



NUCLEAR INFORMATION AND RESOURCE SERVICE

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Talking Points: Why Reviving Yucca Mountain as a Nuclear Waste Repository Will Not Work

- The proposed nuclear waste repository at Yucca Mountain would directly impact 35 states and millions of people living in transport hubs—our major urban centers--during decades of radioactive waste transport. Routine radiation exposure, routine security, and economic impacts would not be trivial. The program also projects radiation, security and economic consequences from the relatively rare, but committed accidents that will happen as a function of the millions of shipment miles associated with thousands of rail cars, or tens of thousands of trucks traveling from the reactors--80% of which are east of the Mississippi River--to the West. Barge shipments on the Great Lakes, inland water ways and canals are also anticipated. Some accident scenarios are high consequence. See:
http://www.state.nv.us/nucwaste/news2009/pdf/nv090421us_map.pdf
And <http://www.state.nv.us/nucwaste/trans.htm> And
<http://www.nirs.org/radwaste/hlwtransport/mobilechernobyl.htm>
- Nevada's Republican Governor Brian Sandoval will not consent to disposal or storage of high-level radioactive waste including spent nuclear fuel, as was underscored in a 2012 letter to then-Secretary of Energy, Dr. Steven Chu (see: <http://www.state.nv.us/nucwaste/news2012/pdf/nvgov120312chu.pdf>). Through successive administrations, Nevada has opposed taking the nation's most radioactive waste. The State has fought legislation, made legal challenges to Yucca Mountain and intervened in the application to the NRC for a license. The State of Nevada has consistently withheld "consent" to Yucca Mountain, or any other site in its borders. The Western Shoshone People oppose the nuclear site under their Treaty rights.
- The State of Nevada has authority over water use. Yucca cannot be licensed without Nevada granting water rights and the state has denied DOE's application for water

appropriation. A federal override of this state jurisdiction would set a precedent that would, very likely, rebound to all 50 states in very negative ways.

- Contrary to nuclear industry propaganda, Yucca Mountain is not built and ready to go. A 5 mile-long access tunnel, the Exploratory Studies Facility (ESF), was completed in 1995, but the 40+ miles of tunnels needed to deposit the waste containers have not been constructed. The total life cycle cost for building, operating, and closing the Yucca Mountain repository was estimated by DOE in 2010 to be about \$86 billion for 70,000 metric tons of waste, the capacity limit set by the Nuclear Waste Policy Act for the first repository. By 2012, existing waste at reactors exceeded the statutory capacity limit; there is no authority to dispose of waste generated since then at Yucca Mountain.
- Yucca Mountain will not meet EPA radiation safety standards without a design-element called the “Drip Shield”—a titanium “umbrella” to keep water seeping through the mountain from corroding the waste containers. The Drip Shields would be added after the repository is full, and this would have to be done robotically. Former NRC Commissioner Victor Gilinsky has written a detailed critique of this concept, see: <http://thebulletin.org/yucca-mountain-redux7800>. There is no way to assure that this multi-billion feature can or will be installed as proposed, beginning 90 years after first waste emplacement in Yucca Mountain, yet the safety case for licensing relies on the drip shields being in place.
- The Department of Energy’s application for a nuclear waste repository at Yucca Mountain needs to be re-done not only because of the Drip Shield fiction; it has become obsolete in all of the historical assumptions about containers. The environmental impact statement (EIS) prepared to support the license application and the application itself rely on a TAD canister (transportation, aging, and disposal) that does not exist. The necessity to move irradiated fuel out of reactor pools into dry storage has spawned a wide variety of other canister designs. All of DOE’s conclusions in the license application about safe repository operation and safe long-term performance are based on the use of the TAD canister, which is no longer a practical option.
- Yucca Mountain has no rail access and DOE has abandoned all plans for the 300+ mile \$2 billion+ project that requires public land withdrawal, private land condemnation, and Nevada granting water rights for over 100 wells for construction water (which the state contested before the applications were withdrawn by DOE).

--Mary Olson, February 2015