



Above: A state inspector confers with the drivers on the shipping papers for a shipment of transuranic waste that is ready to leave Argonne National Laboratory near Chicago. The waste is destined for the Waste Isolation Pilot Plant in New Mexico.

TRANSCOM to track its shipments of spent nuclear fuel, transuranic waste, high-level radioactive waste, and other shipments that might attract attention from the public.

The security of radioactive waste shipments is of paramount importance to shippers, carriers, and state and federal agencies. Recognizing that deliberate attacks on shipments could present a risk to public health and safety, the NRC regulates the physical protection of spent nuclear fuel in transit. These regulations require shipments to be accompanied by armed escorts. Some states escort all shipments of spent nuclear fuel and transuranic waste that cross their borders. State escorts serve the primary purpose of providing security for shipments, but they can also facilitate communications with other state personnel that may be staffing emergency operations centers or other facilities. In some cases, the escorts also include personnel trained to handle accidents involving radioactive materials. In some situations, DOE provides its own escort for a shipment. Even in these cases, however, the states may choose to provide their own state escorts as well, either because of state law or because of the agencies' desire to more easily monitor a shipment's status.

Resources

Being involved in planning and overseeing shipments requires that state agencies have access to sufficient resources. Some activities are funded through federal agencies such as DHS and the DOT Federal Motor Carrier Safety Administration. For some shipping campaigns, such as the transuranic waste transportation program, DOE is required by statute to provide funds and technical assistance to the states that are affected by shipments. Section 180(c) of the Nuclear Waste Policy Act requires DOE to provide similar assistance to states in preparation for future shipments of spent nuclear fuel and

high-level radioactive waste to a national repository or storage facility, when one becomes available.

Some states charge a fee specifically on shipments of hazardous materials, spent nuclear fuel, transuranic waste, and/or high-level radioactive waste. In most of these states, the fees are deposited into dedicated funds and are used for performing inspections, providing escorts, tracking shipments, training first responders, and other shipment-related activities. In at least one state, the fee is specifically intended to recoup the state's cost of inspecting and escorting the shipment, which is a state requirement. Fees have been an important source of revenue to the states, offsetting their expenses related to preparing for shipments and carrying out operational activities such as escorting. The assessment of fees in connection with radioactive waste shipments is allowed under the federal Hazardous Materials Transportation Uniform Safety Act.

Through the activities described above, the states work hand-in-hand with DOE, tribal governments, carriers, and other federal agencies to reduce and to manage the risks associated with shipping radioactive waste and material. As a result of all these efforts, the safety record for radioactive waste shipments over the past 50 years is exceptional. These efforts will need to continue in full force in order to meet the challenge of future campaigns to transport thousands of shipments of spent nuclear fuel and high-level radioactive waste to facilities for storage and disposal.

For more information on the Midwestern Radioactive Materials Transportation Project, including maps and tables, visit the project's resource web page at <http://bit.ly/MRMTInfo> or scan the qr code with a barcode reader on your smartphone.





Communication may be the most important aspect of any shipping campaign. Communications plans are useful for spelling out exactly how the shipper and the affected states will interact with the public and with the media. For some DOE shipping campaigns, the Department has worked with states to hold public meetings in those locations where interest in the shipments is high. States are also involved in preparing fact sheets and other public information materials in connection with shipping campaigns – sometimes partnering with DOE, at other times developing materials on their own. These public information materials can be very useful in the event a state agency receives inquiries from the media, the public, or elected officials. Some states even choose to disseminate general shipment information prior to the onset of shipments to help people understand the need for shipments, the possible impacts on their communities, and the preparations that the state and DOE have put in place to ensure public safety.

Emergency Preparedness

Preparing to respond to emergencies is a significant part of any radioactive waste shipping campaign. While shipments are conducted in such a way as to prevent accidents from occurring, if an accident does occur, the state and local jurisdictions must be prepared to respond quickly, safely, and effectively. A well-organized and coordinated effort is necessary for a swift and effective response to an accident. Emergency responders along the route have plans and procedures in place to deal with transportation incidents involving shipments of hazardous materials, including radioactive waste. These plans specify notification and response procedures for use in the event of an accident.

DOE's Transportation Emergency Preparedness Program (TEPP) has developed a training program, recognized by the U.S. Department of Homeland Security (DHS), called Modular Emergency Response Radiological Transportation Training (MERRTT). MERRTT has a modular design, consisting of 16 concise, easy-to-understand modules, four textbook exercises, and five hands-on practical exercises. This design allows a jurisdiction to integrate the modules into existing hazardous material training. MERRTT provides fundamental knowledge for responding to transportation incidents involving radioactive material and builds on training in existing hazardous materials curricula. The material is designed to meet the training needs of persons serving in fire service, law enforcement, emergency medical service, emergency management, public works, or on a hazardous materials team.

While it is highly unlikely that a patient would be radiologically contaminated as the result of an accident, training is also available for hospital and emergency medical services personnel. Emergency responders and hospital



Top left and right: State inspectors check radiation readings on shipments of radioactive waste that are getting ready to depart.

Bottom left: Firefighters participate in an exercise to test their knowledge of proper procedures for responding to accidents involving shipments of radioactive waste.