

Nuclear Power Discussion

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Joint meeting of the Legislative Energy Commission; the House Energy Finance & Policy Division; and the Senate Committee on Energy, Utilities, Technology and Communications

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National Conference of State Legislatures



National Conference of State Legislatures

- Non-profit, bi-partisan organization
- Members include all the state legislative bodies and their members — 7,500 legislators — and about 30,000 legislative staff.
- Offices in Denver and D.C.
- Among our goals – To provide legislatures with information about policy issue areas they address.



NCSL EET Program

- NCSL High Level Waste Working Group
- NCSL Radioactive Waste Management Policy
 - Joint jurisdiction: NCSL Agriculture and Environment Committee and NCSL Environment Committee
 - Amended in April 2008 to add additional interim storage language in support of volunteer community interim storage sites.



Nuclear Energy

- According to the US Department of Energy, since 1982, Nuclear energy has been second only to coal as an energy source--surpasses oil, natural gas and hydroelectric.
- Today more than 100 plants in operation producing about 21 percent of all electricity generated in US.



General Background

- 1975 President Ford decides against reprocessing of commercial spent nuclear fuel.
- 1979 Interagency Review Group recommends proceeding with geologic disposal.
- 1981 President Reagan withdraws ban on reprocessing.



Nuclear Waste Policy Act

- Requires DOE to develop permanent repository with retrievable storage.
- Nuclear Regulatory Commission granted licensing authority over DOE activities.
- Nuclear Waste Fund created
- Ratepayers pay 1/10th of cent per kwh into NWF
 - \$29.9 billion collected since 1983
 - \$9.5 billion spent so far



Repository Identification

- 1983 - DOE identifies 9 possible sites including Yucca Mountain.
- 1987 - DOE proposes retrievable storage site near Oak Ridge, Tennessee
- State of Tennessee sues; NWPA Amendments of 1987 annuls DOE Oak Ridge proposal



NWPA Amendments of 1987

- Directed DOE to study only Yucca Mountain for repository.
- Created Nuclear Waste Technical Review Board to examine technical/scientific validity of repository program activities.
- Established January 31, 1998 deadline for DOE to dispose of HLW and Spent Fuel.



Waste Storage

- Pool Storage
 - Store fuel rods in specially designed pools under at least 20 feet of water.
 - All operating nuclear power plants store waste in pools initially.
- Dry cask storage attributes
 - Sealed metal cylinder
 - Concrete outer shell
 - Placed on concrete pad (either horizontally or vertically)
 - In use at 31 sites with general licenses and 15 sites with site-specific licenses



Current Status of Repository

- February 2002 - Secretary of DOE recommends Yucca Mountain to President.
- April 2002 - Nevada Governor disapproves Yucca as geological repository.
- July 2002 - Congress overrides Nevada Governor
- DOE submits Yucca application to NRC in 2008.
- President Obama reduces funding for Yucca leading many to speculate that it is off the table.



Existing volume of nuclear waste

- 120 locations in 39 states store 66,000 tons of nuclear waste.
- If DOE starts to pick up used fuel in 2017 the total liability for failure to perform is about \$7 billion and it grows at a rate of about \$500 million per year
- The cost of dry storage on a total life cycle is about \$150,000 to \$200,000 per MTU.



Transportation of Waste

- Waste destined for disposal at a repository is solid, can't cause an explosion, and is not flammable.
- During the last 40 years about 3,000 shipments of spent nuclear fuel have traveled across America's highways, railroads, and waterways without harmful release of radioactive material.
- More than 6,000 shipments of transuranic defense waste have been safely transported to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM since 1999.



State Legislative Activity

- In 2009, at least 16 states debating nuclear legislation.
- Illinois considering legislation to create the Nuclear Power Issues Task Force
- Virginia bill would establish a Joint Subcommittee to study nuclear power.
- Arizona considering legislation to create Nuclear Power Study Committee.



The Future - New nuclear reactors

- NRC expects 22 license applications between 2007-2012 (a total of 33 units) -- average plant licensed for 40 years.
- License applications from AL, FL, GA, ID, LA, MD, MO, MS, NC, NY, SC, TX and VA



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