

Nuclear Waste Transportation

- Federal repository*** After more than 20 years and \$4 billion spent on scientific study, the United States Congress in July approved the Yucca Mountain, Nevada, site as the federal repository for nuclear waste. President Bush had forwarded an approved United States Department of Energy (DOE) environmental impact statement (EIS) on the site to Congress, but the state of Nevada had objected, requiring congressional approval.
- The Yucca Mountain site*** Yucca Mountain is a remote Nevada location 100 miles from a large population center, Las Vegas. It was picked because of this and also because of:
- its very dry climate (less than six inches of rain annually) and
 - its extremely deep water table (close to 1,000 feet below the repository site).
- Nevada objections*** Nevada had earlier filed suit against the DOE claiming that the Yucca Mountain EIS was inadequate and in violation of the National Environmental Policy Act and the Nuclear Waste Policy Act. The state claimed that the EIS transportation analysis of spent nuclear fuel and high-level radioactive waste was totally inadequate. Nevada wants DOE to develop a draft national transportation plan for waste shipment, with alternatives, and then a consistent state plan identifying preferred shipping routes. Nevada also wants at least a six-month comment period, with public hearings in all states and major cities along proposed shipping routes. The suit failed in United States district court, but is now before the United States Court of Appeals.
- Timetable*** The DOE is in the process of submitting the Yucca Mountain license application to the Nuclear Regulatory Commission (NRC). Based on federal law, NRC then conducts scientific review and public hearings before any construction may be able to commence in 2005. The facility for underground storage will take three years to fully construct. The DOE then requests NRC authorization to operate, which takes at least another two years. At the earliest, Yucca Mountain may be able to accept nuclear waste shipments by 2010.
- Waste transport*** If or when the nuclear waste repository at Yucca Mountain becomes operational, a combination of transportation modes by train and truck will be used to move radioactive materials from 77 sites located in 35 states (including waste from both commercial and government facilities). The federal government prefers using rail to ship waste 95 percent of the time. All spent nuclear fuel and high-level radioactive waste shipped will be in solid form for transportation and disposal. The waste materials will be transported to a repository in large certified container casks: rail casks may weigh as much as 150 tons; truck casks can weigh 26 tons.

Routing

The estimated number of annual shipments is 175. United States Department of Transportation (DOT) and NRC rules track the shipments by 24-hour satellite; along with armed escorts; and there must be advance route approval and notification to the states. Each state governor can provide preferred routes to the DOT, and emergency response teams already have been trained in the states where shipment will occur. The federal government says that in more than 30 years, there has been no harmful release of radiation in more than 2,700 shipments of nuclear waste. In Europe, particularly France and Britain, nuclear waste has been shipped for more than 25 years through heavily populated areas without serious incidents.

Alternative private site

In addition to waiting for the Yucca Mountain site to open, Xcel Energy in Minnesota has helped form a consortium of eight nuclear utilities to find and fund a private nuclear waste storage site. The site is proposed on the Utah reservation of the Skull Valley Band of Goshute Indians. An EIS was issued by the NRC, and the Atomic Safety and Licensing Board is holding hearings on the site's license application. If approved, nuclear waste shipments could begin from various locations, including Minnesota, to Utah sometime in 2005. Utah is objecting to the licensing process. Preliminary plans to ship nuclear waste through Minnesota, to either Nevada or Utah disposal sites, includes only waste from Xcel's Monticello and Prairie Island facilities and a decommissioned nuclear facility in LaCrosse, Wisconsin (see, www.state.nv.us/nucwaste)

See also federal web sites for the NRC (www.nrc.gov) and DOE Yucca Mountain Project (www.ymp.gov).

For more information: Contact legislative analyst John Helland at 651-296-5039. Also see the House Research publication *Nuclear Waste Dry Cask Storage*, December 2001.

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