

**States' Recommendations on DOE's Radioactive Materials Transportation Practices Manual (DOE M 460.2-1) as it Relates to Shipments of Spent Nuclear Fuel and High-Level Waste Under the Nuclear Waste Policy Act**

September 7, 2005

**Mode**

***DOE Position in Practices Manual***

Special rail service (including dedicated trains) will be used if it enhances operations. All mode choices must be approved by DOE RW.

***States' Position***

- We agree with OCRWM's decision to use mostly rail; however, safety must be the primary factor in selecting the mode.
- Dedicated trains will be used for all rail shipments.

**Transportation Plans**

***DOE Position in Practices Manual***

Same as for WIPP shipments. DOE will consult with State, tribal, and carrier representatives when developing such plans and will provide them, for comment, to those states and tribes through which jurisdictions the shipments are expected to be transported. Transportation plan will likely include: organizational roles and responsibilities; projected shipping window; estimated number of shipments; mode of transport and carriers to be used; packages to be used; preferred and/or alternative routes; shipment pre-notifications; safe parking arrangements; tracking systems; emergency preparedness and response; recovery and cleanup; security arrangements; and public information.

***States' Position***

- Generally agree.
- DOE will provide a draft transportation plan to the states for review and comment at least three years prior to the beginning of shipments and a final plan must be in place at least six months prior to the beginning of shipments.
- DOE will provide states an opportunity to review carrier transportation plans at least 90 days prior to the beginning of shipments.
- It is DOE's responsibility to assure that states have adequate resources to conduct necessary planning and coordination.

**Communications Plans**

***DOE Position in Practices Manual***

Likely same as for WIPP shipments. DOE will consult with State, tribal, and carrier representatives to develop a communications plan. It will identify roles and responsibilities for exchanging accurate information and identify points-of-contact and public spokespersons. DOE will prepare campaign-specific public information materials. When finalized, the materials will

be shared with State and tribal agencies for their use and distribution. DOE will assist and support State and tribal agencies in responding to information requests from elected officials and the media. Transportation contractors will also prepare a communications and outreach plan describing how they will communicate and interact with State, tribal and local government officials, regional cooperative agreement groups, local civic groups, the public and the media. DOE will provide the proposed plan to states and others for comments.

### ***States' Position***

- Generally agree – communications program should be similar to WIPP program.
- DOE will allow states to review and comment on public information materials while they are in draft form.
- DOE will retain responsibility for stakeholder relations, including participation at stakeholder meetings. These activities will not be delegated to a contractor.
- In the event of a shipment incident or accident, the states, DOE and the carrier/rail company will be proactive in providing accurate information on the incident to the public. This information will be coordinated between the states, DOE and the carrier/rail company prior to release, unless a delay to coordinate information might jeopardize public health or safety. In those instances, as the states have the responsibility for determining protective actions to protect public health and safety, the states will disseminate protective action information to the public without waiting to coordinate the release of this information.

## **Emergency Planning**

### ***DOE Position in Practices Manual***

DOE will rely on TEPP coordinators in each region to discuss emergency response roles, responsibilities, capabilities, notification procedures and information needs with States along transport corridors and to provide planning assistance and planning tools. Carriers will also be required to develop an emergency response plan that addresses activities to be conducted in an accident or incident.

### ***States' Position***

- Agree. Emergency planning is generally a state activity.
- DOE will ensure that carriers coordinate their emergency response plans with the states.
- DOE – working with the FRA, if necessary – will ensure that specific memoranda of understanding are developed between the states and the rail carriers, providing for access to railroad property by state and local responders and clearly delineating private and public responsibilities and defining the approach to be taken in the event of a rail incident. The memoranda shall also specify methods that the carriers will use to transport emergency responders to the scene of an incident, if necessary in areas where the track is not readily accessible by vehicle or in the event of weather conditions that impede travel by vehicle.
- It is DOE's responsibility to assure that states have adequate resources to conduct necessary planning and coordination.

## **Training**

### ***DOE Position in Practices Manual***

Funding and technical assistance will be provided (through Section 180(c) of the Nuclear Waste Policy Act) to assist states to obtain training. DOE will also rely on TEPP coordinators in each region to provide access to the states to the MERRTT training modules.

### ***States' Position***

- The overall objective of the 180(c) program will be to assist states in developing the capability to help prevent accidents and respond in a timely, appropriate fashion to accidents involving spent fuel and high-level radioactive waste shipments.
- Funding to states for purposes of training will be predictable to ensure program continuity.
- Section 180(c) funds and technical assistance will be provided to states at least three years prior to the start of shipments.
- The 180(c) program will give the states maximum flexibility to implement accident prevention and emergency response programs that best meet their needs. The states, in turn, will be accountable for documenting that the assistance they receive from DOE is, indeed, accomplishing the overall goal of the 180(c) program.
- An upfront planning grant (minimum of \$200,000 per state) will be provided to each affected state to cover the costs of planning and conducting a needs assessment. As long as shipments continue, however, there will be an ongoing need for planning. The states will be able to use their annual 180(c) grants for planning as well as for training.
- DOE will work with the states to develop a list of allowable activities that are eligible for funding under Section 180(c), as well as a list of transportation-related activities for which DOE will also provide funding from the Nuclear Waste Fund or other sources.
- DOE will provide the states with financial and technical assistance for both training and operational activities as long as shipments continue along a shipping corridor.
- Hospital emergency room personnel will be eligible for training with 180(c) funds.
- DOE will provide funds for training in preparation for shipments to any interim storage facility, whether public or private.

## **Planning Information**

### ***DOE Position in Practices Manual***

DOE will provide information which may include: when shipments are anticipated; origin; destination; projected pass-through states; expected number of shipments; operational specifics (such as whether shipments are escorted); description of material to be shipped; packaging descriptions; shipping modes; potential routes; and DOE/contractor point of contact. DOE will work with states to determine frequency of updates needed and the method by which this information will be provided.

### ***States' Position***

- DOE will provide the bulk of this information (routes, modes, expected numbers of shipments) in a timely manner to the states (at least three years prior to the beginning of shipments). This notification would include general, not “safeguards” information.

## **Routing**

### ***DOE Position in Practices Manual***

**Highway:** Highway routes for HRCQ shipments selected in accordance with 49 CFR 397.101 (b). DOE/contractors will use transportation models to analyze proposed routes. States may designate routes in accordance with 49 CFR 397.103. Routes are documented in specific shipment transportation plans.

**Rail:** DOE or its designated shipper specifies carrier and interchange points between carriers. DOE will coordinate routing options with rail carriers and stakeholders. To the extent practicable, will consider the following: distance traveled; number of interchanges between railroads; use of higher-class track; operational input from carriers. Proposed routes will be analyzed using transportation models such as INTERLINE. DOE will consult with states on proposed routes. Routes are documented in specific shipment transportation plans.

**Overall:** For shipments of commercial spent nuclear fuel to a repository, DOE will submit routes to NRC for safeguards and security review (but DOE does not commit to doing this for DOE spent fuel or high-level waste shipments to a repository.) DOE will retain final approval of all routes.

### ***States' Position***

- States – through their regional groups – maintain the option to propose routes to DOE.
- DOE will be consistent in its approach to routing of all shipments to the repository – regardless of whether they are shipments of commercial spent nuclear fuel or DOE spent fuel or high-level waste.
- DOE will seek NRC approval for all routes used by shipments to the repository.
- DOE will provide the states some certainty in routing at least three years in advance of shipments. This will allow the states to concentrate their emergency response preparedness activities. The more potential routes that could be used, the greater demand on states and DOE – financially and otherwise – to prepare multiple routes.
- Safety – rather than cost – will be the primary consideration in routing.
- DOE will consider routing criteria offered by the regional groups.
- After identifying routes, DOE will specify the designated routes in its carrier or rail transportation services contracts, its transportation plan and related documents and require carriers to utilize only these specifically designated routes. The contracts shall clearly articulate the conditions under which route deviations may occur and the duties and responsibilities of the carrier and DOE in the event of a required deviation. There shall be no deviations from the designated routes except in emergency situations.

## **Security**

### ***DOE Position in Practices Manual***

DOE will meet NRC requirements in 10 CFR 73. Armed escorts will be provided. Assessments of possible security threats against shipments will be performed by DOE, NRC, FBI and state law enforcement agencies, as appropriate. Liaison with State law enforcement officials will be provided by DOE. Escorts may be provided by State or local jurisdictions, at their discretion. TRANSCOM will be used to track shipments.

### ***States' Position***

- Regardless of whether DOE provides its own private or federal escorts, DOE will reimburse costs associated with state-provided escorts.
- At a minimum, DOE will follow NRC safeguards and security regulations (DOE may need to set up an MOA with NRC).
- If TRANSCOM is not working while shipments are in route, DOE will provide states with a position/status update for each shipment at least every 15 minutes.
- In consultation with the states, DOE will develop procedures that will define specific actions that will be taken for shipments when the national threat level is changed (for example, no shipments will be dispatched until the threat can be assessed, en route shipments will be diverted to protected parking areas). These procedures will be shared with the states.
- Drivers/train crews will be subject to security background checks.

## **Carrier/Driver Requirements**

### ***DOE Position in Practices Manual***

DOE will rely on carrier/driver requirements in 49 CFR. Drivers will also be required to be knowledgeable in the CVSA Level VI inspection procedures. Driver training must also cover operation of the specific package tie-down systems, cask recovery procedures, use of radiation detection instruments, use of TRANSCOM, adverse weather and safe parking procedures, and public affairs awareness training.

### ***States' Position***

- At a minimum, drivers and carriers will meet the same requirements as for WIPP shipments, which include independent audits of carriers by states and specific requirements for drivers and carriers.

## **Rail Carrier Requirements**

### ***DOE Position in Practices Manual***

Rail carriers must comply with FRA regulations and train their crews accordingly. Rail carriers are also responsible for maintaining a training program addressing a list of areas, such as operation of the specific package tie-down systems, first responder awareness training, public affairs and use of TRANSCOM.

### ***States' Position***

- Railroad equipment (engines, cask and buffer cars) used shall be of premium quality and shall be strictly maintained.
- The qualifications of the crew will be commensurate to the driver qualifications for drivers of highway shipments.
- Representatives of regional organizations and states will be included in the selection process for the initial carrier through review of requests for proposals and the development of contract requirements.

- DOE will work with FRA to ensure full implementation of the Safety Compliance Oversight Plan (SCOP), which will help ensure that train crews are properly certified, trained, and experienced in operating over the designated routes.
- DOE will work with FRA to review the rail carriers' dispatching procedures at the carriers' dispatching centers for the first shipment, and will periodically review the procedures for subsequent shipments.
- Rail shipments will follow AAR specifications for placement of buffer cars.

## **Shipment Pre-notification**

### ***DOE Position in Practices Manual***

DOE will provide advance notification as required by 10 CFR. In addition to the formal pre-notification, DOE will provide verbal or written notification to state points of contact at least seven working days prior to the actual shipment.

### ***States' Position***

- DOE will also provide states with additional mid-and long-range notifications, such as an 8-week schedule and bi-annual shipment projections for each route (not to include safeguards-specific information), so that states can understand the frequency of shipments that will occur through their jurisdictions.
- DOE will notify states immediately of individual schedule changes.

## **Transportation Operational Contingencies - Highway**

### ***DOE Position in Practices Manual***

Same as for WIPP shipments. Road and weather conditions must be acceptable prior to departure. Various National Weather Service storm warnings – in effect – would prevent shipment from departing. States may provide additional details on road and weather conditions.

### ***States' Position***

- Agree.
- DOE will also restrict shipments from traveling on certain identified national holidays. States and tribes may also identify specific local holidays and/or events which should be avoided because of either severe traffic congestion, and/or emergency response or security capabilities will be stretched thin because of the event.

## **Transportation Operational Contingencies - Rail**

### ***DOE Position in Practices Manual***

DOE will leave it up to the rail carrier.

### ***States' Position***

- Shipments will be restricted when weather conditions are especially hazardous and pose a threat to the safety of the shipment and/or jeopardize the ability of emergency responders to respond to an incident.

- Current weather conditions, the weather forecast and track conditions will be acceptable before dispatching a shipment. Evaluation of track conditions will include rock fall, wind, ice, snow, extreme temperatures, and damage to track or road beds due to flash floods or river flooding and visibility.
- The evaluation of weather conditions will include the ability of train crews to reach crew change points safely, the ability of inspectors to reach inspection locations and the ability of emergency response personnel to respond in the event of an incident.
- The decision to dispatch a shipment (referred to as the “decision to ship”) will be made jointly by a representative of the generator site, the senior crew member carrier’s operations director, and the DOE Transportation Manager or designee, in consultation with the point of origin state’s designated authority. The decision that acceptable conditions exist will be documented.
- If a state does not concur that the shipment should be dispatched, the DOE Transportation Manager or designee will consult with the state regarding the reasons the state recommends not dispatching the shipment.
- DOE will restrict shipments from traveling on certain identified national holidays. States and tribes may also identify specific local holidays and/or events which should be avoided because emergency response or security capabilities will be stretched thin because of the event.

## **Shipment Tracking**

### ***DOE Position in Practices Manual***

TRANSCOM will be used to track both highway and rail shipments. States will have access to the system. User designation and access will be restricted so as to be consistent with NRC regulations for protecting safeguards information.

### ***States’ Position***

- Agree.
- DOE will provide TRANSCOM training, equipment and software to the states.
- If TRANSCOM is not working while shipments are in route, DOE will follow similar backup procedures as they do for WIPP shipments, with the exception of providing states with a position/status update for each shipment at least every 15 minutes.
- DOE will require carriers to work with the states to develop procedures to utilize their own tracking and communication capabilities to complement the TRANSCOM system.
- DOE will follow similar procedures as they do for WIPP shipments as far as dispatch of a shipment when the TRANSCOM hardware on the vehicle or train is not working (take efforts to fix the unit or replace it with a spare, if available, before going forward with the shipment).

## **Inspections – Highway**

### ***DOE Position in Practices Manual***

Generally, same as WIPP. Shipper and/or carrier will perform pre-shipment inspections. Shipments will also be made available for inspection by certified State inspectors. Says that “it is expected” that inspections will be conducted to Level VI standards. En route shipments may also be inspected. Post-shipment inspections will be conducted by the receiver, and by states at their discretion (but not to impact unloading operations).

### ***States’ Position***

- Agree, however, Level VI criteria will be the standard.
- DOE will reimburse state costs associated with conducting CVSA Level VI inspections, as well as any additional radiation health inspections judged necessary by the states.
- A CVSA Level VI inspection will be performed prior to departure, as required by 49 CFR 385.415(b)(1).
- The shipment will not depart or proceed farther if the shipment equipment has not passed its point-of-origin or en route inspections (in compliance with standards and recommended practices).

## **Inspections - Rail**

### ***DOE Position in Practices Manual***

An equipment and radiological inspection will be conducted prior to departure. Inspections must be performed by FRA inspectors or state inspectors certified by the FRA. Cask, buffer cars and escort vehicle will be inspected. En route inspections may be performed at suitable locations by the FRA and state agencies through the FRA state participation program.

### ***States’ Position***

- DOE will work with FRA to ensure the Safety Compliance Oversight Plan (SCOP) is fully implemented and inspections are performed on the track, defective bearing detectors (hot boxes) and the signal system along the designated routes in advance of the first shipment.
- DOE will ensure that all cars on the train – including the engines – are inspected.
- Shipping containers will also be inspected.
- DOE will reimburse state costs associated with conducting CVSA Level VI inspections, as well as any additional radiation health inspections judged necessary by the states.
- All route states may conduct en route inspections at normal train stops, such as crew change points, refueling locations and other scheduled stopping locations.
- DOE will ensure that the inspection standards will be higher than for a standard train.
- DOE will ensure that carriers will provide access to rail yards for state radiological inspectors to perform in-transit inspections.
- The shipment will not depart or proceed farther if the shipment equipment has not passed its point-of-origin or en route inspections (in compliance with standards and recommended practices).
- When weather could cause warping or make rails brittle, additional inspections will be made of the track prior to shipments.



- Point of destination inspections will be handled in a similar manner as with the trucking campaign.
- DOE will allow states to conduct follow-up inspections along the designated routes based on the frequency of shipments, information obtained from prior radiological/health physics inspections, and FRA Safety Assurance and Compliance Program findings, if appropriate.
- DOE will ensure that either FRA's or the carrier's track geometry car shall be operated over the designated route prior to the first shipment to ensure regulatory compliance.

## **Safe and/or Secure Parking - Highway**

### ***DOE Position in Practices Manual***

Same as WIPP. State or local law enforcement may direct shipments to specific parking areas. If that does not occur, driver can pick suitable location based on specific criteria previously identified. DOE or other federal facilities are first choice, if the driver can safely reach such a site. States can pre-select certain locations, such as weigh stations, highway service facilities, and National Guard facilities.

### ***States' Position***

- Agree, for "safe" parking.\* For "secure" parking, parking location is not up to the driver but is at the specific request of law enforcement or DOE.
- DOE will notify the designated state agency contact whenever a shipment is in safe or secure parking.
- Arranging and paying for any additional security while the shipment is in safe or secure parking will be the responsibility of the shipper and/or carrier in consultation with the states.
- If a shipment is diverted to a safe or secure parking location, the carrier will hold the shipment at that location until notified to release the shipment. The decision to release the shipment will be coordinated between the States, DOE, and the carrier.

*(\* Note: the states are distinguishing between "safe" parking as it relates to bad weather or road conditions, and "secure" parking when there is a potential threat to a shipment and it must be parked in a secured area.)*

## **Safe and/or Secure Parking - Rail**

### ***DOE Position in Practices Manual***

Carrier would decide where to park the affected railcar(s). Within a DOE or other federal facility would be preferred location. A protected siding would be the next choice. Shipper and/or rail carrier would coordinate with local and/or state law enforcement if additional security was needed.

### ***States' Position***

- DOE will notify the designated state agency contact whenever a shipment is in safe or secure parking.

- The carrier and states, assisted by the FRA, will identify preferred safe and secure parking locations along the route prior to the first shipment. Adequate separation from other hazardous materials and the ability to secure the shipment will be considered in selecting acceptable parking locations.
- Arranging and paying for any additional security while the shipment is in safe or secure parking will be the responsibility of the shipper and/or carrier in consultation with the states.

## **Emergency Notification**

### ***DOE Position in Practices Manual***

DOE identifies specific criteria that they consider an emergency and would make a notification to the states – a person is killed; a person requires hospitalization due to major injuries; evacuation of the general public; a major transportation artery is closed or shut down as a direct result of the radioactive material cargo; fire, potential release or suspected radioactive contamination; or a security incident. For incidents that are unclear as to whether they fit in one of these classifications, DOE will default by making the notification. They list a number of organizations they would notify – including state 24 hour number and the NRC. DOE may provide additional notifications in response to non-emergency events.

### ***States' Position***

- DOE will provide emergency notification to the appropriate state's 24 hour emergency number as soon as possible.
- DOE will provide notification to the states on all incidents likely to attract public or media attention. The states prefer a broad interpretation of when DOE should make notifications, and agree with the default of making the notification rather than not making it.

## **Emergency Response**

### ***DOE Position in Practices Manual***

DOE will provide radiological assistance to support state and local authorities when an accident occurs. If needed, DOE will also provide Public Information support. Incident Command will be the responsibility of the state or local agency.

### ***States' Position***

- Agree.
- The establishment of the incident command system will be in accordance with the plan, protocols, and procedures of the state, tribe, or local jurisdiction and in accordance with the National Incident Management System. In all cases, the incident commander will be a state, tribal or local official as described in the emergency response plan for the jurisdiction where the incident occurs.

## **Recovery and Cleanup**

### ***DOE Position in Practices Manual***

Carriers have primary responsibility. DOE will coordinate with carriers, state and local authorities to ensure cleanup is done to an acceptable level. Carriers must have insurance liability as required by 49 CRF 387.7. DOE expects Price-Anderson would also provide coverage. DOE will ensure carriers have written procedures to address recovery and cleanup. DOE will also require the carrier to comply with ANSI N14.27 – which requires the carrier to provide appropriate resources for dealing with the consequences of an accident, including isolating and cleaning up spills.

### ***States' Position***

- DOE will ensure that the carrier fulfills its responsibilities for package and transporter recovery, cleanup, and site restoration (consistent with state regulations).
- DOE will contact the state radiological authority for approval of any cleanup plans and gain approval prior to any cleanup occurring.
- DOE will provide guidance to carriers to develop consistent specific written procedures for providing recovery and cleanup.
- DOE will ensure there is adequate liability coverage through Price-Anderson or some other mechanism.