

TRANSPORTATION

TRANSPORTATION OF NUCLEAR WASTE

A safe, dependable transportation system is a necessary link in the operation of any integrated system for managing and disposing of spent nuclear fuel and high-level radioactive waste. At a minimum, waste will need to be moved from wherever it is being stored to a final disposal facility. In addition, spent nuclear fuel may need to be moved from the widely dispersed sites where it is currently being stored (nuclear power reactor sites) to one or more consolidated storage sites.

The Department is exploring options to transport spent nuclear fuel and high-level radioactive waste to storage and disposal sites by:



rail



road



barge

DOE ACTIVITIES RELATED TO TRANSPORTATION

Though we are not yet engaged in large-scale shipments of spent nuclear fuel and high-level radioactive waste, the Department meets regularly with states, Tribal Nations, and stakeholders across the country as part of the planning process. It is important to ensure that final plans reflect input from all groups that are potentially affected by future nuclear waste shipments. In these efforts, the Department works with:

- States
- Tribal Nations
- Federal agencies
- Nuclear power utilities
- Cask manufacturers
- Emergency responders
- Railroads and other carriers
- Other involved parties

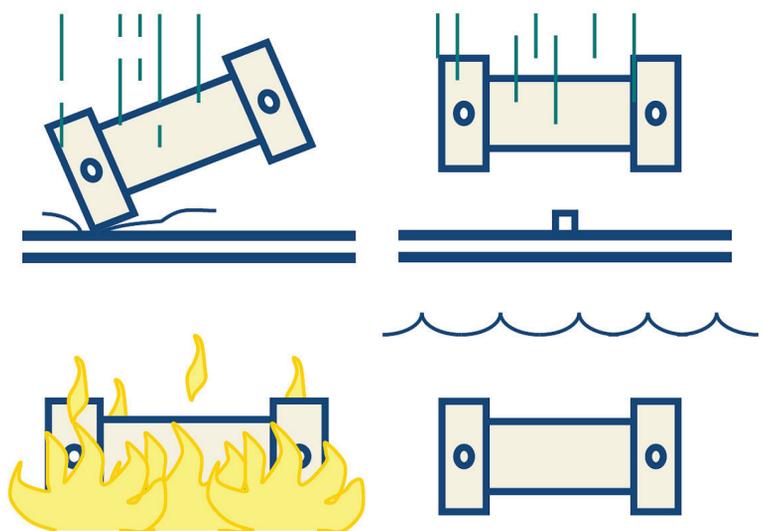
SAFETY

Nuclear fuel transportation has a strong safety record. When shipments take place, the Department will work carefully with emergency officials along pre-approved routes to ensure the protection of all affected communities. During transportation, radioactive material is safely contained in large, sealed containers licensed by the Nuclear Regulatory Commission. The massive containers protect people and the environment during routine operations, as well as in the unlikely case of a severe accident.

These containers are designed to ensure they can withstand a sequence of events that includes:

- a 30-foot free fall onto an unyielding surface
- a puncture test in which the container is allowed to free-fall 40 inches onto a steel rod 6 inches in diameter
- a 30-minute, fully engulfing fire at 1475 degrees Fahrenheit
- immersion under 3 feet of water

Ensuring Safe Spent Fuel Shipping Containers



The impact (free drop and puncture), fire, and water-immersion tests are considered in sequence to determine their cumulative effects on a given package.

