NRC, Department of Transportation, Department of Energy, Environmental Protection Agency, Department of Health and Human Services, U.S. Department of Agriculture, Department of Defense, Department of Commerce, and on an ad hoc basis, other Federal departments and agencies. The FRPCC assists FEMA in providing policy direction for the program of Federal assistance to State and local governments in developing an emergency preparedness and response capability (EPRC) for transportation-related accidents and incidents. Included in the list of Federal agency assignments that relate to the transportation portions of State and local government EPRC plans are the following:

- o Nuclear Regulatory Commission
 - Assist FEMA and Department of Transportation in preparing and promulgating guidance to State and local governments for their use in developing the transportation portions of REPs;
 - Assist FEMA in developing, implementing, and maintaining public information, training, and education programs;
 - Assist FEMA and other Federal agencies in developing representation scenarios which State and local governments may select when testing and exercising REPs; and
 - Participate with FEMA in assisting State and local governments in developing REPs and evaluating exercises to test and evaluate REPs.
- o Environmental Protection Agency
 - Establish protective action guides for all aspects of REPs in coordination with appropriate Federal agencies,
 - Assist FEMA in developing and promulgating guidance to State and local governments for preparing REPs, and
 - Participate with FEMA in developing and evaluating REPs as is indicated for NRC.
- o Department of Energy
 - Participate with FEMA in assisting State and local governments in developing, evaluating, and testing REPs as are indicated for NRC and Environmental Protection Agency.
- o Department of Transportation
 - Assist FEMA and NRC in preparing and promulgating guidance to State and local governments for use in developing the transportation portions of REPs, in reviewing and approving State and local government REPs, and in evaluating exercises to test such plans, and

- Provide guidance and materials for use in training emergency services and other response personnel for transportation accidents involving RAM and participate in interagency planning for such training.

Pursuant to 44 CFR § 350.1-360.5, the specified Federal agencies and others constituting the FRPCC are to carry out their assigned duties through working subcommittees established by the FRPCC and through Regional Assistance Committees (1 in each of 10 standard Federal Regions).

Complementing the activities of the FRPCC and the Regional Assistance Committees is the FEMA-directed Emergency Management Training Program, which is designed to enhance State emergency management training programs to increase State and local government capabilities. The program is an ongoing intergovernmental effort that combines financial and human resources to fill the unique training needs of local government, State emergency staffs, other State agencies, and the general public. Included in this comprehensive program are program elements specifically related to radiological activities including transportation of RAM. The Emergency Management Training Program is designed for all States (regardless of their current level of involvement in training). Each of the States, independent commonwealths, and territories is eligible to participate in the program upon submission of an application pursuant to 44 CFR § 360.2.b. FEMA provides funding to State participants in the Emergency Management Training Program under the duly constituted State Cooperative Agreement. All States must comply with FEMA General Provisions for the State Cooperative Agreement. The General Provisions are provided to the States as part of the Request for Application package and become a part of the State Cooperative Agreement when awarded (44 CFR § 360).

With respect to State and local government roles in the EPRC area, it is generally assumed (because of the absence of a single

document setting forth the State and local government roles in emergency preparedness and response activities) that State and local governments have the primary role for responding to and handling transportation accidents involving RAM in their jurisdictions (excluding nuclear weapon transport accidents). This responsibility derives from the basic responsibility of a State or a lower political subdivision to protect the health and safety of its constituency.*

*98th Congress, 1984b, "HMTA Reauthorization Bill for FY 1985 and FY 1986," 2D Session, S.2706 (Report No. 98-479).
FEMA, 1983, "Guidance for Developing State and Local Radiological Emergency Response Plans and Preparedness for Transportation Accidents," FEMA-REP-5, Federal Emergency Management Agency.

Pending Legislation of the 99th Congress Relating to Hazardous Waste Transportation

Referred to more than one committee:
House Energy and Commerce
House Public Works and Transportation

A bill to amend the Hazardous Materials Transportation Act to provide for the establishment of regional training centers to assist in improving the emergency response and enforcement capabilities of State and local personnel.

Amends the Hazardous Materials Transportation Act to direct the Secretary of Transportation to enter into cooperative agreements for the establishment of regional training centers to train State and local personnel to: (1) respond to hazardous materials transportation accidents; and (2) enforce State and local hazardous materials transportation requirements. States that such agreements shall be for terms of three years. Requires any party to an agreement with the Secretary to bear the cost of constructing training facilities. Directs the Secretary to provide, upon request, training materials and other assistance as may be appropriate. Requires parties to agreements with the Secretary, in developing training materials, to consider the procedures and standards for responding to hazardous substance releases as set forth in the national contingency plan required under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

A bill to amend the Hazardous Materials Transportation Act to restrict the transportation of radioactive materials through large cities.

Radioactive Materials Transportation Safety Act of 1985.

ABSTRACT

Radioactive Materials Transportation Safety Act of 1985 - Amends the Hazardous Materials Transportation Act of 1975 to prohibit the transportation of any controlled quantity of radioactive materials by public road or highway through or into a city with a population of 50,000 or more.

Exempts from such proscription radioactive materials that are to be used: (1) for medical purposes in the affected city; or (2) during a national emergency.

3.	H.R. 1146
Rep. Weiss
Cosponsors = 23 | Referred to more than one committee:
House Public Works and Transportation
House Energy and Commerce |
|----|--|--|

OFFICIAL TITLE(S):

A bill to amend the Hazardous Materials Transportation Act.

ABSTRACT

Hazardous Materials Transportation Act Amendments of 1985 - Declares the purpose of this Act to be to promote the public safety by providing State and local governments with the authority to adequately meet their enforcement and emergency response responsibilities.

Amends the Hazardous Materials Transportation Act to set forth standards and procedures for the Secretary of Transportation to use in making inconsistency and nonpreemption determinations about State and local safety requirements in relation to Federal requirements.

Directs the Secretary to enter into cooperative agreements for the establishment of regional training centers to train State and local personnel to: (1) respond to hazardous materials transportation accidents; and (2) enforce State and local hazardous materials transportation requirements. States that such agreements shall be for terms of three years. Requires any party to an agreement with the Secretary to bear the cost of constructing training facilities. Directs the Secretary to provide, upon request, training

materials and other assistance as may be appropriate. Requires parties to agreements with the Secretary, in developing training materials, to consider the procedures and standards for responding to hazardous substance releases as set forth in the national contingency plan required under the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

Directs (currently, authorizes) the Secretary to establish (1) criteria for handling hazardous materials; and (2) minimum levels of insurance coverage sufficient to meet injury or damage claims resulting from transportation of such materials.

Directs (currently, authorizes) the Secretary to require transporters or shippers of hazardous materials to submit registration statements and to amend such statements as necessary.

Requires the Secretary to study and determine the most effective, equitable, and cost-efficient method for imposing a fee on all participants in the registration program to assist States or political subdivisions in developing and conducting enforcement and emergency response programs related to transportation of hazardous materials. Requires a report to the Congress on such study within 12 months of enactment.

Authorizes appropriations for FY 1986.

4. H.R. 1433 House Public Works and Transportation
Rep. Collins, C.

OFFICIAL TITLE(S):

A bill to establish a Bureau of Motor Carrier Safety within the National Highway Traffic Safety Administration, and for other purposes.

ABSTRACT

Establishes the Bureau of Motor Carrier Safety within the National Highway Traffic Safety Administration.

States that such Bureau shall be headed by an Associate Administrator for Motor Carrier Safety. Delineates the functions of such Associate Administrator, including implementing the duties and powers of the Secretary of Transportation in such areas as: (1) hazardous materials transportation; (2) noise control; and (3) motor carrier and bus regulations.

5. H.R. 1695 Rep. Oakar Cosponsors = 11	Referred to more than one committee: House Public Works and Transportation House Energy and Commerce House Interior and Insular Affairs
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OFFICIAL TITLE(S):

A bill to establish certain restrictions on the transportation of high-level radioactive waste and spent nuclear fuel.

SHORT TITLE:

Nuclear Waste Transportation Safety Act of 1985.

ABSTRACT

Nuclear Waste Transportation Safety Act of 1985 Prohibits the transportation of any high-level radioactive waste or spent nuclear fuel from the site at which it is located or generated to any site other than a repository or test and evaluation facility.

Exempts from such restrictions high-level radioactive waste or spent nuclear fuel that is to be transported by or under contract with the Department of Energy if the Secretary of Energy certifies: (1) compelling reasons of public health, safety, or national security require immediate removal of the waste or spent fuel to another site; (2) receipt of written approval of the appropriate official of each State through which, and the governing body of each Indian tribe through whose reservation, the waste or spent fuel is to be transported; and (3) adequate financial protection or indemnification to cover any public liability arising out of such transportation.

Amends the Internal Revenue Code to: (1) impose an excise tax upon the shipment of hazardous materials; and (2) establish in the Treasury the Hazardous Materials Trust Fund.

7. H.R. 3932	Referred to more than one committee:
Rep. Moody	House Interior and Insular Affairs
Cosponsors = 1	House Energy and Commerce
	House Public Works and Transportation

OFFICIAL TITLE(S):

A bill to provide for State regulation of the transportation of high level radioactive waste.

ABSTRACT

Amends the Atomic Energy Act of 1954 to prohibit the transportation of any high level radioactive waste or spent nuclear fuel without a license granted by the Nuclear Regulatory Commission (The Commission). Sets forth the details of such license application, including emergency procedures in the event of a potential release of radioactive waste.

Directs the Commission to prepare an environmental assessment detailing the basis of its decision to issue a nuclear waste transportation license prior to the issuance of such license. Sets forth the details of such assessment. Directs the Commission to impose shipping restriction (based upon such environmental assessment) which will either minimize risk or enhance the potential for containment and clean up in the event of accidental radioactive waste releases.

Directs the Department of Energy, the Commission, the Department of Transportation and the Federal Emergency Management Agency to: (1) determine the emergency response capabilities of those States and Indian tribes whose territory is traversed by radioactive waste transportation routes; and (2) to develop and exercise with such States and tribes an emergency response and mitigation plan within 12 months of a transportation license issuance date. Prohibits any shipments unless such plans are developed and periodically exercised.

States that no Federal regulation shall preempt States and Indian tribes from imposing certain nuclear waste transportation regulations.

Makes certain nuclear waste transportation restrictions inapplicable if the Commission certifies that compelling safety or national security reasons necessitate immediate nuclear waste transportation to another site.

8. S. 1162 Senate Environment and Public Works
Sen. Hart
Cosponsors = 5

OFFICIAL TITLE(S):

A bill to amend the Nuclear Waste Policy Act of 1981 to require the Secretary of Energy to incorporate transportation impacts into the selection process for repositories of high-level radioactive wastes.

SHORT TITLE:

Nuclear Waste Policy Improvements Act of 1985.

ABSTRACT

Nuclear Waste Policy Improvements Act of 1985 Title 1 - Amends the Nuclear Waste Policy Act of 1982 to require that the nomination of sites for repositories of high-level radioactive waste be accompanied by an environmental assessment which includes the environmental impact of transporting high-level radioactive waste and spent nuclear fuel through the region surrounding such site.

Requires the Secretary of Transportation and the President to include, in their consideration of recommended sites, the effect of transportation of high-level radioactive waste on States containing possible transportation routes.

Requires the Secretary to include, in a public site recommendation statement, specified details of the effect of such transportation on those States.

Requires the Secretary, when considering alternative nuclear waste sites, to take into consideration such transportation routes and the impact of such transportation on routes in States adjacent to the State in which a repository has been selected.

Title II - Directs the Secretary to provide assistance to any State that contains likely transportation routes to a high-level nuclear waste repository in such State, if the State's application demonstrates assistance is needed to upgrade or maintain such routes in order to provide adequate public protection from accidents involving high-level nuclear waste.

9. S. 1927
Sen. Proxmire

Senate Environment and Public Works

OFFICIAL TITLE(S):

A bill to provide for State regulation of the transportation of high level radioactive waste.

ABSTRACT

Amends the Atomic Energy Act of 1954 to prohibit the transportation of any high level radioactive waste or spent nuclear fuel without a license granted by the Nuclear Regulatory Commission (The Commission). Sets forth the details of such license application, including emergency procedures in the event of a potential release of radioactive waste.

Directs the Commission to prepare an environmental assessment detailing the basis of its decision to issue a nuclear waste transportation license prior to the issuance of such license. Sets forth the details of such assessment. Directs the Commission to impose shipping restriction (based upon such environmental assessment) which will either minimize risk or enhance the potential for containment and clean up in the event of accidental radioactive waste release.

Directs the Department of Energy, the Commission, the Department of Transportation and the Federal Emergency Management Agency to: (1) determine the emergency response capabilities of those States and Indian tribes whose territory is traversed by radioactive waste transportation routes; and (2) to develop and exercise with such States and tribes an emergency response and mitigation plan within 12 months of a transportation license issuance date. Prohibits any shipments unless such plans are developed and periodically exercised.

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