



## Hazardous Materials Transportation

### Center for Transportation Analysis (CTA) Research Areas

Aviation Safety  
Air Traffic Management Analysis  
Data, Statistical Analysis  
Geo-Spatial Information Tools  
Defense Transportation  
Energy Policy Analysis  
Environmental Policy Analysis  
Highway Safety  
Intelligent Transportation Systems  
Logistics Management  
Supply Chain Management  
Modeling and Simulation  
Transportation Operations  
Planning and Systems Analysis  
Transportation Security

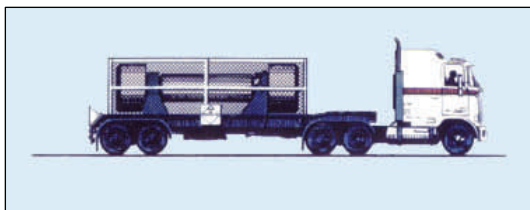
Patricia S. Hu, Director  
Center for Transportation Analysis  
Oak Ridge National Laboratory  
2360 Cherahala Boulevard  
Knoxville, TN 37932  
865.946.1349  
(Fax) 865.946.1314

Website: [cta.ornl.gov](http://cta.ornl.gov)

**O**RNL has a staff with extensive experience in planning hazardous materials transportation shipping campaigns.

### Capabilities

- Regulatory Compliance, including DOT, NRC, IAEA
- Route planning for highway, rail, or waterway
- Packaging, including recommendation, design, and testing
- Detailed simulation of loading, transportation, and maintenance facilities for the transportation system
- Cost analysis

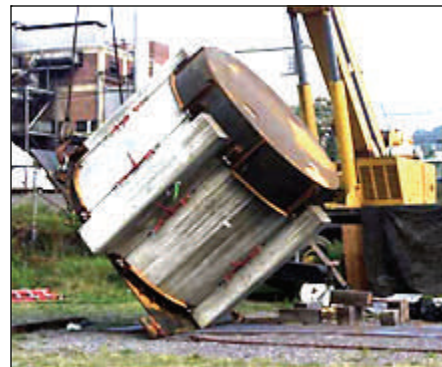


Truck and Cask

### Experience

ORNL is assisting the US Department of Energy Office of Civilian Radioactive Waste Management plan the transportation system for the shipment of spent nuclear fuel and high-level radioactive waste by rail, highway,

and waterway. If the Yucca Mountain, Nevada repository is approved and built, the transportation system will ship spent nuclear fuel and high-level radioactive waste from 131 temporary storage sites located in 39 states to the repository. There will be approximately 4,300 shipments over a 24 year period. The work at ORNL involves the simulation modeling of the different spent fuel and high-level waste storage facilities to determine resource requirements, use, and cost. ORNL is also developing logistics support software for schedule planning, transportation and packaging acquisition, and service acquisition. The software support also includes routing over the rail, highway, and waterway networks. Staff is also providing input for the regulatory analysis to ensure compliance with federal, state, local, and tribal laws.



Package Testing

For more information regarding this research contact Glen Harrison, Center for Transportation Analysis, Oak Ridge National Laboratory, phone (865) 946-1312 or email [harrisonig@ornl.gov](mailto:harrisonig@ornl.gov).