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The Role Of Local And State Governments In Radioactive Waste Transportation Safety

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1.0 Introduction

The role of local and state governments in radioactive waste transportation safety has become increasingly prominent over the last decade with the commencement of transuranic waste shipments to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico as well as the Department of Energy's site selection of Yucca Mountain as a permanent repository for high-level nuclear waste (HLNW). If the Department of Energy (DOE) proceeds with the Yucca Mountain Project, transportation of HLNW through Clark County, Nevada will require local governments and the State of Nevada to address significant transportation safety issues. This report briefly reviews the history of HLNW transportation; discusses the role of federal, state, and local laws as they relate to HLNW transportation; and details related current and proposed state legislation. The purpose of this report is to provide Clark County decision makers with an overview of current approaches by states to HLNW transportation regulation.

2.0 History of Spent Fuel Transportation

Most of the approximately 3 million shipments of radioactive materials annually, are comprised of radio-pharmaceuticals that are transported to and from hospitals (NCSL January 2000). According to the Department of Transportation (DOT), to date, there have been approximately 3,000 shipments of HLNW resulting in fewer than 100 shipments annually. During the period from 1971 – 1991, there were 47 HLNW shipment incidents and six accidents. An incident is defined by the DOT to include "an actual or suspected release of surface contamination that exceeds regulatory requirements from either the package or transportation vehicle." An accident is defined as a motor vehicle mishap, such as a crash."

3.0 Federal, State, and Local Roles in HLNW Transportation

3.1 The Federal Role in HLNW Transportation

Federal, state, and local governments all play a role in spent fuel transportation safety. At the federal level, HLNW transportation safety is managed jointly by the DOT and the Nuclear Regulatory Commission (NRC). Under the Atomic Energy Act of 1964, as amended (42 USC 2011 et. Seq.) and its implementing regulations (10 CFR Parts 20, and 71 – 73), the NRC is responsible for packaging, preparation, and transfer of commercial radioactive wastes shipments. Under these regulations, the NRC certifies radioactive material packaging, including spent fuel casks, for compliance with safety standards. This certification is meant to ensure that casks can withstand an accident with a minimal chance of radioactive release. The NRC is the primary enforcer for DOT regulations that are discussed below and provides the lead role investigating HLNW accidents. The NRC is also responsible for advance notification of HLNW shipments to the states. The NRC requirements for shipping HLNW are summarized in Table 1.

Table 1 NRC HLNW Shipping Requirements

1	Advance NRC approval of transportation routes.
2	Establishment of procedures for dealing with theft or sabotage of HLNW shipments.
3	Surveillance of the cargo during transport stops.
4	Monitoring of communications concerning shipments.
5	Maintenance of written shipment logs.
6	Responsible for protocols designed to limit intermediate stops along shipment routes.
7	Establishment of escort protocols to include one unarmed escort in low population areas and two or more armed escorts in high population areas.
8	Tracking of calls into the communication center by escorts at least every two hours.
9	Establishment of arrangements with local jurisdictions along the routes to assist with emergency response activities.
10	Establishment of protocols for immobilizing trucks in the event of an emergency (10 CFR 73.27).

Under the federal law, Transportation of Hazardous Material (49 USC 5101 – 5127), the DOT is accountable for ensuring the safe transport of all hazardous materials including radioactive materials. The Transportation of Hazardous Material Act, as amended by the Hazardous Material Transportation Uniform Safety Act of 1990 have two objectives: that spent fuel (and other hazardous materials) are contained, and that carriers and emergency responders along the shipment routes are informed as to the nature of the hazard. Table 2 summarizes the main components of the Transportation of Hazardous Material Act. In addition, radioactive materials as defined by the type of radionuclide, the amount of radioactivity, and the form of the material, are classified as highway route-controlled quantities (HRCQ). All HRCQ's, including spent fuel, are required to be inspected at their place of origin. There are also specific training requirements and routing controls for spent fuel shipments. The Research and Special Programs Administration (RSPA) within the DOT provides funds and other assistance to states, local jurisdictions, and Indian tribes for planning and training to respond to spent fuel incidents. Spent fuel and certain other hazardous material carriers are required to be registered with RSPA.

Table 2 Federal Hazardous Material Regulations (49 CFR)

Shipper responsibilities	Shippers of hazardous materials – including manufacturers, packagers, and freight forwarders – must prepare hazardous materials for shipment in accordance with Part 173 and must conform with Part 172, which covers identification, labeling, packaging, marking, placarding, as well as preparation of shipment papers.
Classification	A shippers must properly classify the hazardous material according to its hazard. Radioactive materials emit a specific level of radiation and are further classified as fissile, special form, normal form, low specific activity, Type A or Type B quantity, and HRCQ.

Packaging	Package rules are designed to protect the public, drivers, emergency responders and package handlers by limiting radiation emissions from the package and ensuring the durability of the package. The type of package required is based upon the type, quantity, and form of the material. Type A and Type B packaging are required for materials that have higher radiation emission levels. Spent fuel casks are Type B. Packaging must meet NRC requirements for integrity in case of an accident. A *transport index number* is placed on the package to designate the amount of care the carrier should exercise during transportation. It indicates a maximum reading of radiation exposure in millirems per hour 1 meter away.
Marking	Each package of hazardous materials offered for transport must be marked with the proper shipping name, identification number, and the name and address of the consignor and consignee. Some materials require additional information, e.g., a radioactive package of more than 100 pounds must have its gross weight marked on the outside of the package.
Labeling	All packages must be labeled in accordance with DOT regulations.
Placarding	Placarding is the DOT communication requirement for vehicles, rail cars, and tanks. Placards are diamond shaped, color-coded signs that indicate the hazard class of the material and usually include a four-digit identification number; radioactive placards have the word "radioactive" instead of the four-digit number.
Shipping papers	Shipping papers that describe the materials and provide its proper shipping name, hazard class, identification number, and quantity of materials must accompany every shipment of hazardous materials. The shipper is responsible for giving these papers – which can be a shipping order, bill of ladling, or manifest – to the carrier.
Incident reports	An incident is defined as any unintentional release of hazardous materials during transportation. Written incident reports must be filed with DOT within 30 days of an incident.
Carrier responsibilities	Carriers must ensure that cargo accepted for transport is properly prepared, marked, and labeled for shipment by the shipper and that the shipping papers actually depict the materials. The carrier also must load and unload safely and in accordance with compatibility requirements.
Container manufacturer responsibilities	Design requirements, materials for construction, methods of manufacture, minimum thickness, and tolerances and various tests to verify compliance are outlined in the regulations. Containers also must be marked to certify that all functions necessary for compliance have been performed. Exemptions from these specifications are granted if evidence shows that safety is not compromised.

Source: NCSL Transportation Series 2000

The Coast Guard has responsibility for vessel transport of HLNW and the Federal Railroad Administration is responsible for most components of rail transport including track safety standards, rail inspections, and oversight of safety plans and equipment.

The DOE is responsible for the management of HLNW transportation in compliance with all NRC and DOT regulations. The DOE has also stated that they will comply with all applicable state laws that are not preempted by federal law (see discussion below). The NWPA specifies that as part of the DOE's management of HLNW, it will:

- take title to HLNW at the reactor site;
- make available casks for HLNW transport;
- manage shipments;
- aid state and local jurisdictions in responding to transportation emergencies; and
- provide financial and technical assistance for emergency response training to states and Indian tribes.

DOE uses cooperative agreements with the states, local jurisdictions, and Indian tribes to provide for coordination and communication of DOE activities. DOE also deploys radiological assistance program (RAP) teams in response to radiological incidents. Other emergency response financial and technical assistance to states, local jurisdictions, and Indian tribes is provided by Federal Emergency Management Agency (FEMA) including *Guidance for Developing State and Local Radiological Emergency Response Plans and Preparedness for Transportation Accidents*.

The Environmental Protection Agency (EPA) chairs the National Response Team which is the group responsible for oversight of emergency response and preparedness planning, as well as, for setting radiation standards at Yucca Mountain. The Department of Labor's Occupational Health and Safety Administration (OSHA) has overlapping responsibility with the DOT to ensure the safety of workers involved with the transfer or transport of HLNW and emergency response personnel.

3.2 The State Versus Federal Role in HLNW Transportation

While the federal government is responsible for governing most aspects of HLNW shipments, their role is not exclusive. State and local jurisdictions responsible for protecting the public health and safety of their constituents can seek to minimize adverse impacts from HLNW transport within the constraints that any additional requirements do not interfere with the flow of interstate commerce. This restriction has led to tension between various federal agencies and state governments. As of 2000, there were over 500 state laws and regulations that affected HLNW shipments. These laws generally focus on the following areas: registration, permitting, and fee requirements, routing, notification, financial liability, inspections, and other shipping restrictions.

Many of these laws have been challenged on the grounds that they are preempted by federal law or the Interstate Commerce Clause of the United States Constitution. Initially the federal courts used two tests to measure the constitutionality of state and local regulations. The *dual compliance test* that evaluates whether compliance with state/local/ tribal regulation and federal law is possible; and the *obstacle test* which measures the extent to which state/local/tribal law creates an obstacle implementing federal law. In 1990, amendments to the Hazardous Materials Transportation Act (49 USC Sec. 5125) codified the *dual compliance test* and the *obstacle test* and added a third test that preempts state, local or tribal government laws and regulations unless authorized by another federal law, if any of the following three conditions apply:

- "Compliance with both the state, local, or tribal requirement and any federal hazardous material requirement is not possible; or
- The state, local, or tribal requirement as applied or enforced is an obstacle to accomplishing and carrying out federal hazardous materials laws; or

- The state, local, or tribal concerns a *covered subject* and is not substantively the same as any provision or regulation of hazardous materials law concerning the subject (NCSL January 2000)."

For purposes of these amendments *covered subjects* are: designation, description, and classification of hazardous materials; packing, repacking, handling, labeling, marking, and placarding of hazardous materials; preparation, execution, and use of shipping documents pertaining to hazardous materials and all requirements related to the number, content, and placement of such documents; written notification, recording, and reporting of the unintentional release in transportation of hazardous materials; and designing, manufacturing, fabricating, marking, maintaining, reconditioning, repairing, or testing of a package or container that is represented, marked, certified, or sold as qualified for use in the transportation of hazardous materials (49 USC Sec. 5125 and 49 CFR Part 107). The RSPA and the Federal Highway Administration within the DOT are authorized to provide preemption determinations based on the above test. Some examples of state rules that have been accepted as valid as well as regulations that have been found invalid are illustrated in Table 3.

Table 3 State and Local HLNW Regulations Ruled Upon by Federal Courts

Valid Rules	Invalid Rules
Fees to cover costs related to hazardous materials transport	Absolute shipment bans
Additional placarding requirements*	Burdensome permitting requirements
Vehicle operator training requirement	Statewide curfews
Vehicle inspections	Registration requirements for rail shipments
Immediate accident reporting	State penalties for violation of federal transportation regulations
Designated circuitous routing in urban areas	Fees associated with invalid permits
Rush hour curfews	State pre-notification that differs from federal requirements
Two-way radio requirements during transport	
Headlight illumination	
Permits for unloading, transferring, and storing of hazardous materials on railroad property	

Source: Western Interstate Energy Board 1992

In addition to the preemptions discussed above, all defense and national security related radioactive wastes are under the sole jurisdiction of the federal government. Shipments of defense wastes are escorted and occur without notification of routes, or times to state, local jurisdictions, or tribes.

4.0 Current State HLNW Transportation Laws

4.1 Permits and Fees

Over the last two decades, states have enacted numerous laws related to HLNW transportation especially in the areas of accident prevention, emergency response training, and interagency coordination, and communication. Among the most important regulatory tools enacted are laws requiring a transportation permit. Permits provide states with a mechanism to evaluate HLNW vehicle operators ability to operate safely and can be used to measure their past safety compliance and inspection history as well as their financial responsibility. Generally states require permit applicants to provide:

- name,
- address,
- emergency telephone number (s),
- number of shipments,
- description of shipment materials,
- estimated level of radioactivity of each shipment,
- routes,
- past violation of transportation laws related to radioactive waste shipments,
- proof of insurance,
- agreement to allow vehicle inspection,
- certification of compliance with federal and state laws.

Many states also require permit applicants to provide proof of indemnification of the state and require immediate notification in the event of an accident. States may also require additional permits for vehicles that are overweight and/or oversized. Permits can

be issued on an annual or per trip basis. Table 4 summarized the states requiring permits for HLNW shipments and indicates the level of fees charged by some of the states.

Table 4 States Requiring HRCQ or HLNW Permits and Associated Fees

State	Permits Required for HRCQ or HLNW	State HRCQ and HLNW Permit Fees
California	*	$100; $75 for renewal
Colorado	*	$500; plus $200 per trip
Connecticut	*	$25 per trip
Florida		$100 for LLRW
Georgia	*	$100 or $25 per trip
Idaho		$5 endorsement fee per truck
Indiana		$1000 per vehicle or rail car
Illinois		$2500 per truck cask; $4500 per rail cask, and a surcharge of $25 per mile for all shipments over 250 miles
Kentucky	*	$25
Maine	*	
Maryland	*	
Michigan	*	
Minnesota		$50 registration fee; $1,000 per vehicle
Mississippi		$2,500 permit fee
Nevada	*	$500; plus $150 per truck, plus actual cost for investigation
New Hampshire	*	$5 per vehicle
New Jersey	*	Not specified
New Mexico	*	$250 annual or $75 per shipment
New York		For LLRW: $25 for first vehicle; $5 for each additional vehicle up to max $300
Ohio		$50 registration fee; $600 permit fee
Oregon	*	$500; plus $70 per shipment, whichever is less
Pennsylvania		$1000 fee per shipment, $10 per truck turnpike permit fee
Rhode Island	*	
South Carolina	*	$75 or $750, based on volume and level of radioactivity
Tennessee	*	$1000 per truck; $2000 per rail shipment; $400 per LLRW shipment
Vermont		$1,000 per shipment
West Virginia	*	$50 registration fee
Wyoming	*	$200 per package

Source: NCSL 2000

Twenty five states have instituted permit or user fees to help defray some of the costs for emergency response and other related services. Federal law allows that in addition to emergency preparedness and response costs that fees can be used for

enforcement and carrier education. Current fee levels fall far short of defraying all of the costs to state and local governments associated with the unfunded mandate that results from radioactive material shipments.

Federal regulations also require fees to "meet the fairness test under the dormant commerce clause found in Evansville" (NCSL 2000). There are three components of the fairness test. First, fees must be based on a fair approximation of use. Second, the fee can not be excessive when compared to the benefit derived. Third, the fee can not discriminate against interstate commerce.

4.2 Inspections

The *Transportation Equity Act for the 21st Century* (TEA-21) through the Motor Carrier Safety Assistance Program (MCSAP) provides federal money to conduct truck inspection and enforcement activities to states that adopt federal hazardous material regulations and federal motor carrier safety regulations. MCSAP is a matching grants program that is administered by the Motor Carrier Safety Administration within DOT. Currently, forty-eight states have roadside inspection programs, with four states having extensive programs – California, New York, Ohio, and Illinois.

The *Federal Rail Safety Act* (FRSA) is administered by the Federal Railroad Administration (FRA) within DOT. The *FRSA* authorizes federal rail inspections; establishes track and rail safety standards; and creates accident reporting procedures. As part of the State Participation Program under the *FRSA*, states can supplement and/or conduct independent rail inspections once state inspectors have been certified by the FRA. States are allowed to establish more stringent rail safety regulations to "reduce or eliminate a local safety hazard," as long as it is "compatible with federal requirements"

and does “not interfere with interstate commerce” (NCSL 2000). Table 5 identifies the fourteen states that currently employ certified hazardous material rail inspectors.

Table 5 States Employing Certified Hazardous Materials Rail Inspectors

Arizona	New Jersey
California	Ohio
Florida	Oregon
Idaho	Pennsylvania
Illinois	Texas
Missouri	Washington
Nevada	West Virginia

Source: NSCL 2000

Current FRA inspection policies for HLNW shipments require twice yearly inspection of locomotive tracks, signals, and cask cars along the rail routes. The FRA also oversees rail crew compliance with carrier operating rules.

4.3 Notification

According to 10 CFR parts 71 and 73, the NRC is required to notify states and tribes prior to shipments of spent fuel. Specifically, 10 CFR 73 requires that prior to shipments in excess of 100 grams of spent fuel, that states and tribes are provided:

- contact information,
- shipment description,
- routes,
- estimated date and time of shipment origination, and
- estimated date and time of arrival within the state.

States and tribes are required to withhold shipping information from the public for a minimum of 10 days. After spent fuel shipments are completed, states and tribes are provided with periodic summaries and can be provided reports on individual shipments. No less than seventeen states have enacted state laws that are similar to the federal regulations. Many local jurisdictions also have notification requirements and nineteen

states have procedures for notifying local governments and/or their public safety agencies prior to spent fuel shipments. In addition, public agencies that oversee transportation infrastructure such as bridges and tunnels often require prenotification so that they can provide escort services and alert emergency response personnel. Some public agencies have prohibited spent fuel shipments entirely because of the difficult logistics involved in responding to accidents within facilities such as tunnels.

4.4 Emergency Preparedness and Response

Multiple entities have emergency preparedness and response functions. In the event of a radioactive materials accident, the driver, if uninjured, has an important responsibility to minimize personal injuries and property damage that might result from a radioactive release. Within states, first response activities to protect citizens, property, and the environment are primarily the responsibility of local government and to a more limited degree, state agencies. Thus, local emergency response personnel have primary responsibility for responding to civilian related radioactive waste shipment accidents. In contrast, the federal government has primary responsibility for defense related radioactive material accidents. States can request assistance from federal agencies and from utilities to assist in a response to a radioactive materials accident.

While a number of federal, state, and local entities provide funding and/or technical assistance to local emergency response agencies, the adequacy of emergency response capability is at best uneven. Even so, states or local jurisdictions can not prohibit radioactive material shipments based on inadequate emergency response capabilities. DOT's Inconsistency Rule #18 found that Prince George's County,

Maryland radioactive material shipment rules that prohibited spent fuel transport based on the inadequate emergency response capability violated the HMR (49 CFR).

4.5 Highway and Rail Routing

As noted in Section 3.1, highway routing requirements are administered by the DOT (49 CFR 397.101). These requirements are frequently referred to by their DOT docket number as HM-164. These guidelines require carriers of radioactive materials requiring placarding to operate along routes that minimize radiological risks to the public. Among the factors to be considered by the carrier when selecting routes are:

- accident rates,
- transit time,
- population density,
- time of day, and
- day of week.

Preferred routes to include interstate highways and state designated routes must be used for shipments containing HRCQ. For states to designate routes they must meet federal procedural and substantive requirements otherwise they are preempted. There are only 10 states that have selected designated routes for HRCQ shipments because the process is lengthy and contentious (Table 6).

Table 6 States with Designated Routes for HRCQ Shipments

Alabama	Kentucky
Arkansas	Nebraska
California	New Mexico
Colorado	Tennessee
Iowa	Virginia

Source: NCSL 2000

For states to designate alternative routes that must conduct a routing analysis that incorporates the following factors:

- analyze routes that minimize impacts,
- identify alternative routes,
- develop a list of factors to be compared,
- select a route that minimizes impacts based on the list of factors compared, and
- document the entire route selection analysis used to support the route designated.

The Federal Highway Administration is responsible for evaluating the alternative route selection and for approving state route designations. States can use risk assessment techniques to evaluate alternative routes for designation.

There are currently no routing regulations for rail transport of spent fuel because rail right–of–ways are privately owned. Railroad industry representatives have indicated that they would prefer the use of dedicated trains for spent fuel shipments. Dedicated trains would carry only one cargo and would employ special handling procedures. In addition, they would travel at only 35 miles per hour. The rail industry supports dedicated trains, if rail is to be used, because they allow for advanced planning; reduced risk of derailment; and greater surveillance and security. The DOE has indicated that while they are likely to select a mostly rail modal mix for spent fuel shipments, they are opposed to dedicated trains as unnecessary and too expensive.

5.0 Summary of State Regulatory Requirements

This section describes existing state regulatory requirements for the transportation of radioactive materials.

5.1 California:

Requires the creation of a committee with a specified membership to develop and oversee implementation of a statewide radiation safety training program to train all local emergency responders.

Requires the State Fire Marshal to identify equipment needed for emergency situations. Requires the State Department of Health Services (DHS) to report to the Legislature concerning the adequacy of existing packaging, routing and timing requirements. Requires that proof of at least one example of full-scale cask testing be provided to the DHS by the shipper of high-level waste or spent fuel. Full scale testing includes an assessment of the safety of the cask as well as the vulnerability of the cask to terrorist attack.

Requires the Department of the California Highway Patrol (CHP) to adopt regulations specifying the time that shipments of hazardous materials may occur and the routes that are to be used in the transportation of cargoes of hazardous radioactive materials.

Requires that vehicles travel in convoys and be escorted by the CHP. Rail shipments require an escort by emergency response personnel and must not be shipped with mixed cargo.

Requires each shipper to participate in real-time continuous tracking of each shipment--through the DOE TRANSCOM system or a similar system--to facilitate more efficient emergency response.

Requires DHS to adopt a fee schedule that imposes an additional fee on shippers of high-level radioactive waste and to set the fees at a level to cover the inspection, escort, regulation, management and training expenses incurred relative to these shipments by local agencies, DHS, the State Fire Marshal, the Office of Emergency Services and CHP. Failure to pay these fees would be a criminal act.

All shipments by highway or rail must be inspected by the state at specified locations.

Provides that if any state property is damaged—or if there is a discharge of high-level radioactive waste or spent nuclear fuel from an authorized shipping package or container— the state would be authorized to recover any costs incurred by it. All carriers of these materials would be required to provide proof of a bond or insurance in the amount of $25 million.

5.2 Colorado:

Requires a permit fee of $500 annually per shipping company, plus $200 per trip.

5.3 Connecticut:

Requires a permit fee of $25 per trip.

5.4 Florida:

Requires a permit fee of $100 for low-level radioactive waste (LLW).

5.5 Idaho:

Requires a $5 endorsement fee per truck.

5.6 Illinois:

The General Assembly enacted HB 3631, which, among other provisions, raised fees for shipments of spent nuclear fuel and high-level radioactive waste and for the first time includes transuranic waste shipments. The new fees are $2,500 per cask for each truck shipment (up from $1,000), and $4,500 for the first cask and $3,000 for each additional cask for each rail shipment (up from $2,000) being received or departing from

facilities in the state or traversing the state, to be paid by the shipper of the material. The funds are placed in the Nuclear Safety Emergency Preparedness Fund, which now can be used for approved purposes by the Illinois State Police and the Illinois Commerce Commission.

Inspections and escorts for high-level waste shipments. Since 1983, 455 shipments have been inspected and escorted under the Illinois Spent Nuclear Fuel and High-Level Waste Inspection and Escort Program.

In 2000, the state revised its fee legislation, adding a surcharge for shipments that traveled on routes exceeding 250 miles in the state. The surcharge is $25 per mile.

5.7 Indiana:

Four similar bills are under consideration by the legislature (HB 1215, HB 1239, SB 55, SB 280). These bills would require notification to the state emergency management agency by anyone planning to transport high-level radioactive waste in Indiana. In addition, the two House bills require that a fee must be paid of $1,000 per container shipped by motor vehicle and $2,000 per container shipped by railroad car.

HB 1215 also requires that whoever ships the waste must arrange for an inspection. The two Senate bills require a $1,000 fee per vehicle used for high-level waste transport. SB 55 further requires that the fees be deposited in a nuclear response fund to be used for education, training and equipment for local emergency management personnel and that the route, date and time of shipment be included in shipment notification. Changed to $1000 per shipment instead of per cask; the State Emergency Management Agency would take the lead, but must coordinate with other affected agencies.

SB 154-(Signed by governor on May 5, 1999) Addresses the transportation of high-level radioactive waste. Requires a person who wishes to transport high-level radioactive waste in Indiana to submit to the director of the state emergency management agency (SEMA) a notice that includes the highway or railway route, date and time of the shipment of high-level radioactive waste and certain other information required under federal law; and a transportation fee of $1,000 for each total shipment of nuclear waste.

The law specifies that transportation fees are to be deposited in the nuclear response fund to provide appropriate education, training, and equipment to local emergency management agency personnel in counties that will be affected by the transportation of high-level radioactive waste. It requires the director of SEMA to consult with numerous state, federal and local authorities and agencies to prepare a plan for emergency response to a high-level radioactive waste transportation accident in Indiana. SB 154 allows the director of SEMA to require preferred highway routes for transporting high-level radioactive waste in Indiana under certain circumstances; it also requires the director of SEMA to prepare, before July 1, 2000, the initial plan for emergency response to a high-level radioactive waste transportation accident in Indiana.

Indiana’s policy was not to escort shipments beyond the regulatory requirements. Proposed legislation in the state would require a uniform communications system, to be obtained using a special fund.

5.8 Kansas:

HB 2901 imposes new requirements on people who transport high-level radioactive waste in the state, including notification to the state adjutant general of the time, date and route of a highway or rail shipment and the payment of a transportation fee

of $1,000 for each vehicle [shipment] and $2,000 for each railroad car. The funds would be placed in a nuclear response fund established by the bill.

The adjutant general is required to prepare a plan for emergency response to a high-level radioactive waste accident and to oversee highway routing designations for such waste. The bill is pending the House Transportation Committee. Essentially the same bill, HB 2179 died in committee in 1998.

5.9 Kentucky:

Requires escorts across Cumberland Gap and a $25 permit fee.

5.10 Maine:

Require permits for shipments of HRCQ, spent fuel and/or high-level radioactive waste.

5.11 Maryland:

Require permits for shipments of HRCQ, spent fuel and/or high-level radioactive waste.

5.12 Michigan:

Two resolutions—HCR 97 and HR 266—urge the U.S. DOE to refrain from transporting weapons-usable fissile material through Michigan.

5.13 Minnesota:

HF 2665 would continue the uniform permit and registration program and limit the fees of intrastate carriers. It also eliminates the requirement of fingerprinting for hazardous waste transport company management. Other bills require the commissioner of

transportation to assess the state's readiness for increased transportation of high-level radioactive waste.

The Minnesota Statute 116C.731 includes that:

- The shipper shall notify the commissioner of public safety including the route, date, and time of the shipment in addition to information required under Code of Federal Regulations.

- The commissioner may require preferred routes, dates, or times for transporting high-level radioactive waste pursuant to Federal requirements.

- A person who intends to transport high-level radioactive waste shall submit a transportation fee to the commissioner of public safety in the amount of $1,000 for each vehicle carrying high-level radioactive waste in each shipment. In addition a $50 registration fee shall be paid.

It also requires the commissioner of public safety to consult with numerous state, federal and local authorities and agencies to prepare a plan for emergency response to a high-level radioactive waste transportation accident, including plans for evacuation and cleanup. The commissioner of public safety shall report by January 1 of each year to the legislature on the status of the plan and the ability of the state to respond adequately to an accident. The Minnesota statue provided the blueprint for the Midwestern High-Level Radioactive Waste Committee's model legislation; suggestion that the $1000 per cask fee be earmarked for agencies affected by shipments instead of direct deposit to the general fund.

5.14 Mississippi:

A $2,500 permit fee is required.

5.15 Missouri:

No legislation information is available. The State has, however, identified the problems they had encountered with the 2001 FRR shipment. The list of problems included a flawed notification, failure to avoid peak travel times, inadequate plans for safe parking, travel during severe weather conditions, and bad road conditions on I-70. The state also had concerns with DOE's routing model.

5.16 Nevada:

Requires a $500 permit fee plus $150 per truck, plus actual cost for investigation. During the 2001 legislative session, SB 494 was passed that created the Nevada Protection Fund that appropriates four million dollars to fund activities to prevent the DOE from locating a high-level nuclear waste repository at Yucca Mountain. The 2001 legislature passed SJR 6 which provided notice of disapproval to Congress of the Yucca Mountain repository as a site for storage of high-level nuclear waste and SJR 11 which urges Congress to direct appropriate federal agencies to prepare an environmental impact statement relating to the transportation of high-level nuclear waste to Yucca Mountain.

5.17 New Hampshire:

One of the two regulatory bills to pass was HB 1630, enacted by the New Hampshire General Court. Similar legislation failed in Georgia and Tennessee due to preemption concerns.

HB 1630 contains these key provisions:

- Specifies new transportation requirements for high-level radioactive waste, including spent nuclear fuel.

- Requires a permit for transportation of high-level waste on public roads, waters or railways.

- Specifies permit requirements, including proof of federal liability insurance, a nuclear incident prevention plan, a cleanup plan, identification of emergency response personnel that accompany each shipment, identification of foreseeable accident and shipment disruption scenarios, and route plans, among other provisions. Annual and single trip permits are authorized.
- Routes shall be chosen to minimize exposure to the public while maximizing the availability of emergency response personnel and resources along the route.
- Requires the Department of Safety to establish fees to be paid by shipment owners to defray the department's for inspection, regulation, management and training involving such shipments.
- Allows the department to conduct shipment inspections. Sets inspection guidelines for all high-level waste shipments.
- Requires a carrier bond or indemnity insurance of $25 million as a condition of granting a transport permit.
- Provides for recovery of costs by the state in the event of damage to state property by any discharge of high-level waste.
- Authorizes coordination with other agencies, including the Office of Emergency Management, the DOT and the Department of Health and Human Services.

- Sets penalties for violating provisions.

5.18 New Jersey:

Require permits for shipments of HRCQ, spent fuel and/or high-level radioactive waste.

5.19 New Mexico:

Requires a $250 annual or $75 per shipment permit fee.

5.20 New York:

Permit fees for LLW: $25 for first vehicle; $5 for each additional $300 maximum The legislative directive for establishing a low-level radioactive waste (LLRW) permit and manifest tracking system was set forth in Chapter 508 of the Laws of 1986 of New York State. This Act also directed the New York State Department of Environmental Conservation to issue an annual report based on the LLRW manifests received. The law directed that such report shall include, but not be limited to, information on the origin, destination, types of LLRW, and frequency of highway shipments into, within, and through New York State. Chapter 508 amended sections 27-0303 and 27-0305 of Article 27, Title 3 of the Environmental Conservation Law (ECL) to include LLRW as a regulated waste, require a permit for LLRW transportation into, within, and through New York State, require a manifest tracking system and require promulgation of regulations to implement this program. On January 1, 1987, the New York State Department of Environmental Conservation amended on an emergency basis the Waste Transporter Permit Regulations codified as 6 NYCRR Part 364 to include LLRW as a regulated waste, require a permit for its transport within the State, and require that manifest copies

be sent to the Department. On February 27, 1987, the Low-Level Radioactive Waste Transporter Permit and Manifest System Regulations (6 NYCRR Part 381) were adopted on an emergency agency action basis and the emergency rule making for Part 364 with similar requirements was allowed to lapse. The emergency Part 381 regulations were maintained in effect until they became a final rule on September 15, 1988, after the issuance of a final environmental impact statement (FEIS). This impact statement was issued in July 1988, and was entitled "Final Generic Environmental Impact Statement for Promulgation of 6 NYCRR Part 381: Regulations for Low-Level Radioactive Waste Transporter Permit and Manifest System."

5.21 Ohio:

Requires a $50 registration fee as well as a $600 permit fee. Ohio recently passed legislation to protect sensitive transportation information from being released in response to a FOIA request.

5.22 Oregon:

Requires an annual permit fee of $500 or $70 per shipment, whichever is less.

5.23 Pennsylvania:

Requires permit fee of $1,000 fee per shipment, $10 per truck turnpike permit fee.

5.24 Rhode Island:

Require permits for shipments of HRCQ, spent fuel and/or high-level radioactive waste.

5.25 South Carolina:

Permit fees of $75 or $750, based on volume and level of radioactivity.

5.26 Tennessee:

Requires a permit fee of $1,000 per truck; $2,000 per rail shipment; $400 per LLW shipment.

5.27 Utah:

SB 167 and SB 177 were signed by the Governor on March 18, 1999. SB 167 designates approximately 60 miles of dirt roads in Tooele County as “statewide public safety interest highways” and places them under state jurisdiction. (Intent is to prevent construction of a rail spur across county roads to the proposed spent fuel storage facility under development by Private Fuel Storage Inc. Similar intent is expressed in a resolution passed by the Utah Transportation Commission on February 11, 1999.)

SB 177 denies limited liability for organizations involved in the transfer or storage of high-level nuclear waste or greater-than-class-C radioactive waste in the state. Requires that certain requests by these organizations regarding transportation-such as grade crossings, easements, and eminent domain-may not be granted without the approval of the governor.

5.28 Vermont:

Requires a permit fee of $1,000 per shipment. Requires at least three years of driving experience for drivers hauling highway route-controlled quantity radioactive material.

5.29 Washington:

The State of Washington is party to the Pacific States agreement on radioactive materials transportation management. Also, SB 5059- which passed the Senate on April 26, 1999, allows counties to assess impact fees to cover the costs associated with the transport of radioactive waste over their roadways. Counties affected by the transportation of low-level radioactive waste as classified under the Atomic Energy Act are authorized to recover reasonable fees to plan for and respond to the movement of such waste. A county may assess impact fees to cover the costs reasonably necessary for the county to prepare for and respond to the movement of low-level radioactive waste. Impact fees may be assessed only after the county conducts a hearing on the potential transportation and safety impacts and the extent to which the state plan for authorizing transportation addresses the effects on the county.

5.30 West Virginia:

Requires shipments to have a $50 registration fee.

5.31 Wyoming:

Permit fees of $200 per package.

6.0 Recent State Radioactive Material Transportation Legislative Initiatives

This section describes state legislative initiatives over the last few years that are either pending, defeated, or forthcoming in the next legislative session.

6.1 Georgia:

Defeated: Two similar bills—SB 548 and HB 1289 - mandate extensive requirements for high-level radioactive waste and spent fuel shipments, including a transportation permit,

routing, carrier safety, emergency response, shipment information, driver training, convoys, notification, fees, inspections, and indemnity insurance. HB 1289 includes a definition of "elderly," and states in the preamble that the bill is for the protection of elderly Georgians. HB 1289 was reported unfavorably from the Human Relations and Aging Committee in the House on January 29. Requires permit fees of $100 annually or $25 per trip.

Defeated: HB 646 (Hegstorm, et. al.). Amends Title 46 of the Code of Georgia, relating to the transportation of hazardous material. Provides comprehensive regulation of the transportation of spent nuclear fuel and high-level radioactive waste by the Public Service Commission (PSC) through certain applications, permits and fees regarding driver information, routes and incident prevention plan. Provides for coordination of regulation between the PSC and the Department of Natural Resources. Amends Title 31, relating to radiation control, so as to provide for compliance between the regulations of the Department of Human Resources relating to the handling of certain nuclear materials and the regulations of the Public Service Commission.

Defeated: HB 998 - Amends Georgia law relating to transportation of hazardous materials, to provide for comprehensive regulation by the Public Service Commission of the transportation of spent nuclear fuel and high-level radioactive waste for the protection of elderly Georgians; and for other purposes. (Nearly identical to Tennessee bills SB 745 and HB 561.)

6.2 Indiana:

Defeated: SR 7 - Urges the U.S. Senate and the U.S. House of Representatives not to order the transportation of spent nuclear fuel rods from commercial power plants through the state of Indiana prior to the cessation of commercial nuclear power generation in the United States and the formal designation by the president of a suitable storage site or sites for such high-level nuclear wastes.

6.3 Maine:

Defeated: LD 1517 - This bill requires that a person shipping high-level radioactive waste out of the state have a permit issued by the Department of Environmental Protection (DEP). The DEP commissioner shall issue a permit to an applicant if the commissioner finds that the transportation of the material will be accomplished in a manner that adequately protects the public health, safety and welfare of the citizens of Maine. If necessary to protect the public health, safety or welfare, the commissioner may require changes in dates, routes or times for transporting the radioactive substance. The commissioner may consult with the Commissioner of Public Safety; the Department of Defense, Veterans and Emergency Management, Maine Emergency Management Agency; the Commissioner of Human Resources; or any other entity in evaluating an application or issuing a permit under this section. Whenever the commissioner grants a permit, the commissioner shall notify the Commissioner of Public Safety, who shall take any steps necessary to ensure compliance with the terms of the permit.

6.4 Michigan:

Pending: As of July 2002, Michigan is considering transportation legislation for development of a state plan, which will include the review and certification of routes. No fee will be charged for activities authorized by the legislation. A $10,000 fine will be issued for disclosure of safeguards information.

6.5 Nebraska:

Forthcoming: Expected reintroduction of fee legislation for shipments of spent fuel, transuranic waste, high-level waste, and other HRCQ waste and materials. Possible the legislation would include a fee waiver for agencies or companies that provided financial assistance through some other means. The state is interested in providing escorts for shipments.

6.6 Nevada

Pending: SB 119 was introduced by Senator Shaffer on February 13, 2003 and referred to the Committee on Natural Resources. SB 119 imposes certain restrictions on the transportation of certain hazardous waste; requires the State Environmental Commission to impose certain requirements on the storage of that waste; and provides penalties for violations of this act. Several other Bill Draft Requests (BDRs) are being monitored by Clark County's Department of Comprehensive Planning Nuclear Waste Division that may contain provisions related to Yucca Mountain.

6.7 Tennessee:

Pending: SB 2159 would establish additional requirements for the transportation of spent fuel and high-level radioactive waste including a permit process, fees, routing,

notification and insurance. Two sets of bills (SB 2874, HB 2712, SB 3252, HB 3117) were introduced to implement the uniform permit and registration system recommended by the Alliance for Uniform Hazmat Transportation Procedures.

Defeated: SB 745 and HB 561-(Died in committee 1998) These identical bills would :

- create a regulatory and permitting process related to the transportation of spent nuclear fuel and high-level nuclear waste on public roads and rails into, out of, or through Tennessee. No transportation of spent nuclear fuel and high-level nuclear waste covered under this bill would take place without a permit issued by the Department of Safety (or its designee). The department could require changes in proposed dates, times, routes, detention, holding or storage of these materials as necessary for maximum protection of public health, safety, welfare or the environment. The permit would be carried in each vehicle or combination of vehicles or train to which it refers and would be open to inspection by any law enforcement officer or department of safety employee with enforcement authority. The department of safety would be able, for just cause, to refuse to issue, cancel, suspend or revoke the permit of an applicant or permittee.

- Each permit application and permit would include documentation of the carrier's federal safety rating, proof of all liability insurance and a nuclear prevention plan and clean-up plan acceptable to the department. Each application and permit would specify the route to be followed for each shipment covered by the permit, consistent with applicable state and federal laws and regulations. Further, each permit application would list the number of casks of spent nuclear fuel or high-

level nuclear waste to be shipped under such permit and shall identify the type and quantity of material contained in each cask, the destination of each cask, and the identifying serial number of each cask.

- Permitted material would be transported in convoys of not less than five cask-bearing trucks, escorted by emergency response personnel provided by the carrier or shipper, unless the department, in writing, for reasonable cause shown, and in the interests of safety, waives such convoy requirements. Every permit issued for the rail transportation of spent nuclear fuel or high-level nuclear waste would require that such material be transported in a train dedicated solely to such shipment.
- All carriers of spent nuclear fuel or high-level nuclear waste would notify the Tennessee Emergency Management Agency 24 hours prior to the transportation of spent nuclear fuel or high-level nuclear waste within Tennessee and identify the permit issued and the origin, destination and place and approximate time of entry into and exit from the state as appropriate. Designated personnel would inspect all vehicles and trains that carry spent nuclear fuel or high-level nuclear waste at the point of entry weigh station nearest the point at which the shipment enters the state or at a location ordered by the department of safety. The Department of Safety would develop rules and regulations to cover packaging, marketing, labeling, handling, loading, unloading, storing, detaining, transporting and monitoring of spent nuclear fuel and high-level nuclear waste.

- For shipments of spent nuclear fuel and high-level nuclear waste, the department would charge an annual permit fee of $500. However, there would be an additional fee of $2,000 per cask to be shipped under annual permit, to be paid by the owner of the shipment for the purposes of defraying the expenses of this state incurred in inspection, regulation and management involving such shipments. The department would require applicants for permits for the transportation of spent nuclear fuel or high-level nuclear waste, to obtain a bond or indemnity insurance of at least $25 million before granting such permit. The Department of Safety could make exceptions or exemptions for kinds, quantities, types, or shipments of spent nuclear fuel or high-level nuclear waste covered by this bill as deemed appropriate and consistent with protecting public health, safety, and welfare.

6.8 Wisconsin:

Forthcoming: The issue of escorts for radioactive waste shipments is likely to be under debate during the next session. The state passed legislation requiring a fee for hazardous materials transportation. The intention had been to use the funds generated by the fee to support regional hazardous materials teams. Subsequently, the fee has been determined to be unconstitutional.

6.9 Other Defeated State Legislative Initiatives

In addition, SB 2525 failed in Rhode Island; it would have given towns permit authority over hazardous chemicals and materials. HB 2705 in West Virginia also failed; it would have prohibited vehicles that transport hazardous materials from parking within 1,000 feet of educational or health care facilities. HB 1834 and SB 1861 in Tennessee

would have required state approval of hazardous, radioactive or mixed waste shipments from federal facilities to the state for storage, treatment or disposal.

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