Fifteen billion dollars were invested and a 5-mile tunnel was built in preparation for Yucca Mountain in Nevada to serve as a deep geological repository, designed to receive and store shipments of spent nuclear fuel and high-level radioactive waste. But the project in Nevada has lain dormant since the Obama administration stopped funding the licensing process in 2010. The facility has never received any waste.

But that may be changing. President Donald Trump and the House Committee on Energy and Commerce have been clear they want to reconsider the Nevada site. In his first initial budget proposal, Trump designated $120 million to restart licensing activities for the permanent and interim storage of waste at Yucca Mountain, although Congress ultimately will determine what happens.

Then in March, the state of Texas sued several federal agencies claiming the federal government had violated the Nuclear Waste Policy Act by failing to complete the licensing process at Yucca Mountain.

There was, and continues to be, significant support for using Yucca Mountain to store our nuclear waste. Support comes especially from states currently housing some of the waste and from small communities near the site hungry for new jobs.

Resistance as Well as Support

There is also substantial resistance. Generally speaking, Nevadans don’t want nuclear waste stored at Yucca Mountain and they...
never have. The latest survey, conducted in January by the Mellman Group, showed 58 percent oppose and 33 percent support full development, according to the Nevada Independent.

Governor Brian Sandoval (R) responded to this renewed federal interest by joining with all legislative leaders in warning that, “Any attempt to resurrect this ill-conceived project will be met with relentless opposition, and maximum resources.”

“I am disappointed that the Trump administration is arrogantly choosing to ignore the fact that Nevadans don’t want dangerous nuclear waste dumped on our state,” Senate Majority Leader Aaron Ford (D) said.

Assemblyman Chris Brooks (D) wasted no time after Trump announced his budget proposal to introduce a resolution calling on U.S. Energy Secretary Rick Perry to find Yucca Mountain unsuitable for storing nuclear waste and to explore alternative strategies for dealing with radioactive waste.

“Storing nuclear waste 100 miles from Las Vegas, in an unstable and unsuitable environment, is incredibly dangerous, not to mention that it will threaten the lifeblood of our economy—tourism,” he said.

“Politicians from outside Nevada have tried for 30 years to dump their waste into our beautiful state,” said Senate Minority Leader Michael Roberson (R). “Their attempts to ‘screw Nevada’ have consistently failed, and I am confident they will continue to fail.”

With this kind of opposition from state government as well as ordinary Nevadans, the Timbisha Shoshone Tribe and environmentalists, winning approval of Yucca Mountain will be costly and challenging.

Blue Ribbon Recommendations

The Blue Ribbon Commission on America’s Nuclear Future, formed by former President Obama after he shuttered Yucca Mountain, was charged with developing recommendations for a long-term strategy to manage the nation’s nuclear waste. NCSL testified before the commission, which, among other things, recommended the U.S.:

- Use a consent-based approach to siting nuclear waste facilities.
- Create an organization with the authority and resources to focus solely on implementing the waste program.
- Allow the funds nuclear utility ratepayers are providing to be used to manage nuclear waste.
- Develop one or more geologic disposal facilities and consolidated storage facilities.
- Prepare for the eventual large-scale transport of dangerous waste.
- Support continued U.S. innovation in nuclear energy technology and workforce development.
- Lead international efforts to address safety, waste management, non-proliferation and security concerns.

NUCLEAR WASTE

Unwelcome and Unwanted

Despite the controversy Yucca Mountain sparks, there is consensus on one inescapable fact: Tons of nuclear waste need a permanent home, and more is coming.

Nuclear reactors have generated more than 76,000 metric tons of nuclear waste since they first began producing electricity in the late 1950s. That’s the equivalent of a football field covered almost 30 feet deep in spent nuclear fuel, according to the Nuclear Energy Institute. And every year we generate between 2,000 and 2,300 metric tons more, primarily from commercial nuclear reactors.

The United States has been seeking a solution to nuclear waste for decades. With 100 reactors in 30 states currently producing almost 20 percent of the nation’s electricity, concern is building. Without a central facility to send the high-level radioactive waste to, energy generators have been storing it on site in steel canisters, in concrete-lined pools of water or in dry casks.

Some fear these growing piles of waste are an accident waiting to happen. Although the federal government is charged with finding a permanent disposal site, state lawmakers are responsible for regulating the “temporary” safe storage of this dangerous material within their borders.

How Did We Get Here?

The Nuclear Waste Policy Act of 1982 established a national program for the safe and permanent disposal of spent nuclear fuel and high-level radioactive waste. It included a small fee utilities passed on to consumers to help pay for it all. In 1987, Congress designated Yucca Mountain, about 100 miles northwest of Las Vegas, to be the permanent disposal site for the waste.

The federal government would be responsible for finding a location that could safely contain the waste for thousands of years. But the federal government’s failure to meet its deadlines has left states with no choice but to store waste on site indefinitely.

For years, Congress has debated whether and where to establish both interim and permanent homes for the waste, with little success.

The concern for many is not so much where the site will be—Yucca Mountain or somewhere else—but when it will be ready.

What Are States Doing?

Until a nuclear waste site is ready, legislators are faced with what to do with the waste currently within their states. Here’s a summary of where the waste lives and some of the actions states have taken.

Waste Piles and State Actions

Fifteen states have no nuclear fuel waste in storage, while Illinois harbors 9,950 metric tons, Pennsylvania 7,100 and New York 4,040.

Note: Numbers indicate metric tons of high-level radioactive waste in storage.

- Have passed a resolution or other public opposition to hosting a nuclear waste site.
- Require a waste solution or reprocessing technology before building new nuclear facilities.
- Have other restrictions on constructing new nuclear facilities.

Other states have made efforts to ensure that nuclear energy remains a vital part of their energy economy. Illinois and New York recently passed laws to prevent existing nuclear plants from having to close because of competition from other energy sources and a relatively low demand for electricity.

Several states and the Trump administration would like to see a temporary storage facility to combine the waste from various sites. California, Idaho, Illinois, Michigan and New Mexico have passed resolutions to encourage Congress and DOE to move forward with temporary sites or the technology to reprocess the spent fuel, as is done in some other countries. Interim storage sites would be designed to hold waste for the length of the Nuclear Regulatory Commission’s licensing (and relicensing) process—an expected time frame of 50 to 100 years.

And, finally, New Mexico and Texas are undergoing the licensing process for private companies to run temporary storage facilities. The private facility in New Mexico, is in the early stages of the licensing process to create a facility to temporarily store high-level nuclear waste. Another, in Texas, is in the process of gaining approval to expand its current low-level storage facility to host high-level waste until a permanent solution is found.
of spent fuel to the site by 1998.

The problem is, the federal government never received support for the project from Nevada, which, ironically, does not produce or use any commercial nuclear power itself.

Despite what supporters said, opponents pointed to research showing enough risks (from water leakage to limited transportation infrastructure) to believe that Yucca Mountain should never be used to store high-level waste.

In 2009, the U.S. Department of Energy determined the repository was unworkable and the Obama administration agreed to cut funding for the project. It’s been a costly decision. Over the past 20 years, the federal government has paid more than $4.5 billion in damages to utilities for not taking ownership of the spent fuel as promised.

A Different Approach

Since then, DOE has been using a different tactic to identify communities that may be willing, if informed, to host a waste facility. The “consent-based approach,” encourages input from the public and from state, local and tribal officials. Proponents say it is designed to be a transparent process that considers the public as partners in managing the nation’s nuclear waste.

Using a consent-based approach to siting nuclear waste requires balancing national, state, tribal and local interests. To accomplish this, DOE hosted eight public meetings around the country to structure the process and determine what issues should be included. NCSL and others have suggested DOE rely on elected state and tribal representatives to determine community consent. People concerned about the transportation of spent nuclear fuel through their state, tribal area or community have argued consent should extend beyond the immediate surrounding area of a proposed repository.

DOE’s next step is to design a framework to educate communities about the pros and cons of siting a facility, including the increased national security of having all the waste in one location and the potential economic benefits to the host community. DOE hopes that by bringing states and tribes together, it can finally find a willing and informed community to host a storage site with a publicly acceptable system for transporting waste to it. Canada is undergoing a similar siting process and has identified nine communities with potential interest in hosting a facility.

The Road Ahead Is Unclear

With the change in administrations come changes in priorities. There’s too much uncertainty to know for sure what the future holds for high-level radioactive nuclear waste, except for one thing. It will be around—somewhere. It takes tens of thousands of years for it to break down.