

Western States' Expectations for the Shipment of TRU Waste by Rail

Operational Considerations

A. Overarching expectation:

1. DOE must ensure that rail shipments follow standards, procedures, and protocols comparable to those used for shipments of transuranic waste by truck.
2. Applicable portions of the Rail Guide shall be incorporated in DOE–CBFO contracts with rail carriers and in DOE’s transportation plan.

B. Policy expectation:

1. The procedures in the Rail Guide apply to all shipments by rail of transportation packages loaded with transuranic waste and managed by CBFO, including intersite shipments.

I. Qualified Crews, Enhanced Equipment & Enhanced Carrier Compliance

A. Overarching expectations:

1. WIPP cars shall be placed as close to the front of the train as possible.
2. Railroad equipment (engines, cask and buffer cars) used to transport transuranic waste shall be of premium quality and shall be strictly maintained.
3. The carrier shall ensure that only qualified crews operate trains transporting TRU waste.

B. Policy expectations:

1. The WGA, the State of New Mexico, the SSEB, and other regional organizations and tribes shall be included in the review of requests for proposals for rail service prior to issuance of the requests and in the development of contract requirements for the carrier selected.
2. All waste transported to WIPP or intersite shall be transported in Type B containers certified by the NRC.

3. The carrier shall ensure that operations center personnel are appropriately trained in the procedures and protocols for WIPP shipments.
4. FRA and DOE shall implement a program similar to the SCOP for WIPP shipments to ensure inspections are conducted and equipment is adequately maintained.
5. The rail carrier shall designate all transuranic waste trains to that class of trains the rail carrier assigns its highest priority.
6. Cask cars and buffer cars shall be dedicated cars used only for WIPP shipments.

C. Operational expectations:

1. DOE–CBFO shall include those requirements described in the WGA’s document entitled “Model Safety Elements in the WIPP Rail Transportation Contract” in its rail transportation services contract, in DOE’s transportation plan, and in related documents.
2. The cars shall be equipped with shelf couplers.
3. All trains shall use two–way end of train braking devices that comply with the regulatory requirements for design, performance, operational use, inspection and testing.
4. Components of the SCOP implemented for WIPP shipments may include:
 - a. FRA and/or the Lead States shall conduct reviews prior to the first shipment, and at least annually for subsequent shipments to ensure that train crews are properly certified, trained, and experienced in operating over the designated routes.
 - b. All locomotive engineers shall meet the Locomotive Engineer Certification requirements.
 - c. All crew members shall have the appropriate hazardous materials training as required by 49 CFR 172.700.
 - d. FRA and/or the Lead States shall review the rail carriers’ dispatching procedures at the carriers’ dispatching centers for the

first shipment, and shall periodically review the procedures for subsequent shipments.

- e. FRA and/or the Lead States shall review the rail carriers' inspection and management practices to identify any program weaknesses that could affect public safety and shall ensure that corrective action is taken when a weakness is identified.
- f. FRA and/or the Lead States shall review the rail carriers' latest inspection and maintenance reports for bridges.

II. Inspections of Track and Equipment

A. Overarching expectations:

- 1. DOE and the Carrier shall ensure that all WIPP rail cars are in compliance with all applicable requirements of the Federal Railroad Administration and the Association of American Railroads.
- 2. DOE shall ensure that all cask cars and buffer cars are inspected prior to their point-of-origin departure. Cars not meeting inspection standards shall be repaired prior to being placed in service.
- 3. DOE and the rail carrier shall develop and implement a preventive maintenance inspection schedule to ensure that all cask cars and buffer cars used for WIPP shipments are maintained to the highest standards.
- 4. The FRA and/or states may inspect all transuranic waste shipments by rail prior to their point of origin departure.
- 5. All route states may conduct en route inspections at normal train stops, such as crew change points, refueling locations and other scheduled stopping locations.
- 6. The FRA and/or states may inspect the track, defective bearing detectors (hot boxes) and the signal system along the designated routes in advance of the first shipment.

B. Policy expectations:

- 1. Carriers shall provide access to rail yards for FRA inspectors, FRA certified state inspectors, and state hazardous materials inspectors for in-transit inspections.

2. A decision to ship shall not be made if the shipment equipment has not passed its origin inspection.
3. Any cask car or buffer car not passing an en route inspection shall be taken out-of-service until repairs are made.

C. Operational expectations:

1. Railcars shall meet or exceed the requirements of the FRA and the requirements contained in the Field Manual of the American Association of Railroad Interchange Rules.
2. The FRA and/or point of origin States may inspect cask and buffer cars to assure compliance with the FRA Safety Appliance, Power Brake, and Freight Car Standards and that appropriate corrective measures, if required, have been implemented prior to each shipment.
3. Rail carriers and/or the DOE shipper of record shall coordinate and schedule inspections for loaded WIPP shipments with FRA and appropriate state agencies.
4. When weather could cause warping, washouts or make rails brittle, additional inspections must be made of the track prior to shipments.
5. Prior to each shipment, the FRA and/or point of origin States shall inspect each of the rail cars carrying the casks to assure compliance with the applicable Hazardous Materials Regulations concerning placarding, shipping papers, crew notification, and radiation limits. Inspections should be commensurate with the radiological portion of the CVSA Level VI inspections and include every cask car in the train. States, with pre-notification, may conduct additional inspections along the route if desired.
6. Point of destination inspections will be handled in a similar manner as with the trucking campaign at the discretion of the receiving state.
7. Conductors must maintain all inspection materials with each car number specified.
8. FRA and/or states may conduct follow-up inspections along the designated routes based on the frequency of shipments, information obtained from prior inspections, and FRA Safety Assurance and Compliance Program findings, if appropriate.

9. Either FRA's or the carrier's track geometry car shall be operated over the designated route prior to the first shipment and annually thereafter to ensure the quality and integrity of the geometry of the track along the designated route.

III. Bad Weather and Track Conditions

A. Overarching expectation:

1. The shipment by rail of transuranic waste should 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.

B. Policy expectations:

1. The evaluation of weather conditions shall 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.
2. If a state does not concur that the shipment should be dispatched, the WIPP Transportation Manager or designee shall consult with the state regarding the reasons the state recommends not dispatching the shipment.
3. The train must not be dispatched if weather is severe enough along the route to prevent an emergency response should there be an accident. A shipment should not be dispatched if the forecast predicts severe weather or bad track conditions which would affect the safety of the shipment when the shipment is anticipated to be in that area. Continued evaluation of weather and track conditions shall be made in approximately 200 mile increments as the shipment progresses.

C. Operational expectations:

1. If a shipment is diverted to a safe holding location due to bad weather or track conditions, the carrier shall hold the shipment at that location until notified to release the shipment from safe holding as discussed under "Safe and Secure Holding Locations."
2. Current weather conditions, the weather forecast and track conditions must be acceptable before dispatching a shipment. Evaluation of track conditions shall include rock fall, wind, ice, snow, extreme temperatures,

damage to track or road beds due to flash floods or river flooding and visibility.

3. The decision to dispatch a shipment shall be made jointly by a representative of the generator site, carrier's operations director, and the CMR Operator, in consultation with the point of origin state's designated point of contact . The decision that acceptable conditions exist shall be documented.

IV. Safe and Secure Holding Locations

A. Overarching expectation:

1. The carrier and states, assisted by the FRA, shall identify preferred safe and secure holding locations along the route prior to the first shipment.

B. Policy Expectation:

1. The States must agree to designated Safe Holding areas.
2. The train should not remain parked longer than it takes to make crew changes, perform inspections, refuel, or make repairs.
3. The trains carrying WIPP shipments should avoid using sidings for parking, but may use sidings to allow other trains with a similar priority to pass.

C. Operational expectations:

1. Adequate separation from other hazardous materials and the ability to secure the shipment will be considered in selecting acceptable holding locations.
2. Any additional security while in safe and secure holding locations required by a state shall be coordinated by the shipper and/or carrier.
3. Reasonable security, which may include a stationed law enforcement officer, a railroad police officer or law enforcement agent, must be provided on all parked trains still en route intersite or to WIPP. A train shall be considered parked when it remains idle and without movement for more than one (1) hour.
4. The decision to release the shipment from a safe holding location shall be coordinated with the States, the CMR and the carrier.

V. Advance Notice of WIPP Shipments, Shipment Tracking and Shipment Status Information

A. Overarching expectations:

1. DOE shall provide states with the same pre-notification and shipment schedules information that is provided to the states for truck shipments.
2. All rail shipments of transuranic waste will be tracked by TRANSCOM. Route states will have access to this information.

B. Policy expectation:

1. In the event TRANSCOM is not functioning properly while shipments are en route, DOE shall follow backup tracking and notification procedures that are contained in the Guide.

C. Operational expectations:

1. At least fourteen (14) days prior to the first shipment from a generator site, the DOE-CBFO Transportation Manager shall provide written notification of the first five (5) shipments to states, tribes and regional organizations.
2. At least fourteen (14) days prior to the first shipment from a generator site by a mode not previously used, the DOE-CBFO Transportation Manager shall provide written notification of the first five (5) shipments by the new mode to states, tribes and regional organizations.
3. To make sure that each car hauling TRU waste is tracked, transponder units shall be mounted and operational on each WIPP rail car prior to dispatch.
4. Prior to the dispatch of a shipment, if the TRANSCOM hardware on the railcars is found to be inoperable, the following actions shall be taken:
 - i. The shipper shall troubleshoot the system.
 - ii. If the shipper cannot correct the problem, they shall seek technical advice from their support staffs or a Qualcomm dealer (where available).
 - iii. If the unit is still inoperable, it shall be replaced if a spare unit is available.
 - iv. Spare units shall be kept at all sites shipping by rail.

- v. If the unit cannot be easily repaired or replaced (within 24-hours), the shipment will be dispatched with prior notification to the affected states. "Back-up procedures when TRANSCOM is Not Working" outlined in the Guide shall be followed.
- 5. Carriers shall work with DOE and the Western Corridor States to develop procedures to utilize their own tracking and communication capabilities to complement the TRANSCOM system.
- 6. Shipments of transuranic waste shall be restricted from traveling on certain identified holidays.
- 7. States and tribes may identify specific local holidays and/or events which should be avoided.

VI. Medical Preparedness

A. Overarching expectation:

- 1. DOE will make provisions for and cover the expense of training for hospital and emergency medical personnel along WIPP transportation routes, similar to that which is currently provided for truck shipments.

VII. Memoranda of Understanding

A. Overarching expectation:

- 1. Specific memoranda of understanding will be developed between the states, tribes and the carriers, providing for access to railroad property by state and local responders, clearly delineating private and public responsibilities and defining the approach to be taken in the event of a rail incident.

B. Policy expectations:

- 1. The memoranda of understanding will specify that the incident command system shall be used and that the Incident Commander shall be a state, tribal or local official as described in the emergency response plan for the jurisdiction where the incident occurs.
- 2. If a route selected involves more than one railroad company, a separate memorandum shall be developed for each company.

C. Operational expectation:

1. For areas where the track is not readily accessible by motor vehicle or for periods when weather conditions make access difficult for first responders, the memoranda shall also specify the methods carriers will use to transport responders to the scene of an incident. The memorandum shall specify that emergency responders will be provided with a rail system map with the nearest road access points, GPS coordinates if available, and the rail operations center telephone numbers.

VIII. Emergency Response Plans & Procedures

A. Overarching expectations:

1. The carrier will provide immediate notification of an incident to DOE, which will then provide that information to the states and local responders.
2. Response actions by railroads must be in conformance with state plans and procedures.

B. Policy expectations:

1. The carrier is responsible for providing emergency response assistance. The carrier has primary responsibility for package and transporter recovery, cleanup, and site restoration. DOE shall ensure that carriers have specific written procedures for providing recovery and cleanup.
2. For WIPP incidents, the establishment of the Incident Command System shall be in accordance with the plan, protocols, and procedures of the state, tribe, or local jurisdiction. In all cases, the Incident Commander shall be a state, tribal or local official as described in the emergency response plan for the jurisdiction where the incident occurs.

C. Operational expectations:

1. In the event of an incident, the WIPP CMR shall notify the appropriate local law enforcement authority, the state 24-hour contact number, and DOE Albuquerque Operations Office.
2. Lifting lugs and welding rods for attaching the lugs to the TRUPACT-II shall be carried on each rail car.

IX. Emergency Response Equipment

A. Overarching expectation:

1. DOE will continue to assist the states in acquiring and maintaining adequate equipment for emergency responders along all WIPP routes to respond to a WIPP shipment incident.

X. Training and Exercises

A. Overarching expectations:

1. DOE–CBFO shall continue to offer training to the states through the State and Tribal Education program.
2. DOE–CBFO shall expand the WIPPTREX and WIPPTRAX programs to provide additional exercises for rail shipments.

B. Policy expectations:

1. DOE and its rail carrier shall support at least one rail WIPPTREX each year, and both shall participate in the exercises.
2. Rail exercises shall also be available for the New Mexico WIPPTRAX program.

C. Operational expectations

1. DOE shall fund training on workplace safety in the railroad work environment for State radiological inspectors who are not FRA State Participation Program inspectors.

XI. Public Information and Participation

A. Overarching expectations:

1. DOE will assist the states in providing public information along shipping corridors that explains the safety measures in place and the actual risk of the shipments.
2. In the event of an incident or accident involving a WIPP shipment, the states, DOE and the 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 rail company prior to release.

XII. Rail Routing of WIPP Shipments

A. Overarching expectation:

1. A single designated route shall be selected from each shipping point to the WIPP site or the receiving site for inter-site shipments. Selection of the route will be based primarily on safety and security. The route selection will be coordinated with the affected states and tribes.

B. Policy expectations:

1. If the identified route is not acceptable to the states, DOE–CBFO shall work with the carrier to identify a route that is acceptable.
2. There shall be no deviations from the designated routes except in emergency situations. No deviation shall be allowed without prior approval from DOE–CBFO and the affected states.

C. Operational expectations:

1. Track classification shall be considered when selecting routes for shipments. The route selection shall ensure that the highest rated track is used.
2. Track not under central signal control, sometimes referred to as “dark track,” shall be avoided wherever practical.
3. The distance to destination, grade, number and type of curves, high/wide load restrictions, bridges and tunnels shall be considered when selecting routes.
4. Provided that the safety considerations discussed above are met, rail routes shall closely parallel existing highway routes where possible.
5. WIPP shipments shall only be routed through State and tribal jurisdictions where DOE has provided technical assistance and funds for the purpose of training public safety officials and other emergency responders as provided under Section 16c of the WIPP Land Withdrawal Act. This includes the provision of training for public safety officials and other emergency responders, implementation of the Regional Medical

Preparedness Action Plan, implementation of public information programs and acquisition of equipment.

6. WIPP shipments should avoid classification yards as much as possible.
7. WIPP cars shall not be:
 - i. Humped.
 - ii. Cut off while in motion
 - iii. Coupled into with more force than is necessary to complete the coupling.
 - iv. Struck by any car moving of its own momentum.
 - v. Each WIPP car shall be labeled "Do not hump or cut off car while in motion."
8. DOE will specify designated routes in its 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.