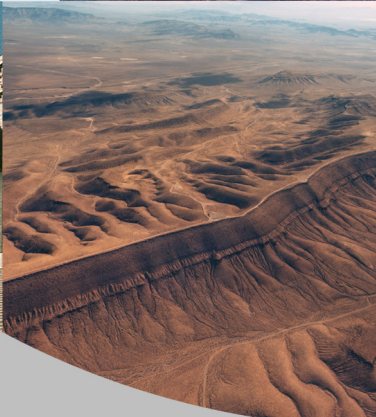
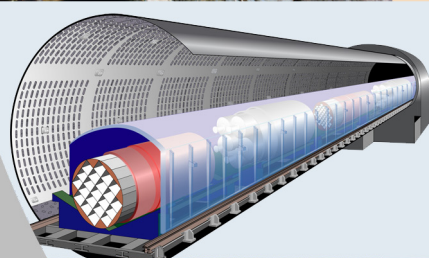
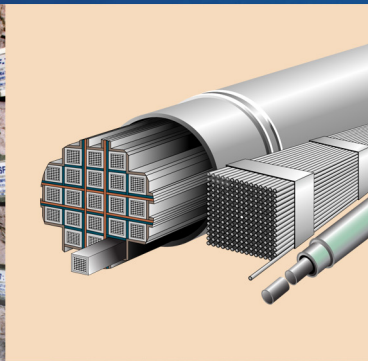


The path forward: A national repository at Yucca Mountain





A secure location for the Nation's nuclear waste

The Yucca Mountain repository is a **vital Federal asset** that supports

- Operation of nuclear power plants that currently provide 20% of the Nation's electric power
- National defense and energy security
- Homeland security
- Environmental cleanup and protection

■ What is the Yucca Mountain repository?

The repository will be a **network of tunnels** 1,000 feet underground designed for the permanent disposal of the Nation's high-level radioactive waste and spent nuclear fuel.

■ What is spent nuclear fuel?

Spent nuclear fuel is used fuel from commercial nuclear power plants, nuclear submarines and ships, and university and government research reactors.

It is solid, in the form of uranium pellets.

■ What is high-level radioactive waste?

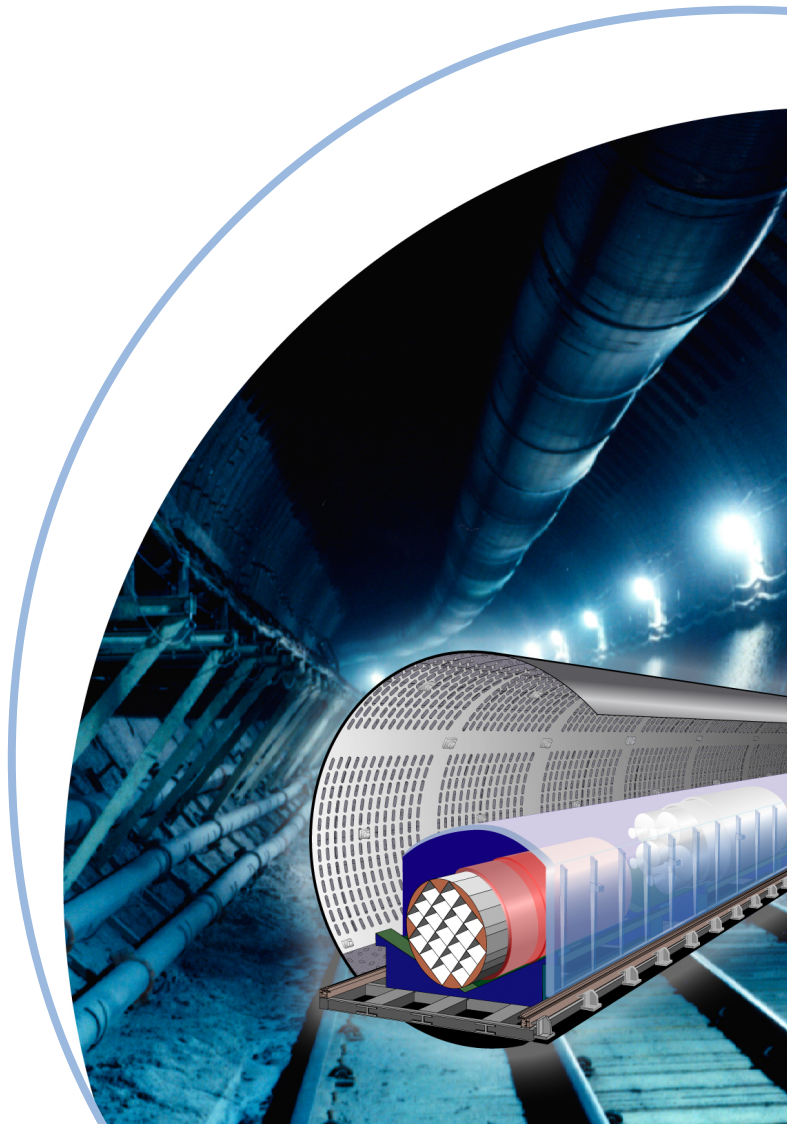
High-level radioactive waste is material generated by the Nation's defense activities, including nuclear propulsion for the Navy and the atomic weapons program. **It will be solidified before shipment** to Yucca Mountain.

■ Where is Yucca Mountain?

It is located in the remote Nevada desert. The mountain is on protected Federal land, including part of the 1,350-square mile Nevada Test Site — formerly used for nuclear weapons testing.

Why a national radioactive waste repository at Yucca Mountain?

- Radioactive waste has been accumulating around the country for 60 years.
- Waste is **currently stored above ground**, at 121 locations in 39 states.
- Current sites are **temporary** and not designed for indefinite waste storage.
- Most current storage sites are near large cities and lakes, rivers, or seacoasts.
- The National Academy of Sciences has concluded that the best way to dispose of radioactive waste is in deep geologic repositories like Yucca Mountain.
- The remote location is in a desert basin that is not connected to any lakes or rivers.
- The site was selected and approved by Congress through a process defined by law.





Congress established the comprehensive national policy and program for the repository

- 1982 – Congress enacted the Nuclear Waste Policy Act (NWPA).
- 1987 – After study of a number of candidate sites, Congress amended the NWPA and directed that only Yucca Mountain be evaluated.
- 1992 – Congress directed the Environmental Protection Agency (EPA) to issue public health and safety standards for Yucca Mountain based on recommendations from the National Academy of Sciences.
- 1997 – Congress required the Department of Energy (DOE) to submit a viability assessment of the Yucca Mountain site.
- 2002 – **Congress approved** Yucca Mountain as the site for the Nation's first permanent repository for spent nuclear fuel and high-level radioactive waste.
- 2002 – Congress directed DOE to submit a license application to the Nuclear Regulatory Commission (NRC).

How do we know the repository would be safe?

- Scientists worldwide agree that deep geologic disposal is the **only acceptable, scientifically credible, long-term solution** for managing high-level radioactive waste.
- As early as 1957, a National Academy of Sciences report recommended burying radioactive waste in geologic formations.
- The natural features of Yucca Mountain will work with the engineered features to **isolate the waste** 1,000 feet below the surface and 1,000 feet above the water table.
- The groundwater system below Yucca Mountain is **not connected to the water** serving Las Vegas or any other major population center, nor does it flow into any lakes, rivers, or oceans.
- After more than 20 years of scientific investigation Yucca Mountain is the **most studied site of its kind in the world.**



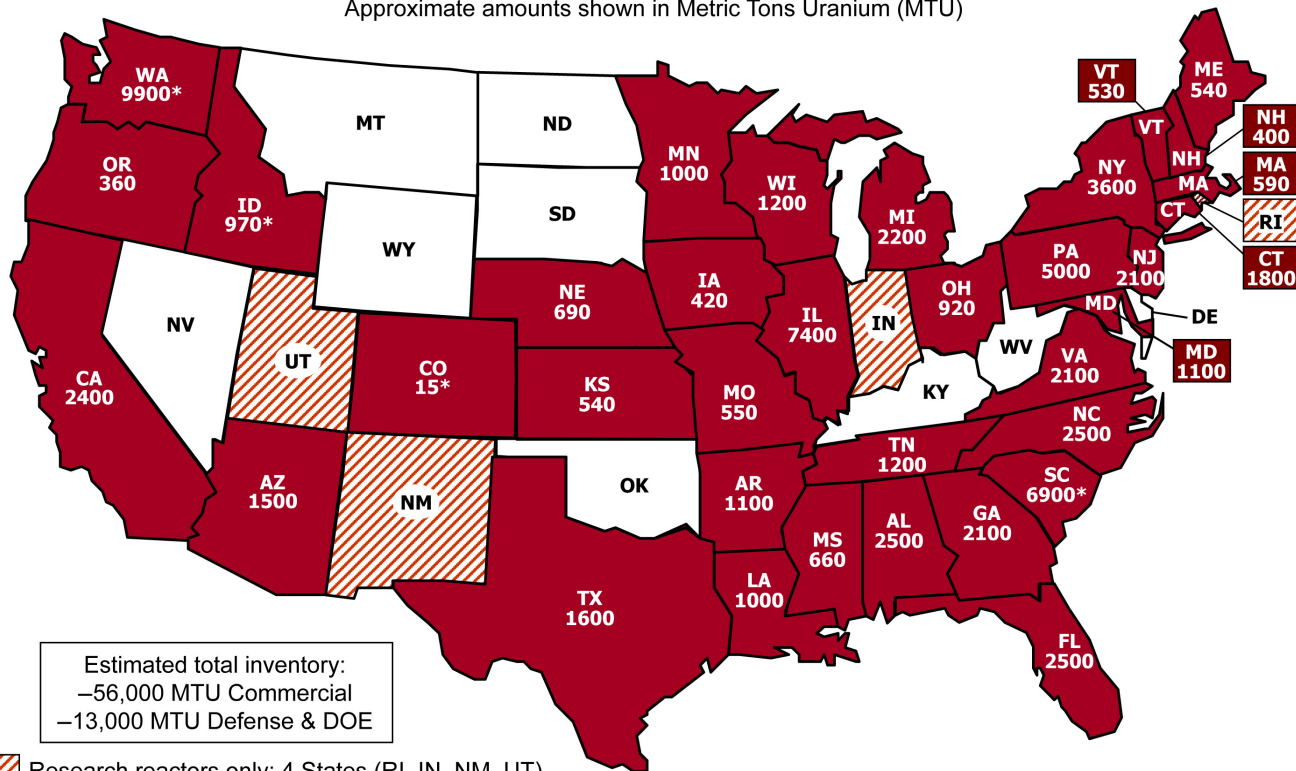


Transportation to the repository will be safe and secure

- Since the early 1960s, the United States has **safely transported thousands of shipments** of spent nuclear fuel.
- The DOE will use **extremely durable** transportation casks whose designs are certified by the Nuclear Regulatory Commission.
- To be certified by the NRC, casks must be designed to **withstand severe accidents** without release of their radioactive contents.
- DOE will meet or exceed the requirements and standards applicable to commercial shipments of spent nuclear fuel.
- DOE will **work with states, tribes, and industry** to identify and finalize transportation routes for spent fuel and high-level radioactive waste.
- DOE will **provide technical and financial assistance** for training public safety officials in procedures required for safe, routine transportation and emergency preparedness.

Nuclear waste and spent nuclear fuel is currently stored at 121 sites in 39 states

Approximate amounts shown in Metric Tons Uranium (MTU)



Estimated total inventory:
 -56,000 MTU Commercial
 -13,000 MTU Defense & DOE

- Research reactors only: 4 States (RI, IN, NM, UT)
- No waste: 11 States (DE, WV, KY, OK, SD, ND, WY, MT, NV, as well as Hawaii and Alaska which are not depicted)
- Asterisk = Defense/DOE waste included in totals: 4 States (SC, CO, ID, WA)



Congress established a fund to pay for Yucca Mountain

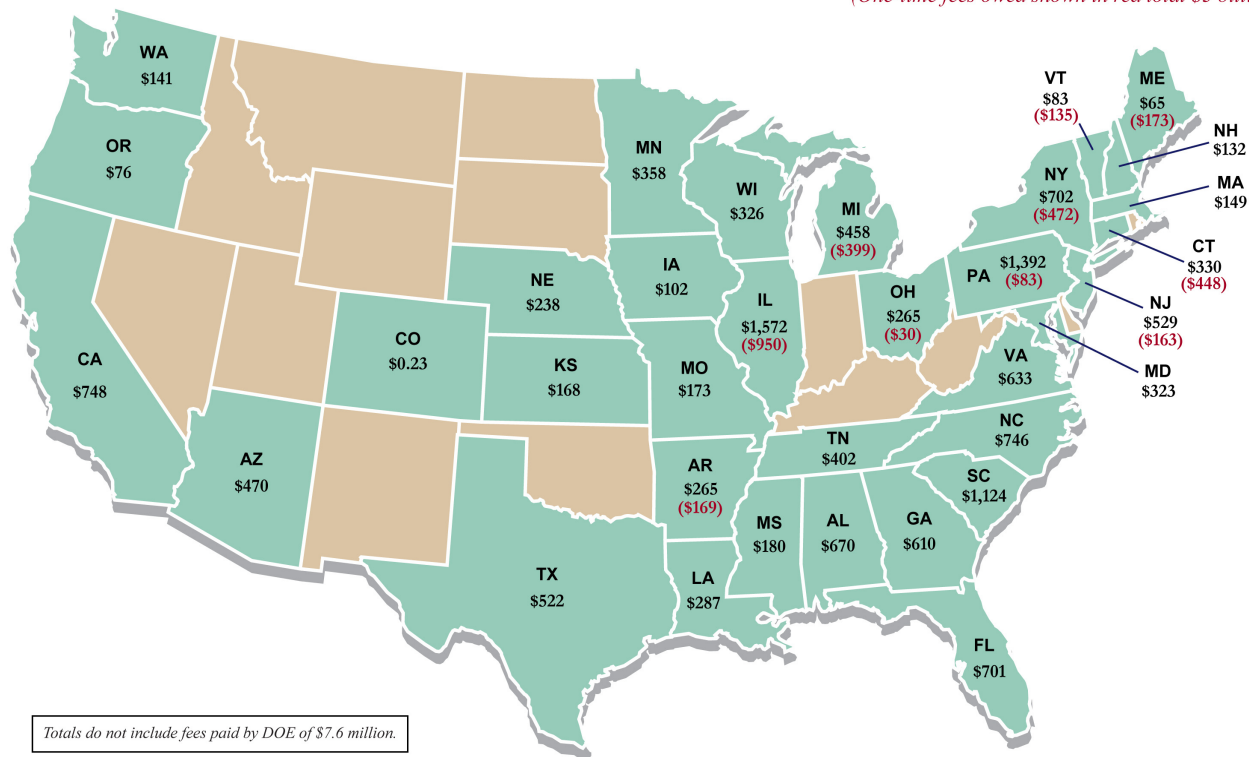
- By law, **users of nuclear electricity pay for the cost of disposal of spent nuclear fuel** through their monthly bills. These user fees are credited to a designated Nuclear Waste Fund account.
- From 2000 to 2006, mandatory payments to the Nuclear Waste Fund, plus investment returns, averaged **\$1.8 billion annually**.
- Annual congressional appropriations from the Fund **have been much less than** annual Fund receipts and the Department's budget requests.
- **Full funding will be needed** for repository construction and transportation infrastructure.
- DOE has contracts with all U.S. nuclear plants to remove their spent nuclear fuel.
- By law, **DOE may not remove the spent fuel until Yucca Mountain is opened**.
- DOE was to begin removing spent nuclear fuel in 1998.
- As a result of the delays in opening Yucca Mountain, U.S. **taxpayers are incurring significant financial liability** because of the added temporary storage costs for spent fuel at nuclear plants.

As of February 2007, payments to the Nuclear Waste Fund, plus interest, total more than \$28 billion in the U.S. Treasury

- Program total spending since 1982 has been approximately \$9 billion.
 - Includes approximately \$2.9 billion from general revenues for disposal of defense-generated wastes
- The Fund receives an additional \$750 million in payments each year, and interest continues to accumulate.

Purchaser Fee Payments to the Nuclear Waste Fund as of December 31, 2006

*Dollars in millions. Figures represent cumulative one-mill and one-time fee payments.
(One-time fees owed shown in red total \$3 billion).*





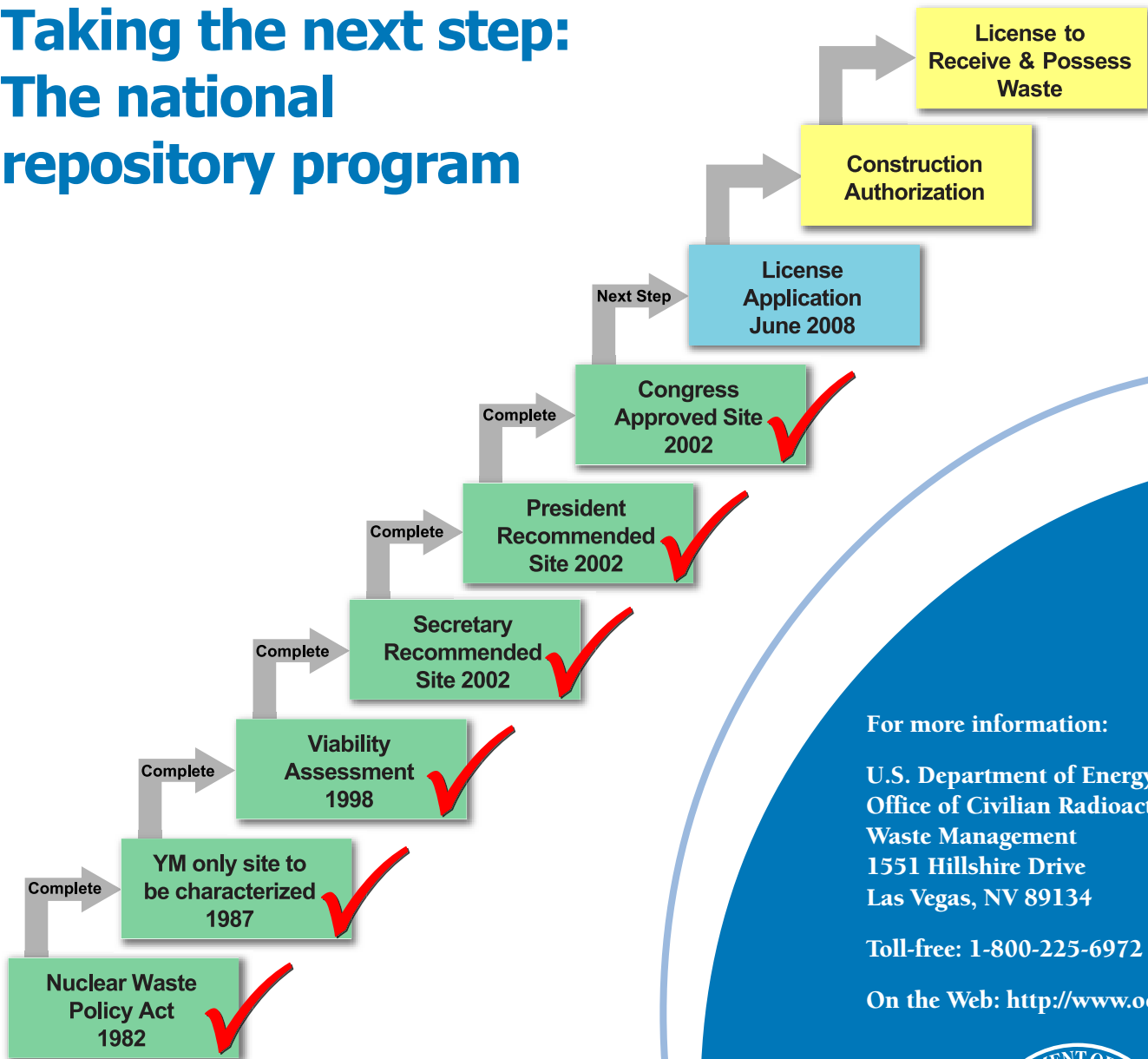
Vital for America's future

- Yucca Mountain is a **vital part** of America's national security, environmental, and energy policies.
- The repository will protect spent fuel and high-level radioactive waste in a **secure, remote location**.
- The repository will move America toward **energy independence**.
- The repository will enable new production of electricity **without greenhouse gases**.

Ready for the next step — licensing the repository

- By law, only the NRC can approve construction, operation, and closure of the repository.
- DOE is scheduled to submit a license application by June 2008 that fully describes the repository and how it will operate.
- By law, the NRC has three years to hold hearings, take testimony, and review scientific evidence before deciding whether to authorize repository construction.
- Before the repository can be built, the NRC must determine that the repository meets the NRC's safety requirements and the **EPA's environmental radiation protection standards**, and that DOE is qualified to operate the facility.

Taking the next step: The national repository program



For more information:

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Office of Civilian Radioactive
Waste Management
1551 Hillshire Drive
Las Vegas, NV 89134

Toll-free: 1-800-225-6972

On the Web: <http://www.ocrwm.doe.gov>



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