

**Fact Sheet on the
U.S. Department of Energy Shipments of
Transuranic Waste to the
Waste Isolation Pilot Plant in New Mexico**

April 25, 1999
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California Energy Commission

Background

- Transuranic (TRU) waste is generated primarily at federal facilities during research, development and production of nuclear weapons. These wastes include protective clothing, laboratory tools and equipment, debris, rags, glass, and soils that are contaminated with small amounts of radioactive materials, such as plutonium and americium. They also may contain small amounts of hazardous chemicals.
- The major generator of TRU waste in California is the Lawrence Livermore National Laboratory. Other generators in California include U.C. Berkeley, General Electric Vallecitos Facility in Pleasanton, and the Energy Technology and Engineering Center (ETEC) in southern California.
- The federal Department of Energy (DOE) has begun transporting transuranic waste from federal facilities throughout the U.S. to a deep geologic disposal facility located 2,150 feet underground. This facility, located near Carlsbad, New Mexico, is called the Waste Isolation Pilot Plant (WIPP). The National Academy of Sciences recommended the disposal of long-lived nuclear wastes in stable geologic formations, including deep salt beds such as found at WIPP. Congress authorized construction of the WIPP in 1979. DOE completed construction of the facility in the late 1980s.
- The first shipment of transuranic waste was made to the Waste Isolation Pilot Plant from the Los Alamos National Laboratory in New Mexico on March 26, 1999. The flatbed truck carried three TRUPACT-II shipping containers holding roughly 600 pounds of waste. This was the first of what DOE estimates will be over 37,000 shipments from 10 major federal sites and at least 13 small-quantity sites in the US over a projected 35-year project life. Shipments will travel through at least 30 states, including California, and the lands of at least 11 tribal governments.
- TRU waste is classified as either contact-handled or remote-handled, depending on the radiation level at the surface of the package. If this level exceeds 200 millirem per hour, it is considered remote-handled waste and requires shielding in the package before transport. Most of the waste to be transported in California is contact-handled waste with small amounts of remote-handled waste at ETEC in southern California.



Transportation Preparation

- While DOE is responsible for the safety of these shipments, states have recognized their own responsibility to ensure the safety of these shipments. The Western Governors' Association WIPP Transport Advisory Group, working together with DOE, has developed a transport safety plan and procedures for shipping this waste to WIPP. These procedures include advance notification, tracking shipments using satellite technology, truck safety inspections, the use of highly qualified and experienced drivers, safe parking during bad weather or road conditions, emergency response preparation, and public information.
- Western states, including California, New Mexico, Colorado, Wyoming, Utah, Idaho, Washington, Oregon, Nevada and Arizona helped develop these transport safety procedures. These states have worked with the federal government since 1989 to develop this accident prevention and emergency response program. The WIPP transport safety program is considered a model transport safety plan for future nuclear waste shipments and was used successfully in shipments of cesium from Colorado to the State of Washington.
- Transuranic (TRU) waste shipments to WIPP from California are expected to begin in the year 2001. DOE plans to transport approximately 76 shipments of contact-handled (CH) transuranic waste through southeastern California from the Nevada Test Site en route to WIPP. DOE estimates approximately 127 CH TRU waste shipments from the Lawrence Livermore National Laboratory in northern California, 1-2 CH shipments from ETEC, 1-3 CH shipments from the General Electric Vallecitos Facility, and 1 CH shipment from the Lawrence Berkeley Laboratory. ETEC will also have an estimated 5 shipments of remote-handled TRU waste.
- The WIPP transport program is based on the assumption that all waste shipments will be by truck. However, the WIPP is accessible by rail, and DOE is evaluating the feasibility and impacts of shipping TRU waste to WIPP by rail. If DOE decides to ship TRU waste by rail, the transportation safety program would be significantly revised.

Packaging

- Contact-handled waste will be transported to WIPP in the Transuranic Packaging Transporter (TRUPACT-II), an extremely sturdy, reusable shipping package or cask. Inside each TRUPACT-II, the waste will be sealed in 55-gallon steel drums or steel boxes. Each TRUPACT-II can hold up to fourteen 55-gallon drums or two boxes. Each truck can hold up to three TRUPACT-II containers. These casks must meet the U.S. Nuclear Regulatory Commission packaging standards and be able to withstand a severe transport accident. Full-scale tests were conducted on these casks to demonstrate the cask's ability to survive high-speed crashes and punctures followed by fires.

California's Preparation

- The State of California has been working with other states and DOE to develop this WIPP transportation safety program. California has requested and DOE has agreed to provide technical and financial assistance to California for emergency response and other preparations along transport corridors in California. Funding to begin these activities is being made available in Spring 2000. DOE estimates that shipments will begin in California in the Year 2001.
- The California Energy Commission coordinates an Interagency Transuranic Transport Working Group made up of senior staff from the eight California agencies. These agencies are the Department of Health Services, Highway Patrol, Caltrans, Energy Commission, Environmental Protection Agency, Fish and Game, the Governor's Office of Emergency Services, and the California Public Utilities Commission Rail Safety Branch. This group of agencies will coordinate California's preparation for WIPP shipments in California.

Routing

- The currently proposed routes to be used for truck transport of transuranic waste from the 10 defense facilities to WIPP are predominantly Interstate System highways. Federal regulations for the routing of certain large quantities of radioactive materials, called "Highway Route Controlled Quantities (HRCQ)", require the use of Interstate System highways unless states have designated alternate routes according to federal guidelines (49 Code of Federal Regulations 397). DOE has stated that as a matter of policy all WIPP shipments will be treated as HRCQ shipments.
- DOE with the cooperation from states has identified specific Interstate System highway routes for WIPP shipments. This identification of specific routes limits the number of affected jurisdictions and allows states to focus emergency response preparation and training along those identified routes.
- DOE has indicated that most of the TRU wastes to be transported in California will be transported in less-than HRCQ. Therefore, most of these less-than HRCQ TRU shipments in California will not be required to follow the Interstate System of highways, which would have required transport along the Interstates through the Los Angeles basin en route to WIPP. Alternative routes that avoid high population centers have been proposed.
- DOE's proposed routes in California for "HRCQ" shipments from LLNL would be south via I-580 to I-5 near Vernalis, I-5 to I-210 north of Los Angeles, I-210 to I-10 near Pomona, I-10 to I-15 in Ontario, I-15 to I-40 in Barstow, I-40 to California/Arizona border. For less than "HRCQ" quantities, routes for shipments from LLNL would be I-580 to I-5 near Vernalis, I-5 to US 99, near Mettler, US-99 to US-58 at Bakersfield, US 58 to I-15, north of Barstow, I-15 to I-40 in Barstow, I-40 east to the California/Arizona state line.

- Proposed routes for shipments from GE Vallecitos Nuclear Center and Lawrence Berkeley Laboratory would be I-580 south to I-5 and then follow the same routes as shipments from LLNL. From ETEC, shipments would be transported north on I-405, east on I-220 to I-210, to I-10, north on I-15 to Barstow and then east on I-40.
- Proposed routes for less-than “HRCQ” quantities from the Nevada Test Site through California to WIPP include State Route 127 south to I-15, near Baker, California, I-15 to I-40, in Barstow, and then I-40 east to the California/Arizona state line.
- All transuranic wastes will meet certain criteria called WIPP Waste Acceptance Criteria that limit the amount of radioactive materials, heat load, liquids, combustible materials, and gas generation in the waste.

For more information, please contact the following websites:

www.westgov.org/wipp/

<http://www.wipp.carlsbad.nm.us>