

Radioactive politics: Inside the renewed push to site nuclear waste at Yucca Mountain

A bipartisan coalition has a new bill aimed at moving the issue forward

By [Herman K. Trabish](#) | March 25, 2015  print

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When Republicans took control of the Senate last November, nuclear energy supporters were hopeful the new leadership would quickly address some longstanding issues for their industry. Now it appears they are getting their wish.

For decades, one of the biggest obstacles for nuclear energy growth in the United States has been the absence of a radioactive waste storage solution, and in recent weeks [Senator Lamar Alexander \(R-TN\)](#), the new Chair of the Senate Appropriations Subcommittee on Energy and Water Development, has renewed the push to license the controversial Yucca Mountain as a permanent waste repository.

The introduction of the bipartisan "[Nuclear Waste Administration Act of 2015](#)" was Senator Alexander's first big step toward that goal. He and co-sponsor Senators Lisa Murkowski (R-AK), Dianne Feinstein (D-CA), and Maria Cantwell (D-WA) filed the bill March 24.

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“Congress has already [approved Yucca Mountain](#),” Senator Alexander said at a recent convening of his subcommittee. “The Nuclear Regulatory Commission has said we can safely store nuclear waste there for up to one million years. Continuing to oppose Yucca Mountain is to ignore both the law and science.”

His efforts, the Senator said, are due to the fact that “nuclear power provides about [20% of our nation’s electricity](#) and more than 60% of our carbon-free electricity.”

When the Department of Energy (DOE) recently announced a study showing [wind energy could meet 35% of U.S. electricity demand](#) by mid-century, Alexander responded that “relying on windmills to produce that electricity when nuclear power is available is the energy equivalent of going to war in sailboats when nuclear ships are available.”

“Nuclear energy is a vital part of America’s energy portfolio and for far too long, the American taxpayer has been on the hook for the federal government’s failure to implement an effective plan to handle the back-end of the nuclear fuel cycle,” said [Sen. Murkowski](#) in backing up her Republican colleague.

Radioactive nuclear waste is currently stored at plants where it is generated although “the common ground, even including people skeptical of nuclear energy, is that we have to find a solution,” noted former Nuclear Regulatory Commission (NRC) Commissioner [Peter Bradford](#). “This is not day one. There is not only the power plant waste but the military waste as well. It won’t do to leave it at the reactor sites forever.”

How safe is Yucca really?

The "science" Alexander referenced was the NRC staff [Safety Evaluation Report](#) that found Yucca Mountain meets all radiation safety concerns for “the period of geologic stability,” or one million years.

But the decision to source radioactive waste there isn't the NRC's or Congress' alone.

“If Nevada puts up the serious opposition it did when I worked there as a consultant, the staff approval won’t stand up,” said former NRC Commissioner [Victor Gilinsky](#), a nuclear physicist.

The basic problem, Gilinsky explained, is that while the best disposal sites have a “reducing environment” that works against rust, Yucca Mountain has an “[oxidizing environment](#)” that promotes rust and corrosion.

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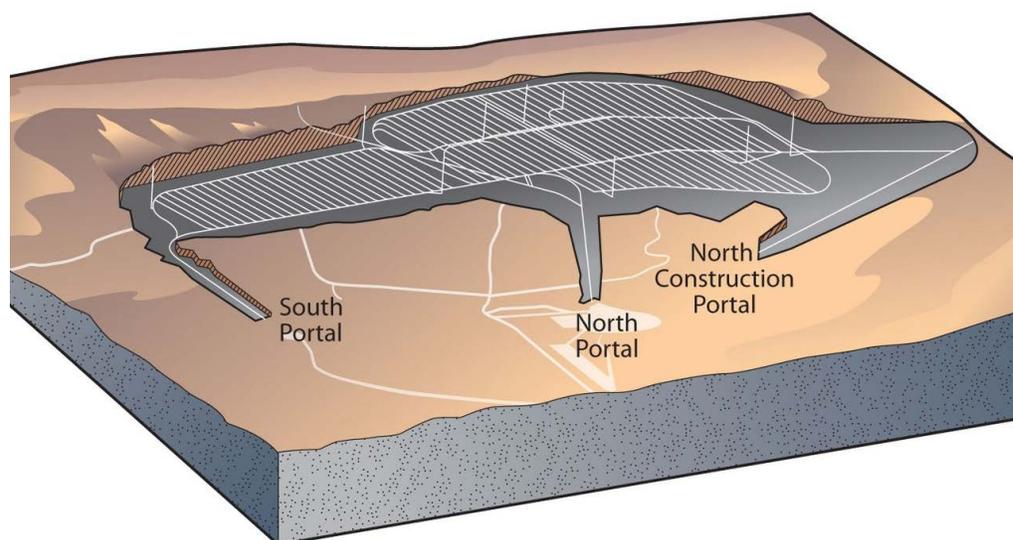
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“When they started building, they discovered there is more water than they thought and it was moving faster than they thought,” he said. Rather than restart the search for a good site, “they dreamed up the idea of [a five ton titanium drip shield](#) for each of the 11,000 waste canisters that will be at Yucca to keep the water off the canisters and keep them from corroding.”

Though they are not currently installed, the application proposes to have them in place [when the repository is closed](#) in 100 years to 300 years, a completely impractical plan, Gilinsky believes. Without the drip shields, “the system fails in 1,000 years.”

“It is convenient for Senator Alexander to say Yucca Mountain is safe, but that is not certain,” Bradford agreed. “There were many unresolved contentions. [The process includes hearings](#) and cross-examinations and a final decision by the commissioners, and all you have so far is the assessment of a staff that routinely agrees with the applicants.”



A basic diagram of the planned storage facility at Yucca.

[From LANL.gov via Wikimedia](#)

Consent and controversy

Alexander's [new legislation](#) is aimed at achieving a comprehensive solution to the nuclear waste management impasse. It would create a Nuclear Waste Administration with independent funding. That agency would drive a pilot program for short term storage site development and establish processes for the consent-based selection of a long term repository.

"The United States desperately needs a comprehensive nuclear waste policy," Feinstein, commonly considered one of the most liberal senators, said. "We simply cannot allow spent nuclear fuel to remain indefinitely at sites

scattered throughout the country, stored at taxpayer expense, awaiting a clear path forward."

Nuclear waste facilities, under the bill, would "only be sited where they are welcome by state and local governments," she said.

Feinstein's emphasis on consent is in part because Senate Minority Leader Harry Reid (D-NV) has long led [a staunch, unrelenting opposition](#) to the use of Yucca Mountain by the state of Nevada. But that pressure does not seem to have dimmed Alexander's enthusiasm for the site.

"Let me be clear," he [said recently](#). "Yucca Mountain can and should be part of the solution. Federal law designates Yucca Mountain as the nation's repository for used nuclear fuel."

According to Bradford, that misses the point.

"Nevada was chosen by the U.S. Congress through a political process, not a study of [the geology](#), something the Lamar Alexanders of the world prefer to completely ignore," the Carter appointee told Utility Dive. "In a more open-minded, consent-driven process, it doesn't seem like Yucca Mountain would be the place to emerge because Nevada doesn't seem about to consent."

What led to the impasse is that "49 states ganged up on one state in 1987 and forced the Yucca Mountain solution on Nevada," agreed Natural Resources Defense Council (NRDC) senior attorney [Geoff Fettus](#).

Nevada is not likely to accept Alexander's initiative, Gilinsky, also a Carter appointee, agreed.

"Approval will require a hearing. The NRC administrative judges have already accepted something like 220 of [Nevada's contentions](#) to be litigated," he said. "The case would be argued before administrative law judges. Their opinion would go to the commissioners. And Nevada would go to the U.S. Court of Appeals if it thinks the NRC is not acting properly."

Despite the possible rancor at the state level over his proposal, Senator Alexander is pushing forward and has announced he will pressure the NRC to request [funding](#) from the Obama administration budget to pay for the next steps toward licensing Yucca Mountain.

"The [Nuclear Waste Fund](#), which is money that utilities have paid the government to dispose of their used nuclear fuel, has a balance of about \$36 billion and there are still several steps to go in the licensing process for Yucca Mountain," he told his committee. "Knowing that there are additional steps and they will cost money, why would you not request additional funds in your budget?"

Obama's Blue Ribbon Committee

In endorsing the bill she co-sponsored, Senator Cantwell was more diplomatic.

"I look forward to a dialogue that helps break the gridlock in a manner that's guided by sound science and the important principles laid out by the Blue Ribbon Commission," she said

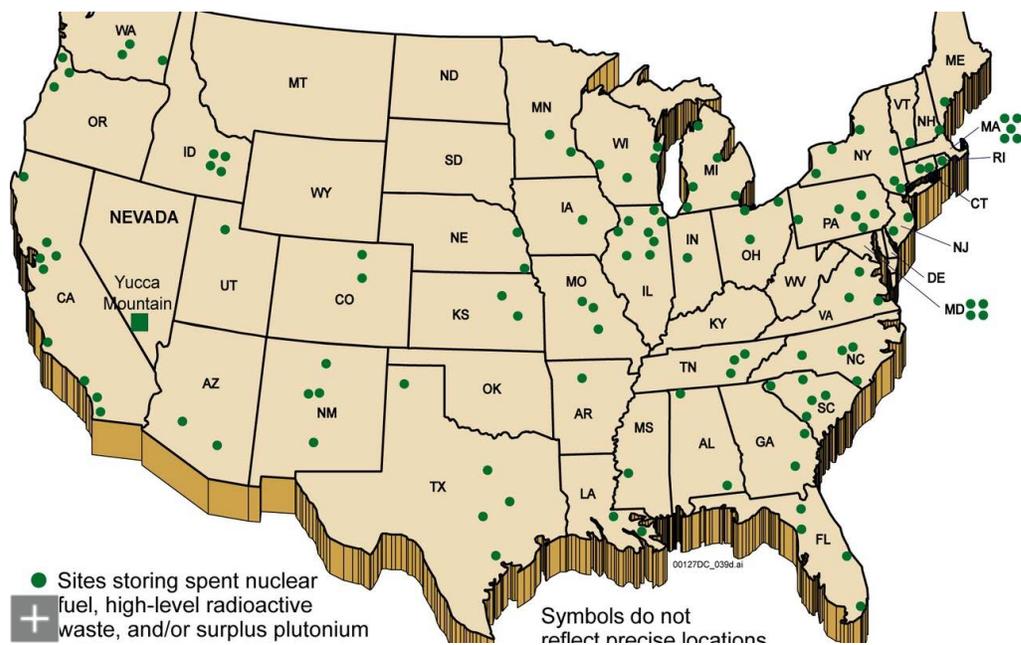
The Obama administration created a [Blue Ribbon Commission \(BRC\)](#) to resolve the nearly three-decade old impasse over nuclear waste. In 2012, it concluded Yucca Mountain is unworkable as a waste repository and withdrew it, Fettus said.

The [BRC](#) has a legitimate claim to impartiality because "no one on it was fundamentally skeptical about nuclear power or hostile to nuclear power," Bradford said. "Everybody who had said a skeptical word about the technology was eliminated during the vetting. It was pretty favorably disposed toward the idea that a solution could and would be reached."

The Obama administration's 2013 report, "[Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste](#)," was based on BRC recommendations about sound science and public acceptance. But it has not resolved the impasse. Following the announcement of the new bill, DOE Secretary Moniz said his department is moving to develop a waste management solution according to conclusions of the administration report.

The Alexander-Feinstein bill would restart the search for a waste solution but it has two important shortcomings, according to the NRDC's Fettus.

"Creating an interim storage site is creating a de facto disposal site instead of a storage solution," he said. "And it creates an interim storage proposal before it sets storage standards, whereas the BRC recommended getting the rules in place before choosing sites."



Nuclear waste is currently stored on-site at generating plants

DOE.gov via Wikimedia

Possible routes forward

Waste Control Specialists' recent proposal to establish a pilot waste storage site in West Texas' Andrews County immediately won [support from the Nuclear Energy Institute \(NEI\)](#) as the type of facility called for by the BRC.

A 2014 Texas Commission on Environmental Quality [report](#) concluded such a facility is "feasible" and would "offer electricity consumers significant savings compared to storage at each nuclear power plant."

Alexander's new bill meets two provisions NEI argues are necessary in a complete [strategy for waste storage](#). First, it provides for an organization focused entirely on radioactive waste management with adequate authority and resources. Second, it recommends the use of Nuclear Waste Fund monies, with Congressional oversight, so as to avoid dependence on the annual Congressional appropriations process.

It does not, however, specify Yucca Mountain as the long term repository solution.

The only practical interim alternative, Fettus said, would begin with a pilot project for the [temporary storage](#) of stranded spent fuel from closed reactor sites at an operating reactor facility. It would have four crucial advantages over any proposed new site, he explained:

1. There is already implicit state and local consent
2. There would be far less need for new infrastructure at the site
3. There is also implicit consent for fuel management and transport
4. It consolidates the spent nuclear fuel and keeps it under the

guardianship of the nuclear industry

Waste storage at the facilities that generate it is adequate, Gilinsky said, but "it would be better if it was where [waste management] is not a subsidiary activity, but a principle activity of the management."

The fundamental NRDC insight and fundamental political recipe for resolving the impasse, according to Fettus, is an amendment to [the 1982 Nuclear Waste Policy Act](#). As it stands, radioactive waste can only be regulated by the DOE and the NRC. This "federalism problem," according to Fettus, means states and the EPA have no control.

"Unlike any other type of industrial waste," Bradford said, "states cannot set standards. Combined with the justifiable mistrust in the federal process, that is a formula for stalemate."

"If the states want to impose a stricter standard for safety, they ought to be able to," Gilinsky agreed. "Manufacturers like GE and Westinghouse will not build plants in the U.S. unless they are free of any third party claims. Congress passed [the Price-Anderson Act](#) to protect them," he explained. "Why shouldn't a city's Mayor have the same right as manufacturers?"

"The average well-informed citizen can't have a lot of confidence that the DOE, the NRC, or the Congress have discharged their responsibilities in anything resembling an impartial and open-minded way," Bradford said. "Their instinctive resistance is not because people think they know enough geology but from watching those policymakers make fools of themselves in their near desperate eagerness to cram the used fuel and military waste into Nevada."

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