



Yucca Mountain: Still Not Safe for Nuclear Waste



Yucca Mountain, the proposed dump site for the country's high-level radioactive waste, is located only 90 miles from Las Vegas, Nevada. The dump is supposed to safely dispose of 77,000 tons of deadly radioactive waste. Yet the selection of Yucca Mountain and the process to open a repository there have been guided more by politics than science.

The geology of Yucca Mountain does not support the fundamental premise of deep geologic burial as required in the federal Nuclear Waste Policy Act (NWPA). Department of Energy (DOE) technical information is not acceptable. DOE itself has acknowledged that some of its modeling on water movement was likely based on fabricated data.

Studies of Yucca Mountain have revealed characteristics that make it unsuitable to hold dangerous radioactive waste. Scientific testing has found that groundwater, which can become contaminated by waste leaking from corroding containers, moves off the site more rapidly than originally thought. There are dozens of earthquake faults at the site. Such problems demonstrate that it would be very difficult, if not impossible, for Yucca Mountain to provide waste containment.

The current design concept for Yucca Mountain relies almost entirely upon man-made, "engineered" barriers, such as waste containers, because the mountain itself cannot contain the waste. This design demonstrates the site's unsuitability and violates federal requirements for safe, deep geological

disposal. Unfortunately, the "fix" for this dilemma has been to change or eliminate the regulations to accommodate the deficiencies.

The overwhelming majority of Nevadans, the state's congressional delegation, the governor, and the state legislature all reject a nuclear waste dump at Yucca

Mountain. They are committed to opposing the site in Congress and in the courts. Further, Yucca Mountain is within the boundary defined by the Treaty of Ruby Valley of 1863 and is claimed by the Western Shoshone Nation. The Western Shoshone have declared the land to be nuclear-free and have filed a lawsuit to protect their rights in federal district court.

Danger on America's Roads and Rails

Unprecedented numbers of nuclear waste shipments would endanger at

least 50 million people in 44 states. Projected *annual* nuclear waste shipments would outnumber the entire country's total over the past three decades. Such shipments will cause routine radiation exposures to the public and reduce property values near transportation routes. The projected 50,000 shipments could also be targeted for terrorist attacks. Huge expenditures would be required to upgrade highway and rail routes to transport the waste, build and test new shipping containers, and train emergency response personnel nationwide.

By DOE's own analysis, 150 to 400 accidents are expected over the 20- to 30-year shipping period. In the case of a serious accident, dozens of people

Recommendations

- Support the bipartisan *Spent Nuclear Fuel On-Site Storage Security Act of 2005* introduced by Nevada Senators Harry Reid and John Ensign and co-sponsored by Utah Senators Orrin Hatch and Robert Bennett and require stronger security provisions.
- Oppose any effort to change the *Nuclear Waste Policy Act* that weakens public health and safety standards at Yucca Mountain.
- Honor the 1863 Treaty of Ruby Valley with the Western Shoshone Nation.



Practice for the inevitable: an emergency preparedness exercise near the Savannah River Site involving a mock nuclear waste cask. DOE expects 150 to 400 accidents while transporting radioactive waste to Yucca Mountain through 44 states.

could die immediately and many others could be seriously injured. Cleanup would cost tens of billions of dollars and take months or years to complete, not including the millions to billions of dollars lost to the local economy from the stigma of being contaminated.

Current Status

In September 2005, the Environmental Protection Agency (EPA) released its revised radiation protection standard for Yucca Mountain. If adopted, this standard would not adequately protect public health and the environment. The standard was written to allow DOE to meet its license application requirements, not to protect public health and the environment in a scientifically sound way.

The license application process for Yucca Mountain has been postponed indefinitely because DOE is mired in delays, budget shortfalls, changing management, and controversy regarding potentially falsified science. In a desperate attempt to push the scheme forward, DOE is considering revamping its entire project design. The latest attempt proves DOE's inability to manage such a major project and reinforces the fundamental unsuitability of the Yucca Mountain site.

Yucca Mountain Does Not "Solve" the Nuclear Waste Problem

Yucca Mountain would only add one more high-level nuclear waste dump in this country. Nuclear waste comes out of reactors so thermally hot and radioactive that it must stay on-site for years. As long as nuclear reactors produce nuclear energy, high-level waste will be produced and will need to be kept on-site.

Alternatives

Yucca Mountain is not a solution to the more immediate environmental and public health risks posed by spent fuel pools to communities surrounding nuclear reactors. The *Spent Nuclear Fuel On-Site Storage Security Act of 2005*, introduced in late 2005 by Senators Harry Reid and John Ensign, would mandate that all high-level nuclear waste be stored on-site in dry cask containers. This safer option eliminates the significant risks now posed to the 44 states and millions of people along the nuclear waste transportation routes. While wastes are secured onsite over the 100- to 200-year estimated lifetime of the dry casks, a just and environmentally sound long-term solution can be developed to handle the radioactivity. In addition, on-site storage is significantly cheaper. The State of Nevada estimates that on-site storage would cost approximately \$20 billion, compared to Yucca Mountain's lifetime budget of more than \$60 billion.

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