



**Briefing presented to the...**

# **NUCLEAR WASTE TECHNICAL REVIEW BOARD**

**by**

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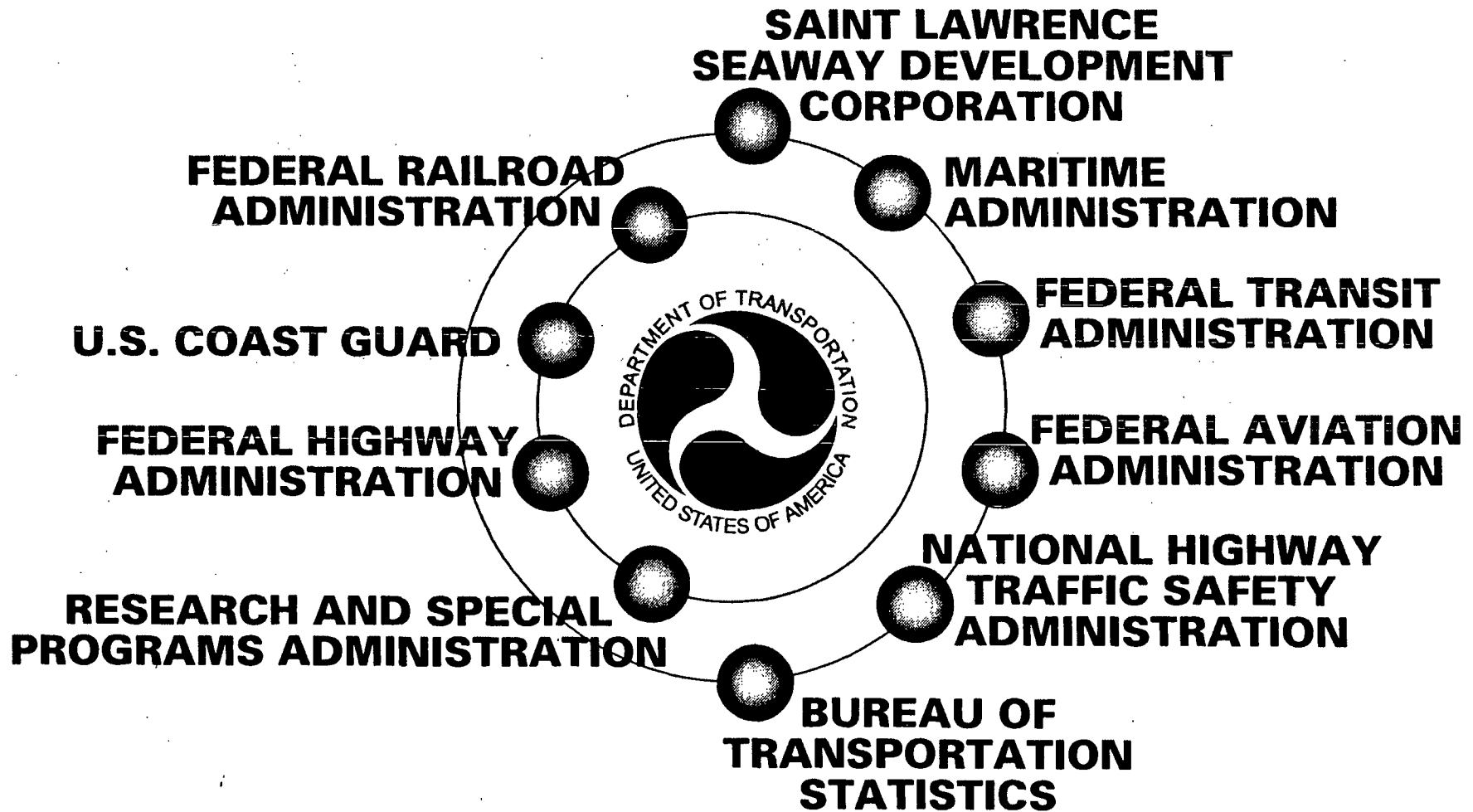
**July 13, 1994  
Denver, Colorado**

# **Introduction**

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- **Overview**
- **Federal Roles and Authorities**
- **Safety Regulatory Program**
  - Preemption
- **External Relationships**
- **Mandated Studies**
  - Mode and Route
  - Dedicated Train
- **Current Nuclear Issues**
- **Discussion**

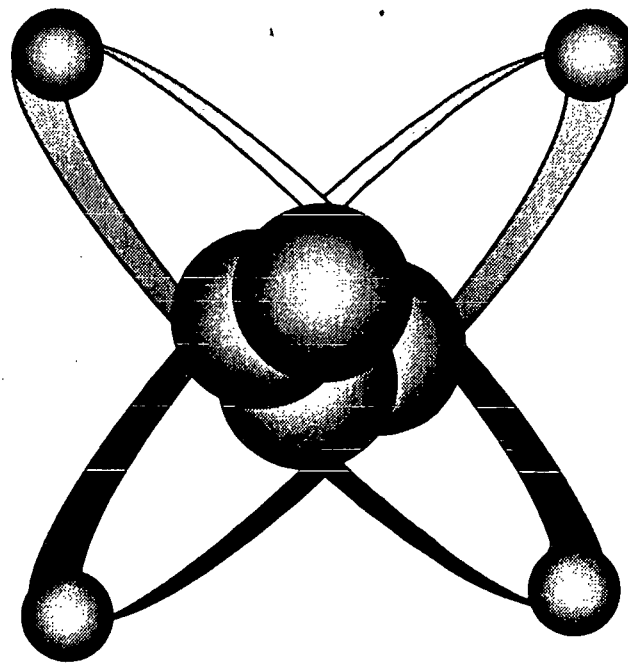
# Department of Transportation Operating Elements



# Operating Elements - High Level Radioactive Materials

**U.S. COAST GUARD**

**FEDERAL HIGHWAY  
ADMINISTRATION**



**RESEARCH AND  
SPECIAL PROGRAMS  
ADMINISTRATION**

**FEDERAL  
RAILROAD  
ADMINISTRATION**

# National Transportation Strategic Plan

## ***Goal # 4.4:***

- **Promote Safe and Secure Transportation**

## ***Objectives:***

- **Significantly reduce deaths and injuries on our transportation system, which will reduce the burden on our health care system**
- **Minimize the dangers to communities and industry associated with the transportation of goods**

## ***RSPA Goal:***

- **Significantly improve the safety of transporting hazardous materials on our air, water, surface and pipeline transportation network**

# Federal Roles and Authorities

## Regulators



- Hazardous Materials Transportation Act
- Nuclear Waste Policy Act – Section 137



- Nuclear Waste Policy Act
- Nuclear Waste Policy Amendments Act
- Atomic Energy Act

## Regulated



- Nuclear Waste Policy Act
- Nuclear Waste Policy Amendments Act
- Atomic Energy Act

# DOT - NRC

## Memorandum of Understanding (MOU)

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Overlapping Regulatory Responsibilities...  
MOU Adopted in 1979



- **DOT has responsibility for developing overall safety standards for mechanical condition of carrier equipment, driver qualifications, loading and unloading, vehicle placarding, and classifying materials**
- **Responsible for design specifications and performance requirements of packages for "low-level radioactive wastes"**

Cont.

# **DOT - NRC**

## **Memorandum of Understanding (MOU)**

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- **NRC is responsible for regulating receipt, possession, use, and transfer of by-product, source, and special nuclear materials**
- **NRC reviews and approves package design for "high-level spent nuclear fuel"**



**DOT**



**-**

**DOE**



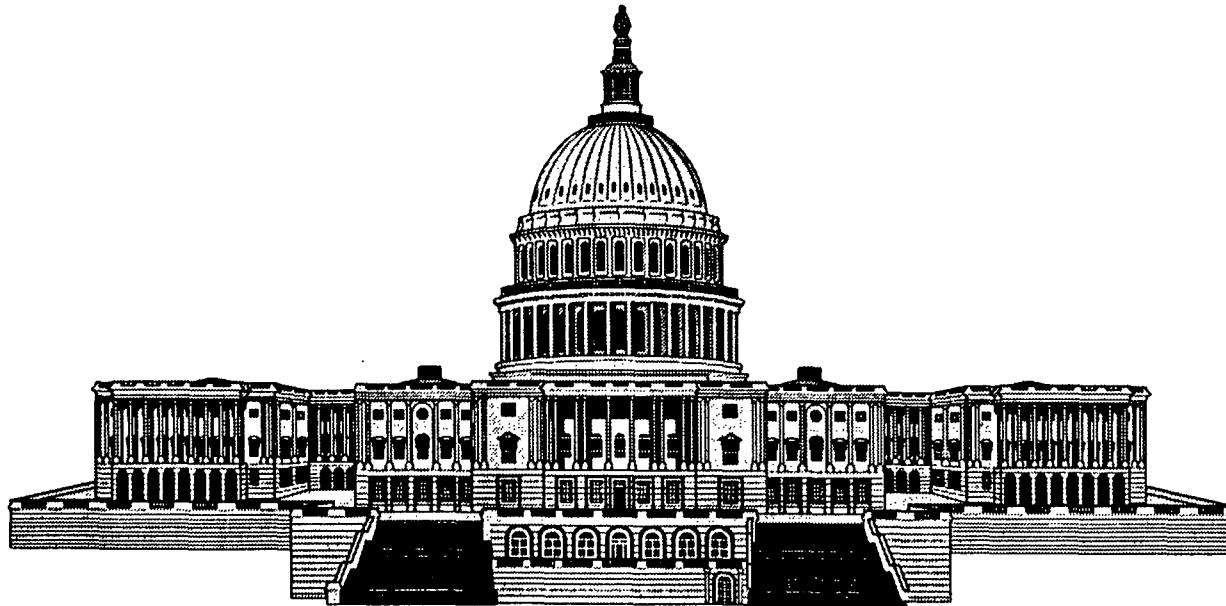
## **Memorandum of Understanding (MOU)**

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- **DOT and DOE both have responsibilities under the Nuclear Waste Policy Act**
- **To ensure that there would be no duplication of effort, MOU adopted in 1985**
- **MOU specifies that management of transportation under NWPA resides with DOE/OCRWM**
- **Transportation to any repository developed under NWPA will be subject to applicable DOT regulations**
- **Provides for procedures for consultation and exchange of information**

# **The Hazardous Materials Transportation Act**

**The Secretary shall issue regulations for  
the safe transportation of hazardous  
materials in intrastate, interstate,  
and foreign commerce.**



# **Hazardous Material -**

**A substance or material determined by the Secretary of the Department of Transportation to pose an unreasonable risk to Health, Safety or Property [including the environment].**

# Hazardous Materials Incidents by Hazard Class

Total Number of Incidents in 1993 = 12,846\*

Class	Number
Flammable - Combustible Liquid	5,358
Corrosive Material	4,740
Poisonous Materials	738
Combustible Liquid	535
Misc. Hazardous Material	522
Oxidizer	271
Nonflammable Compressed Gas	260
Flammable Compressed Gas	153
Organic Peroxide	92
Flammable Solid	71
Poisonous Gas	46
Dangerous When Wet Material	15

Class	Number
Spontaneously Combustible	12
Other Regulated Material, Class D	9
<b>Radioactive Material</b>	<b>8</b>
Very Insensitive Explosive	6
Explosive No Blast Hazard	3
Explosive Fire Hazard	2
Explosive Mass Explosion Hazard	1
Explosive Projection Hazard	1
Flammable Solid (Pre 1991)	1
Infectious Substance (Etiologic)	1
Irritating Material	1

\*Source - Hazardous Materials Information System

# **Rulemaking**

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- **Hazardous materials regulations set the framework**
- **Primarily a prevention activity...that is, rules of operating practice which, if rationally conceived and consistently followed, will minimize the chances of system failures**
- **Principal Components:**
  - **Classification**
  - **Packaging**
  - **Operations**
  - **Communications**

# **Preemption**

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**Any requirement of a State or political subdivision thereof or Indian tribe is preempted if...**

- **Compliance with both the State or political subdivision or Indian tribe requirement and any requirements of an applicable federal regulation is not possible, or**
- **The State or political subdivision or Indian tribe requirement as applied creates an obstacle to the execution of an applicable federal regulation, or**
- **Any provision concerning a "covered subject" which is not "substantively the same" as the hazardous materials regulations**

# Highway Routing of Spent Nuclear Fuel

- **Most extensive hazardous materials rulemaking conducted to date**
- **HM-164 requires Highway Route-Controlled Quantity radioactive materials to be transported either over:**
  - **Interstate system highways selected to reduce time in transport or**
  - **A state designated alternative route**

# FEDERAL RAILROAD ADMINISTRATION HIGH-LEVEL NUCLEAR WASTE INSPECTION POLICY

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## ***Prior to the First Shipment:***

- **Inspect track and signal system along the designated route**
- **Conduct inspections to assure that train crews are complying with carrier operating rules**



# FEDERAL RAILROAD ADMINISTRATION HIGH-LEVEL NUCLEAR WASTE INSPECTION POLICY

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## ***Prior to First and Subsequent Shipments:***

- **Locomotives, cask and idler cars, and cabooses (if used) will be inspected at origin**
- **Cask car inspected for compliance with hazardous materials regulations covering placarding, shipping papers, crew notification and train placement requirements**
- **Follow-up inspections for track, signal systems and operating practices conducted at intervals not to exceed six months**

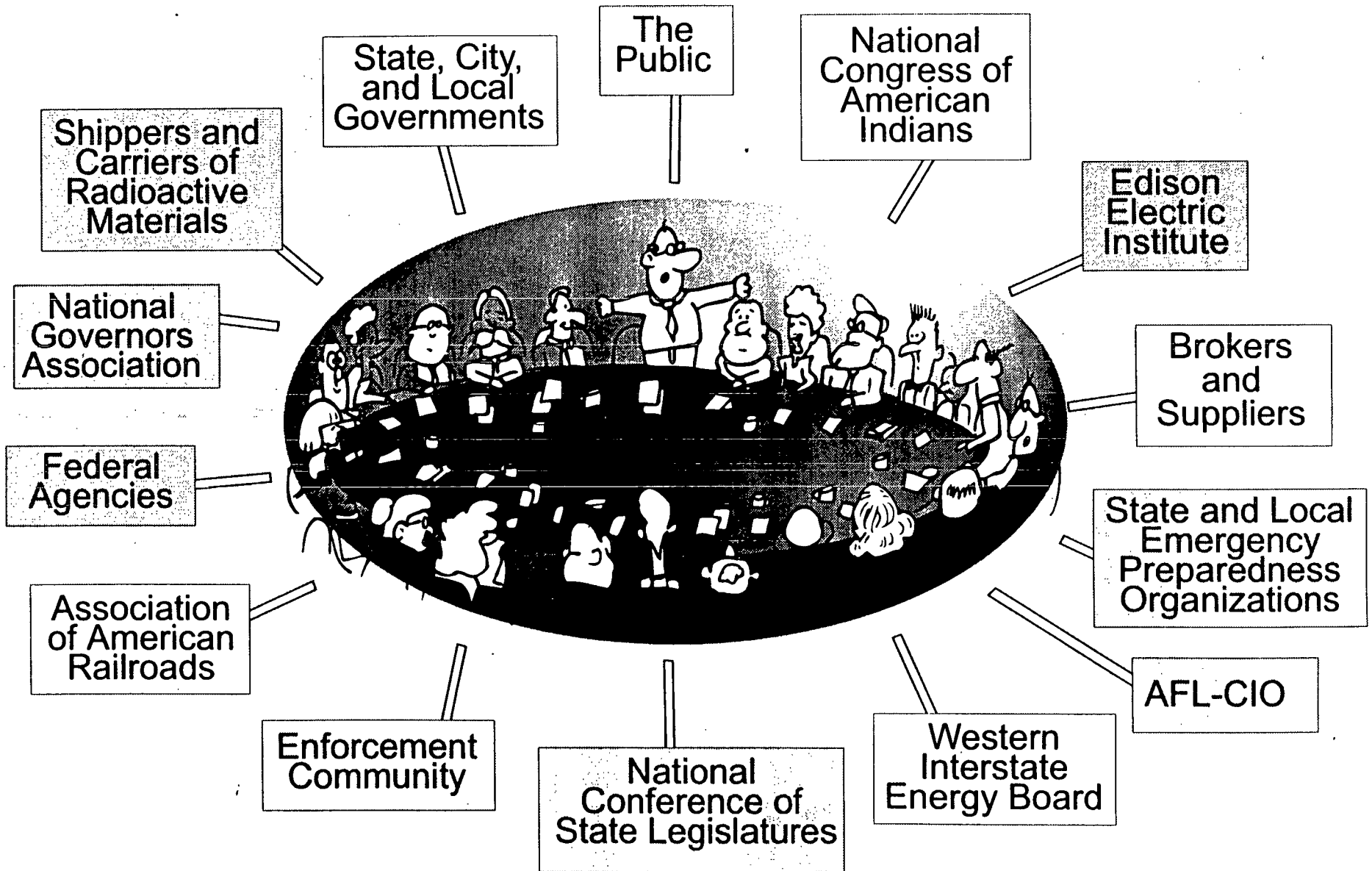
# Domestic and International Spent Fuel Shipments: 1979-1994

Year	Domestic		International		
	Highway	Railway	Export	Import	Transient
1979	2	11	0	14	0
1980	73	5	2	55	0
1981	30	2	3	48	0
1982	80	0	1	43	0
1983	92	0	2	23	0
1984	209	3	2	34	0
1985	114	18	0	21	0
1986	88	15	0	17	0
1987	85	15	3	19	0
1988	10	7	0	15	0
1989	11	6	1	4	0
1990	0	8	2	0	3
1991	7	10	4	0	1
1992	17	6	0	0	0
1993	14	12	1	0	1
1994*	5	2	0	0	0

Source: Nuclear Regulatory Commission.

\* To date

# Government - Industry Relations



# Emergency Preparedness Grants Program

- ▣ 47 States, D.C., 3 Territories, 7 Indian Tribes Participating
- ▣ 58 Grants, totaling \$8.4 million
- ▣ 180,000 responders will be trained with grant funds in first year
- ▣ National Curriculum guidelines distributed
- ▣ Funded by Registration Program



# MANDATED STUDIES

## *Emphasis: Public Safety*

- Mode and Route Study
- Dedicated Train Study

# **Mode and Route Study**

## ***Required by:***

- **Section 15, Hazardous Materials Transportation Uniform Safety Act of 1990**

## ***Purpose:***

- **"...To determine which factors, if any, should be taken into consideration by shippers and carriers in order to select routes and modes which, in combination, would enhance overall public safety..."**
- **"...Assess the degree to which various factors...affect the overall public safety of such shipments..."**

# **Mode and Route Study**

## ***Public Comments:***

- **Perceived Risks**
- **Safety Afforded by the Cask**
- **Weights for Selection Factors**
- **Questionable Utility**

# **Mode and Route Study**

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## ***Status:***

- **Technical Advisory Group Meeting: May 1993**
- **List of Preliminary Factors Compiled**
- **Draft Report for Public Comment: Fall 1993**

## ***Schedule:***

- **Planned Availability: Fall 1994**



# **Dedicated Train Study**

## ***Purpose:***

- **Assess the comparative safety of transporting high-level radioactive materials**
- **HMTUSA requires reassessment of regulations based on study findings**

# **Dedicated Train Study**

## ***Status:***

- **Currently being Reviewed by FRA**

## ***Schedule:***

- **Planned Availability Fall: 1994**

# **Current Nuclear Issues**

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- **"Urgent-Relief Acceptance of Foreign Research Reactor Spent Nuclear Fuel"**
- **New York City application for waiver of preemption**
  - **Equal or greater level of protection to the public than hazmat regulations**
  - **Did not unreasonably burden commerce**
  - **After 1990 amendments, DOT has discretion to grant a waiver of preemption**