

# The US nuclear waste impasse



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For several years there has been an impasse, among politicians, over how to make progress on dealing with the intractable problem of US nuclear waste, as **Michael McBride** and **Robin Rotman** explain. It is possible, however, that Congress may be able to resolve this problem after the upcoming elections

**SHORTLY AFTER THE DAWN** OF the nuclear age, it became apparent that waste would be created that would have long half-lives and therefore require long-term isolation to protect human health and the environment. Consideration was given to a wide range of options—including disposing of the waste in an abandoned salt mine in Kansas, sending it to outer space, or even putting it at the bottom of the ocean. All these options were rejected for various geologic and technical reasons.

In 1982, with the support of the nuclear industry, Congress took a major step toward a solution, enacting the Nuclear Waste Policy Act (NWPA). The NWPA committed the federal government to taking title to, and responsibility for, disposal of commercial spent fuel, in addition to the defence wastes for which it was already responsible. Congress recognised that, as a practical matter, only the federal government has the ability to oversee permanent nuclear waste disposal. The NWPA required the Department of Energy (DOE) to evaluate potential sites for permanent, underground disposal of high-level nuclear waste, subject to licensing by the Nuclear Regulatory Commission (NRC), and appropriated funds for this purpose.

The NWPA also provided for more interim storage. It required DOE to begin accepting commercial spent fuel by 31 January 1998. DOE entered into enforceable contracts with NRC reactor licensees to carry out its responsibilities, which required generators to pay a fee of 1.0 mil/kWh (a mil is an accounting figure, the notional equivalent of 0.1 cents) from nuclear-generated electricity to fund disposal.

Initially, sites in ten states were under consideration for a repository. Over time, DOE narrowed the list to Nevada,

Texas and Washington State. In 1987, Congress determined that the sites in Texas and Washington were too politically sensitive. In what has come to be referred to in Nevada media as the “Screw Nevada bill,” Congress amended the NWPA to direct DOE to evaluate only Yucca Mountain, Nevada as a possible disposal site, and thereafter Congress provided appropriations specifically for that project.

When it became clear that DOE would not meet its obligation to begin accepting commercial spent fuel by 31 January 1998, a number of states and licensees sued to force DOE to accept it. The US Court of Appeals for the District of Columbia Circuit (DC Circuit) found that DOE was in violation of NWPA. Because the federal government lacked a place where it could safely accept the spent fuel, the DC Circuit did not force DOE to start accepting it, suggesting instead that the licensees could make a claim for damages. The US Court of Claims found DOE was in breach of contracts and ordered DOE to pay damages to the licensees to reimburse their costs of storing spent fuel on site at their facilities. Payment is made out of the Judgment Fund, a permanent appropriation by Congress to pay judgments entered against the USA.

## DOE makes progress—for a time

In February 2002, DOE released its assessment of the suitability of the Yucca Mountain site, concluding that it was safe for disposal of spent fuel and nuclear waste. President George W Bush accepted DOE’s analysis and determined that DOE should proceed with Yucca Mountain as the site of the nation’s nuclear repository. Under the NWPA, however, the governor of Nevada had a right to veto the project,

subject to a Congressional override. Governor Kenny Guinn exercised Nevada’s veto right, but Congress overrode the veto, and continued to appropriate funds. As a result, DOE was able to proceed and, in 2008, it filed its application with the NRC for a project licence

The Obama Administration, however, opposed the project as “not a workable option”—a position that the Government Accountability Office and others have characterised as a policy decision, not based on technical or safety factors. In March 2010, DOE filed a motion with the NRC to withdraw its licence application. The move was applauded by then-Senate majority leader Harry Reid (D-NV), a long-time opponent of the project. In June 2010, the NRC’s Atomic Safety and Licensing Board (ASLB) denied the motion 3-0, on grounds that the NWPA did not authorise DOE to withdraw the licence application without Congressional approval. Despite the ASLB Decision, in October 2010, then-chair of the NRC Gregory Jaczko ordered NRC staff to terminate review of the application and not spend the remaining funds that had been appropriated for the NRC licensing proceedings. At that time, the NRC had over \$11 million remaining in appropriated funds that it had not spent. In September 2011, the Commission split 2-2 on appeal, leaving the ASLB Decision in effect under NRC rules.

Because of the apparent determination of DOE to terminate the Yucca Mountain project, several parties with interests in long-term nuclear waste disposal sought judicial relief, including Aiken County, South Carolina as the named lead petitioner (home to the Savannah River nuclear production site) and the State of Washington (home to the Hanford Reservation DOE nuclear weapons site). Their first effort, against President Obama, DOE and NRC, did not succeed. But Judge Brown, in a concurring opinion, suggested that they could instead move to compel agency action unlawfully delayed given the NRC’s inaction. The petitioners did so. Eventually, the DC Circuit took the rare step of issuing a writ of mandamus, compelling the NRC to use the remaining appropriated funds on project licensing

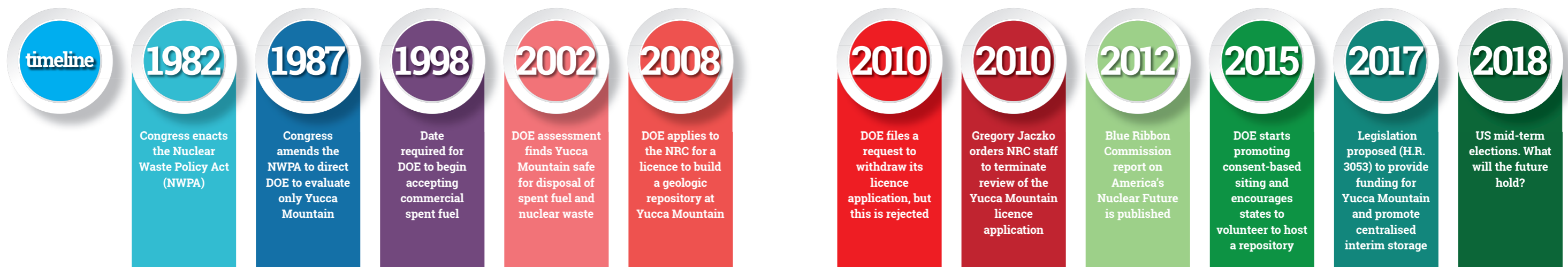
proceedings. Separately, the court also suspended the NWPA programme fee, on the grounds that the agency could not produce an adequate assessment of the appropriate amount of the fee in light of numerous uncertainties. The DC Circuit also upheld the NRC’s “continued storage rule,” which permits onsite storage of commercial spent fuel for the indefinite future, finding that the NRC had a rational basis and substantial evidence for its conclusion that it would be safe to continue to store spent nuclear fuel at reactor sites.

The NRC resumed work on licensing, issuing a Safety Evaluation Report and a Supplemental Environmental Impact Statement. At present, the funds have mostly been expended, and the NRC has informed Congress that it would need approximately \$330 million to complete the project licensing. To date, Congress has not appropriated any additional funds and the writ of mandamus does not require the NRC to perform unfunded work.

That is where matters stand on the Yucca Mountain project—it is stalled because Congress has been unable to agree on additional appropriations.

## Meanwhile....

Although the Obama Administration opposed the project, it attempted to address the nuclear waste issue by creating the Blue Ribbon Commission on America’s Nuclear Future (BRC), an advisory committee to the Secretary of Energy. The BRC published a report in January 2012. As directed by the Secretary of Energy, the BRC did not give an opinion on any particular site for nuclear waste disposal or the merits of the project. It did support geologic disposal of nuclear waste by the federal government and, among other things, supported what it termed “consent-based siting,” in the wake of Nevada’s staunch opposition to the project. In the wake of the BRC Report, the Bipartisan Policy Center started its Nuclear Waste Initiative, pursuant to which it issued a series of white papers and a report endorsing consent-based siting. ☐



Right: **The federal government has already spent \$11 billion on the Yucca Mountain project**

Far right: **The Yucca Mountain exploratory studies facility pictured in October 1995** (Photos: US DOE)



Right: **The Nevada site was chosen as the sole site for study in 1987**



📍 In December 2015, DOE launched efforts to promote consent-based siting, and held meetings around the country to encourage a state to volunteer to host a nuclear waste disposal site in exchange for money and other benefits. DOE also explored the use of deep boreholes for disposal of caesium and strontium from the Hanford Reservation.

**Why the impasse?**

For several years, it was thought in Washington that the unwillingness of Congress to appropriate further funds for the Yucca Mountain licensing was due to the political clout of Harry Reid (D-NV), the then-Senate Majority Leader. Some lawmakers assumed that when Reid left the Senate, Yucca Mountain would go through. The election of President Trump bolstered these assumptions; the President apparently supports the project, because his first proposed budget for 2019 recommends that Congress appropriate approximately \$48 million to NRC, and \$120 million to DOE, to resume licensing activities.

Yet the project is going nowhere fast. Why?

It turns out that “the trouble with Harry” is now “the trouble with Mitch”—Mitch McConnell (R-KY), the current Senate Majority Leader. McConnell manages a Senate whose 51 Republicans have just a two-seat majority, and is determined to protect that majority. It is widely reported that McConnell will not allow the project to come up for an appropriations vote until after the 2018 elections, so that Senator Dean Heller (R-NV), a long-time opponent of the project, can score political points with his Nevada constituency by continuing to claim to block it.

On 28 June 2017, the House Energy and Commerce Committee approved, by 49-4, legislation (H.R. 3053) to amend the NWPA, provide funding for the project, and promote centralised interim storage of commercial spent fuel while the project is under consideration (and, eventually, construction, if licensed by the NRC). The Bill has not yet come to the House floor for a vote.

Will Congress finally break the impasse? Or will it find another excuse, after the 2018 elections, to avoid this nettlesome issue?

Given the strong Congressional support the project has enjoyed in the past; that geologic disposal is the preferred technical means of dealing with the nuclear waste problem; that the federal government has already spent \$11 billion; and that DOE’s obligations to pay licensees’ onsite storage costs already exceed \$6 billion (and may eventually exceed \$30 billion), it is widely believed that Congress will appropriate funds after the upcoming elections.

The long and troubled history of the project suggests caution. But at some point, though, Congress must appropriate funds to do something about nuclear waste storage and disposal. ■



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