Editorial Board

To Bury Nuclear Waste, Dig Deeper Than Yucca Mountain

The U.S. needs new strategies to handle its stockpiles of spent fuel.

By The Editors
11 May 8, 2017, 6:00 AM PDT

Energy Secretary Rick Perry is right <https://www.reviewjournal.com/news/politics-and-government/energy-secretary-rick-perry-tours-yucca-mountain-repository/> to say the U.S. needs a long-term solution to its massive nuclear waste problem. It also makes sense for Perry and some members of Congress <https://www.congress.gov/bill/115th-congress/house-bill/433/text> to see Yucca Mountain as part of that solution -- though many Nevadans promise to make sure it won't be.

But even if Yucca can survive the political fight, it can't be the only option for disposing of America's spent nuclear fuel. More than 75,000 metric tons of the stuff are cooling in pools and casks at dozens <http://www.ucsusa.org/sites/default/files/legacy/assets/documents/nuclear_power/US-Independent-Spent-Fuel-Storage-Installations.pdf> of power-plant sites around the country. That's already too much to fit in Yucca Mountain, and the total grows by more than 2,000 tons a year. Other strategies are needed, ideally ones that are less politically radioactive.

Consider, for instance, the idea of sinking the waste into boreholes <https://www.newscientist.com/article/2127269-trump-plans-to-revive-nuclear-waste-plans-axed-by-obama-in-2010/> that reach three miles below ground -- 15 times as deep as the proposed chambers inside Yucca. Such shafts could be drilled in states that, unlike Nevada, benefit from the use of clean <https://www.bloomberg.com/view/articles/2017-04-03/nuclear-power-is-worth-saving> , reliable nuclear power.

Boring into the Earth's deep rock layers could provide the kind of bury-it-and-forget-it underground disposal necessary for material that will remain dangerous for hundreds of millennia. Local opposition can still be expected; in North and South Dakota, residents have shouted down <http://rapidcityjournal.com/news/local/project-to-drill-miles-down-stokes-fears-of-nuclear-waste/article_69ca977c-a1d1-5231-9fff-7a5f4e3a335b.html> some plans to dig test holes.

That's why a so-called consent-based <https://bipartisanpolicy.org/library/consent-based-siting-nuclear-waste/> strategy, identifying locations with both the appropriate geology and an agreeable population, is necessary. If hosting a waste site means more funding for local public works and services, more communities might be willing to accept one. (This proved to be the case in Carlsbad, New Mexico, home to a storage place <http://www.wipp.energy.gov/fctshts/Why_WIPP.pdf> for low-level waste from nuclear weapons.) A familiarity with nuclear power may also

encourage acceptance, perhaps because there is a nuclear plant in the area employing <https://www.forbes.com/2010/02/12/nuclear-power-jobs-leadership-careers-employment.html> people and providing power.

The same approach could also be used to locate six or seven centers where waste from several nuclear plants could be stored while it awaits burial. Such containment facilities could also include research <https://thebreakthrough.org/index.php/voices/between-a-rock-and-a-hard-place> centers -- mini national laboratories where scientists could work out new ways of reprocessing fuel and perhaps conduct demonstration projects for reactors designed to use safer fuels <https://whatisnuclear.com/articles/thorium.html> .

The one thing the U.S. should not do is continue to neglect the growing quantities of nuclear waste. Over the past few decades, electricity ratepayers have contributed more than $34 billion to a national fund to pay for a geologic disposal site. And because none yet exists, taxpayers are forking over billions <http://kleinmanenergy.upenn.edu/paper/nuclear-decommissioning-paying-more-greater-uncompensated-risks> more to enable nuclear-plant operators to manage interim storage. The political barriers to solving this problem may be high, but further delay -- and an undue fixation on Yucca Mountain -- won't make them any easier to overcome.