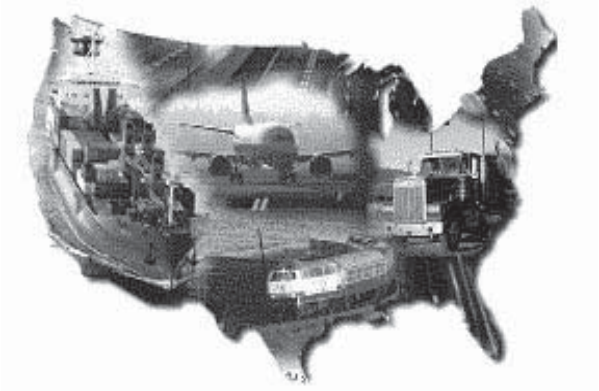
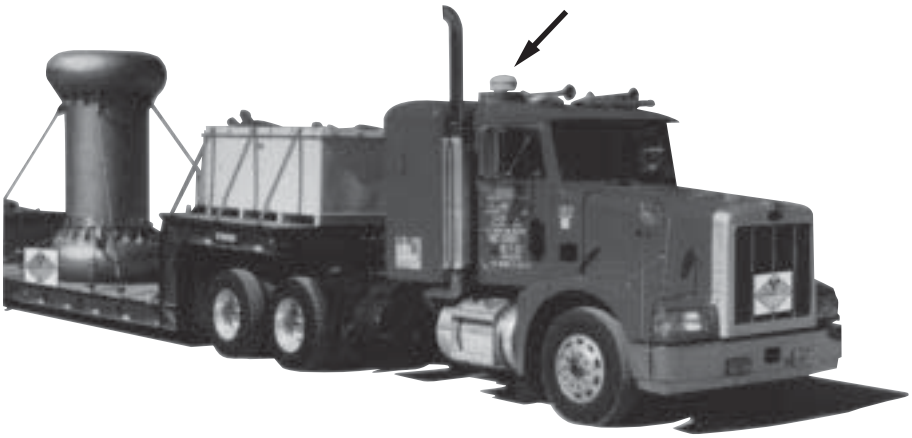


U.S. Department of Energy

National Transportation Program

TRANSCOM

A Transportation Tracking and Communications System



DOE monitors shipments of some hazardous materials using the Transportation Tracking and Communications system (TRANSCOM). The TRANSCOM transponder (indicated by an arrow) transmits a signal, allowing the shipment to be tracked via satellite.

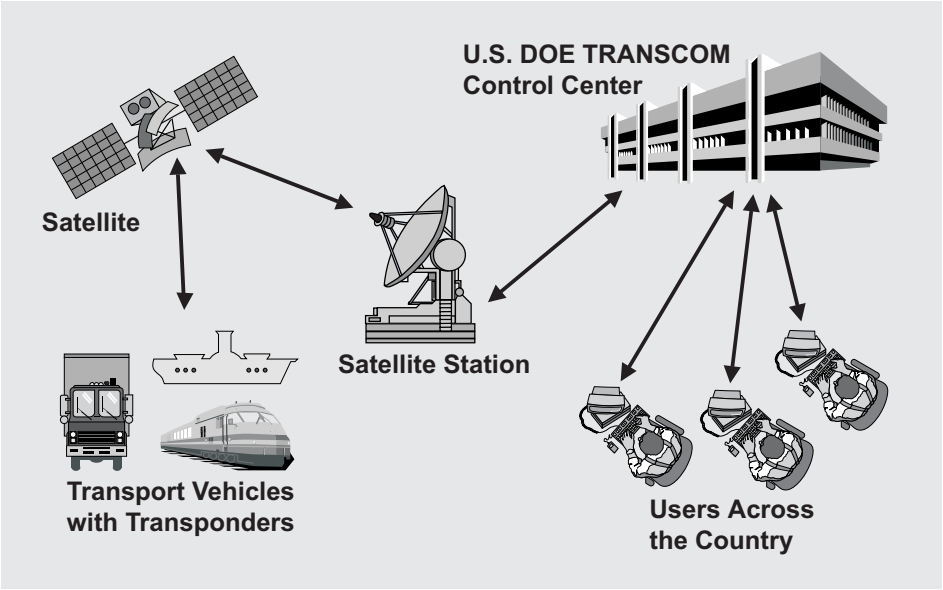
The U.S. Department of Energy (DOE) and its predecessor agencies have maintained a record of safe and efficient transportation of radioactive materials for more than 50 years. Contributing to this effort is a transportation tracking and communications system called TRANSCOM. The TRANSCOM system combines satellite communications, computerized database management, user networks, and ground communications to follow the progress of some en route shipments of hazardous materials (e.g., spent nuclear fuel, high-level radioactive waste, and other high-visibility shipments).

How TRANSCOM Works

TRANSCOM uses communications equipment and a satellite positioning/reporting system to track truck, rail, ship, and barge shipments. Transponders mounted on transport vehicles send signals to a satellite receiving station that identifies vehicle location. Also, solar-powered portable transponders are used on some rail and barge shipments. Data is relayed to the TRANSCOM Control Center (TCC) through a telecommunications link at 5-minute intervals. This offers near "real time" accuracy. The TRANSCOM central computer uses this data to display the shipment information on a series of computer-generated maps. Authorized users include DOE, the U.S. Nuclear Regulatory Commission (NRC), U.S. Department of Transportation (DOT), and State and Tribal governments.

Available Shipping Information

Access to shipment information is based on shipment route. Authorized users can access the TRANSCOM system to obtain unclassified information concerning current and upcoming shipments. This includes specific information such as schedules, planned routes, and the types of materials being transported, as well as emergency response information specific to each shipment being tracked.



TRANSCOM uses communications equipment and a satellite positioning/reporting system to track high-visibility shipments.

Customer Base

Although TRANSCOM was developed for internal DOE use in tracking shipments, other users, such as State and Tribal governments, NRC and DOT have also been provided access to the system. This access provides State and Tribal emergency response or law enforcement agencies a tool with which to monitor high-visibility shipments through their jurisdictions while still ensuring only those who have responsibility for shipment safety know where shipments travel.

TRANSCOM provides a central monitoring and communications center for DOE shipments of spent nuclear fuel, high-level radioactive waste, and other high-visibility shipping campaigns. Authorized users are provided with special software to use with their personal computers, modems, and telephone lines. With this system, DOE can continuously monitor the location and status of these shipments both within the continental United States and in international waters. Should an incident or accident occur, TRANSCOM becomes an important tool in support of existing emergency management systems. It can be used to provide valuable information to response teams and DOE field offices and to alert State responders along the shipping corridor.

TRANSCOM is available to 105 user organizations and has tracked 966 shipments in it's lifetime. Since the beginning of Fiscal Year 1999 (10/1/98 to 7/30/99) TRANSCOM has successfully tracked 87 shipments including 46 Waste Isolation Pilot Plant (WIPP) demonstrations, 16 actual WIPP shipments, 11 high flux isotope reactor shipments, and 14 spent nuclear fuel shipments (7 university reactor and 7 foreign research reactor shipments). Training for new users is provided by the DOE National Transportation Program Albuquerque (NTPA) to ensure users have a satisfactory level of proficiency with the system.

Summary

The TRANSCOM system has demonstrated its capability to provide reliable tracking and communication between shipment vehicles, the TCC, and other users monitoring high-visibility DOE shipments. TRANSCOM is sponsored by NTP and further information is available at (505) 845-6134.

Additional information on DOE's National Transportation Program may be obtained from:

National Transportation Program
U.S. Department of Energy
Albuquerque Operations Office
P.O. Box 5400, MS SC-5
Albuquerque, NM 87185-5400

Phone: 505-845-6134
Fax: 505-845-5508

Website:
http://www.ntp.doe.gov/

DOE Center for Environmental
Management Information
P.O. Box 23769
Washington, DC 20026-3769

1-800-7EM-DATA
1-800-736-3282

Website:
http://www.em.doe.gov/

Transportation Resource Exchange Center
ATR Institute
University of New Mexico
1001 University Blvd., SE
Albuquerque, NM 87106-4342

Phone: 1-877-287-TREX (8739)
Fax: 505-246-6001
email: trex@unm.edu

Website:
http://www.trex-center.org/

revised 7/99