



April 24, 2017

TO: Members, Subcommittee on Environment

FROM: Committee Majority Staff

RE: Hearing entitled “H.R. _____, the Nuclear Waste Policy Amendments Act of 2017”

I. INTRODUCTION

On Wednesday, April 26, 2017, at 10:00 a.m. in 2123 Rayburn House Office Building, the Subcommittee on Environment will hold a hearing entitled “H.R. _____, the Nuclear Waste Policy Amendments Act of 2017.”

II. WITNESSES

Panel 1

- Ruben Kihuen (NV);
- Dina Titus (NV);
- Jacky Rosen (NV); and,
- Joe Wilson (SC).

Panel 2

- Ward Sproat, former Director, Office of Civilian Radioactive Waste Management, Department of Energy;
- Anthony O’Donnell, Chairman of Nuclear Issues Subcommittee, National Association of Regulatory Utility Commissioners;
- Ed Lyman, Senior Scientist, Global Security Program, Union of Concerned Scientists;
- Steven P. Nesbit, Chairman of Backend Working Group, Nuclear Infrastructure Council; and,
- Mark McManus, General President, United Association.

III. BACKGROUND

Starting with the Manhattan Project and the creation of our nation's nuclear energy defense and civilian programs, long-lived nuclear waste has been generated, which must be permanently disposed. Since the National Academy of Sciences issued its first report in 1957 on nuclear waste disposal options, the international scientific community has consistently concluded that permanent disposal in a deep underground repository is the best approach to dispose of nuclear waste.

In 1982, Congress formally established the nation's nuclear waste policy with the enactment of the Nuclear Waste Policy Act (NWPA)¹ (42 U.S.C. 10101 et seq.). In 1987, after Department of Energy (DOE) studies consistently ranked the Yucca Mountain site at or near the top of candidate sites,² Congress amended the NWPA to direct all site-specific work for a repository program to site, construct, license, and operate a repository at the Yucca Mountain, Nevada site.

In 2002, following extensive scientific and technical analysis by DOE and its national laboratories, the Secretary of Energy determined Yucca Mountain was suitable as a repository³ and Congress enacted a resolution formally designating the site for a repository.⁴ DOE subsequently prepared and submitted a license application to the Nuclear Regulatory Commission (NRC or Commission) for the Yucca Mountain facility in 2008.⁵

In 2010, the President's FY2011 budget proposal announced the discontinuation of the program to construct a repository at Yucca Mountain. Subsequent efforts by DOE to withdraw the license failed, but the agency effectively stopped supporting the licensing process and shut down program activities related to the Yucca Mountain site during the previous Administration. In the meantime, the NRC completed its technical review of the DOE license application, issuing Safety Evaluation Report determinations in 2014 and 2015. While the license is still pending before the Commission, this independent NRC technical and scientific review found the site would meet all safety regulations for the required one-million-year timeframe.

¹ [P.L. 97-425](#).

² [Recommendation by the Secretary of Energy of Candidate Sites for Site Characterization For the First Radioactive-Waste Repository, DOE/S-0048, May 1986.](#)

³ [Recommendation by the Secretary of Energy Regarding the Suitability of the Yucca Mountain Site for a Repository Under the Nuclear Waste Policy Act of 1982, February 2002.](#)

⁴ Under the NWPA, Nevada submitted a notice of disapproval. Congress overrode the objection, and Congress passed and the President signed Public Law 107-200, which approved Yucca Mountain as the site for the repository.

⁵ The NRC formally docketed the license application three months after DOE submittal and, pursuant to NWPA, commenced a two-prong review of the application: (1) a technical licensing review by the NRC staff to assess the technical merits of the repository design and to formulate a position on whether to issue a construction authorization for the repository and (2) adjudicatory hearings by the NRC's Construction Authorization Board to consider technical and legal challenges to the application. The Commission, based on a staff Safety Evaluation Report and the Board hearings, is to determine whether to authorize construction of the repository based solely on the technical merits.

Throughout the 114th Congress, the Committee on Energy and Commerce conducted extensive oversight⁶ and convened a series of hearings⁷ to receive testimony about issues to support the development of comprehensive NWPA reforms. These reforms address issues such as long-term project funding, DOE program management, licensing, site preparation, stakeholder engagement, and other matters necessary to ensure the nuclear waste program operates effectively, going forward, to meet statutory requirements.⁸

At present, commercial spent nuclear fuel (SNF) is accumulating at 78 sites in 34 states.⁹ In addition to responsibilities for managing SNF, DOE is responsible to dispose of high-level radioactive waste (HLW) generated as a result of its atomic energy defense activities, such as maintaining the nation's nuclear weapons stockpile and fueling the Navy's submarines and aircraft carriers. This DOE-owned HLW is primarily located in Washington State at the Hanford Site, at Idaho National Laboratory, and the Savannah River Site in South Carolina. In addition, there is legacy material generated from the West Valley Demonstration Project's reprocessing activities in the 1970's. All told, DOE has reported it is responsible for managing nuclear waste at 121 sites in 39 states.¹⁰

IV. LEGISLATION

The "Nuclear Waste Policy Amendments Act of 2017" is draft legislation with the following provisions:

Section 1. Short Title and Table of Contents: This section entitles the Act the "Nuclear Waste Policy Act Amendments of 2017" and identifies the sections of the bill as follows: Section 1, Short Title and Table of Contents; Title I, Monitored Retrievable Storage; Title II, Permanent Repository; Title III, DOE Contract Performance; Title IV, Benefits to Host Community; Title V, Funding; and, Title VI, Miscellaneous.

Title I. Monitored Retrievable Storage.

Sec. 101. Monitored Retrievable Storage: This section amends section 141(b) of the Nuclear Policy Waste Act of 1982 (NWPA) to direct the Secretary of Energy (Secretary) to complete a study of the need for and feasibility of the construction of one or more monitored retrievable storage facilities (MRS) and submit such report to Congress by June 1, 2019. The section also requires the Secretary to publish a request for information to help the Secretary evaluate options to enter into cooperative agreements with respect to one or more MRS.

⁶ See letters to Secretary of Energy Ernest Moniz dated [February 25, 2015](#); [April 14, 2015](#); [July 30, 2015](#); and [March 14, 2016](#).

⁷ See Subcommittee on Environment and the Economy hearings from [May 15, 2015](#); [September 9, 2015](#); [October 1, 2015](#); [October 28, 2015](#); [December 3, 2015](#); [April 20, 2016](#); and [July 7, 2016](#).

⁸ For a full list of recent nuclear waste management activities by the Committee on Energy and Commerce see <https://energycommerce.house.gov/yucca-mountain>.

⁹ See Nuclear Regulatory Commission "Information Digest, 2016-2017 (NUREG-1350, Volume 28)."

¹⁰ See ["Commercial Nuclear Waste: Effects of a Termination of the Yucca Mountain Repository Program and Lessons Learned."](#) GAO, April 2011. GAO-11-229.

Section 101(b) makes conforming changes to allow for more than one MRS, strikes the limitation contained in section 141(g) of the NWPA, and adds definitions to section 2 of the NWPA for “cooperative agreement” and “Department-owned civilian waste.”

Sec. 102. Authorization and Priority: This section amends section 142 of the NWPA to authorize the Secretary to site, construct, and operate one or more MRS and store, pursuant to a cooperative agreement, Department-owned civilian waste at a non-Federal MRS that is licensed by the Nuclear Regulatory Commission (NRC or Commission). The section also directs the Secretary to prioritize storage at a non-Federal MRS unless the Secretary determines it is faster and less expensive for the Department of Energy (DOE) to site, construct and operate an MRS. The Secretary must provide such determination to Congress within 30 days.

Sec. 103. Conditions for cooperative agreement: This section amends section 143 of the NWPA to prohibit the Secretary from entering into a cooperative agreement for an MRS unless (1) the MRS holds a license pursuant to the Atomic Energy Act of 1954 and has approval to store Department-owned civilian waste at such facility from the Governor of the state, any unit of general local government with jurisdiction over the area, and any affected Indian tribe; (2) the Commission has issued a decision for a repository under section 114(d) of the NWPA; and (3) the cooperative agreement provides the quantity of high-level radioactive waste (HLW) and spent nuclear fuel (SNF) will not exceed the limits described in section 148(d)(3) and (4).

Sec. 104. Survey: This section amends section 144 of the NWPA to allow the Secretary to survey and evaluate sites for an MRS based on listed criteria, including acceptability to State authorities, affected units of local government, and affected Indian tribes. The section would require the Secretary to issue a request for proposals for a cooperative agreement with a non-Federal MRS before conducting any survey.

Sec. 105. Site selection: This section amends section 145 of the NWPA to allow for more than one MRS site to be evaluated.

Sec. 106. Benefits agreement: This section amends section 147 of the NWPA to allow a non-Federal entity subject to a cooperative agreement to enter into a benefits agreement with the Secretary under section 170.

Sec. 107. Licensing: This section amends section 148(c) to apply to a DOE MRS and amends section 148(d) of the NWPA to modify the requirement that the Commission issue a license for a construction authorization for a repository prior to licensing an MRS to require the Commission to issue a final decision for a construction authorization prior to MRS licensing.

Title II. Permanent Repository.

Sec. 201. Land withdrawal, jurisdiction, and reservation: This section provides for the permanent withdrawal of lands described in subsection (c) and provides the Secretary jurisdiction over the withdrawal area. The withdrawal area is reserved by the Secretary for development, preconstruction testing and performance confirmation, licensing, construction,

management and operation, monitoring, closure, postclosure, and other activities associated with the disposal of HLW and SNF under the NWPA.

Section 201(b) revokes previous public land orders and right-of-way within the withdrawal area.

Section 201(c) describes the boundaries of the land subject to the withdrawal and requires the publication in the Federal Register and documentation of the copies of the described maps.

Section 201(d) describes the relationship of the withdrawal to lands previously withdrawn for use by the Department of Defense under subtitle A of title XXX of the Military Lands Withdrawal Act of 1999.

Section 201(e) assigns certain management responsibilities to the Secretary for lands in the withdrawal area, including the development of a management plan for the lands; prioritizing Yucca Mountain Project activities; use by the Air Force and the Nevada National Security Site under agreed terms and conditions with the Secretary; and related non-Yucca Mountain Project uses, such as grazing, hunting and trapping, and mining. The subsection provides for limited public access to continue the Nye County Early Warning Drilling Program, utility corridors, and other uses the Secretary considers consistent with the purposes of the withdrawal area. The subsection also authorizes the Secretary to close a portion of the withdrawal area or airspace above the withdrawal area.

Section 201(f) provides that the United States and its departments and agencies shall be held harmless and shall not be liable for damages to persons or property as a result of mining, mineral leasing, or geothermal leasing activities conducted on the withdrawal area.

Section 201(g) provides the Secretary authority to acquire lands and interests within the withdrawal area.

Section 201(h) provides the Environmental Protection Agency the exclusive authority to issue, implement or enforce any air quality permit for any Federal facility or activity that is subject to the requirements of the NWPA for the purpose of siting, constructing, or operating a repository, or located, or occurring, in the withdrawal area. The subsection preempts State air quality permitting with respect to such Federal facilities or activities.

Section 201(i) defines terms used in this section consistent with the NWPA, in addition to defining the “withdrawal area,” “Secretary concerned,” and “Project.”

Section 201(j) makes this section, except subsections (c), (e)(2)(A), (h), and (i), effective on the date the Commission approves the issuance of a construction authorization under section 114(d) of the NWPA for the Yucca Mountain site.

Sec. 202. Water access: This section amends section 124 of the NWPA to add subsection (b) to state that the use of water from any source to accomplish the purposes of this subtitle to carry out Department functions is declared to be beneficial to interstate commerce and does not

threaten to prove detrimental to the public interest. It also prohibits a state from enacting or applying a law that discriminates against this use and allows the Secretary, through purchase or otherwise, to obtain water rights necessary to carry out Department functions under this subtitle.

Section 202(b) makes this section effective on the date the Commission approves the issuance of a construction authorization under section 114(d) of the NWPAA for the Yucca Mountain site.

Sec. 203. Application procedures and infrastructure activities: This section amends section 114(d) of the NWPAA to remove certain conditions on the quantity of metric tons of heavy metal for Commission's approval of a license to authorize construction submitted under section 114(b). It also allows for amendments to an approved construction authorization license to be considered using expedited, informal procedures and directs the Commission to decide on license amendments within one year, unless the Commission notifies Congress that the deadline needs to be extended. The subsection allows the Secretary to undertake infrastructure activities at the Yucca Mountain site considered necessary or appropriate to support construction or operation of a repository or transportation to such site. Infrastructure activities include safety upgrades; site preparation; the construction of a rail line to connect the Yucca Mountain site with the national rail network; and construction, upgrade, acquisition or operation of electrical grids or facilities, other utilities, communication facilities, access roads, and nonnuclear support facilities.

Section 203(b) amends section 114(f)(6) to add certain actions that are not required for an environmental impact statement and that are undertaken outside the geologic repository operations area and do not require a license from the Commission.

Sec. 204. Pending Repository License Application: This section provides that nothing in this Act or amendments made by this Act shall apply to the pending construction authorization license for the Yucca Mountain repository, except as provided in sections 201 and 202.

Sec. 205. Limitation on planning, development, or construction of defense waste repository: This section prohibits the Secretary from taking any action relating to planning, development, or construction of a defense waste repository until the Commission issues a final decision on an application for a construction authorization for a repository under section 114(d)(1) of the NWPAA. The section also defines the term "defense waste repository."

Sec. 206. Sense of Congress regarding transportation routes: This section expresses the Sense of Congress that the Secretary should consider transportation routes to the repository site to avoid Las Vegas, Nevada.

Title III. DOE Contract Performance.

Sec. 301. Title to Material: This section amends section 123 of the NWPAA to allow the Secretary to accept title to HLW or SNF for a repository or an MRS. The section also provides the Secretary the authority to enter into new contracts or negotiate modifications to existing contracts for acceptance of title, subsequent transportation, and storage of HLW or SNF,

including the expedited titling, transportation, and storage of fuel to an MRS from nuclear facilities that have ceased commercial operation.

Title IV. Benefits to Host Community.

Sec. 401. Consent: This section amends section 170 of the NWPA by clarifying the number of benefits agreements that may be available and adding a new subsection (g) expressing that if the State of Nevada enters into a benefits agreement under this section, such agreement shall not be considered an expression of consent to siting the repository.

Sec. 402. Content of agreements: This section amends the table in section 171 of the NWPA titled “Benefits Schedule.”

Section 402(b) amends section 171(a) of the NWPA to prohibit payments from a benefits agreement to be used to influence legislative action or any matter pending before Congress or a state legislature, for litigation purposes, or to support multistate efforts or other activities inconsistent with the siting, construction, or operation of the MRS or repository concerned.

Section 402(c) amends section 171(b) of the NWPA to remove the State of Nevada’s agreement to waive its rights to disapprove of the recommendation of the Yucca Mountain site as a condition to enter into a benefits agreement.

Section 402(d) amends section 171(c) of the NWPA to provide that payments under a benefits agreement to the State of Nevada shall be made from the Waste Fund.

Sec. 403. Covered units of local government: This section inserts section 172A in the NWPA to allow covered units of local government, not earlier than one year after the date of enactment, to enter into a benefits agreement with the Secretary. Such benefits agreements are to mitigate impacts of locating a repository at the Yucca Mountain site, as described in section 175(b). Payments to covered units of local governments under a benefits agreement are provided by the Waste Fund and cannot be used to influence legislative action or any matter pending before Congress or a state legislature, for litigation purposes, or to support multistate efforts or other activities inconsistent with the siting, construction, or operation of the repository. Entering into a benefits agreement under this section by a covered unit of local government shall not be considered to be an expression of consent to the siting of repository in the State of Nevada. This section also defines covered unit of local government to mean any affected unit of local government with respect to a repository or any unit of general local government in the State of Nevada.

Section 403(b) makes conforming amendments to section 170(a)(4) relating to benefits agreements.

Sec. 404. Termination: This section amends section 173 of the NWPA to modify the conditions for the termination of a benefits agreement from a Secretarial determination to the Commission’s disapproval of a license to authorize construction for a repository under section 114(d).

Sec. 405. Other benefits: This section amends section 174 of the NWPA to require the Secretary to consider MRS in proposals to site Federal research projects and directs the Secretary to provide an annual plan for potential Federal projects to be located, or proposed to be located, in such state. The section also provides for the Secretary to prioritize funding for higher education from the Waste Fund to institutions located in the State of Nevada.

Sec. 406. Disposal of spent nuclear fuel: This section amends section 122 of the NWPA to all economic benefits derived from the retrieval of SNF to be shared with any state, affected units of local government, and affected Indian tribes, where the repository is located.

Sec. 407. Updated report: This section amends section 175(a) of the NWPA to require the Secretary to update a report identifying potential actions to mitigate impacts associated with the activities authorized under Subtitle A.

Title V. Funding.

Sec. 501. Assessment and collection of fees: This section amends section 302(a)(4) of the NWPA to direct the Secretary to establish procedures for the assessment of fees to provide sufficient revenues to offset the costs required by the Waste Fund.

The section also directs the Secretary to establish procedures to collect fees. The Secretary may not collect a fee until the Commission issues a final decision on the construction authorization for a repository under section 114(d) and the fees collected cannot exceed 90 percent of the amounts appropriated from the Waste Fund. Assessed fees that are not collected pursuant to the requirements of this section shall be collected when the Secretary determines necessary for the purposes of the Waste Fund, subject to appropriations.

Section 501(b) provides the Secretary the authority to seek modification of a contract under section 302(a) of the NWPA to ensure the contract complies with this section.

Section 502(c) makes technical and conforming amendments to section 302(a) of the NWPA.

Sec. 502. Use of Waste Fund: This section amends section 302(d) of the NWPA to define allowable uses of the Waste Fund.

Section 502(b) makes conforming amendments in section 117(d) and 141(f) with respect to allowable uses of the Waste Fund.

Sec. 503. Availability of certain amounts: This section amends section 302 of the NWPA by adding a new subsection (f) that makes certain amounts of funding from the Waste Fund available to the Secretary, without further appropriations, when SNF is received at the Yucca Mountain site, when HLW or SNF is emplaced in a repository, when decommissioning activities related to a repository commence, when post-decommissioning maintenance or monitoring related to a repository commences, or for fees not yet collected pursuant to subsection (a)(3).

Title VI. Miscellaneous.

Sec. 601. Certain standards and criteria: This section requires the Environmental Protection Agency to determine if standards promulgated under section 121(a) of the NWPA should be updated and submit to Congress a report on such determination. If the Administrator determines that the standards promulgated under section 121(a) of the NWPA should be updated, the Administrator shall promulgate updated standards within two years of making such determination.

Section 601(b) requires the Commission to determine of the technical requirements and criteria promulgated under section 121(b) if the NWPA should be updated and submit to Congress a report on such determination. If the Commission determines that the technical requirements and criteria promulgated under section 121(b) of the NWPA should be updated, the Commission shall promulgate updated technical requirements within two years of making such determination.

Sec. 602. Office of Civilian Radioactive Waste Management: This section amends section 304(b) of the NWPA to provide a five year term for the Director of the Office of Civilian Radioactive Waste Management and requires the Director to be appointed from persons who have extensive expertise and experience in organizational and project management.

Section 602(b) amends section 203(a) of the Department of Energy Organization Act by striking paragraph (8) and transferring all functions described in that paragraph to the Office of Civilian Radioactive Waste Management.

V. ISSUES

The following issues may be examined at the hearing:

- The provisions of the Discussion Draft of “H.R. __, the Nuclear Waste Policy Amendments Act of 2017”;
- Licensing and requirements relating to a permanent disposal facility;
- Authorization of monitored retrievable storage and DOE contractual mechanisms to carry out such a program;
- Potential partnerships to states and communities that host MRS or a repository; and,
- Efforts to expedite cleanup of DOE sites.

VI. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Andy Zach or Peter Spencer of the Committee staff at (202) 225-2927.

APPENDIX 1

Historical Timeline and Selected Milestones for Nuclear Waste Management

- *Manhattan Project*: As part of the Manhattan Project efforts, the United States creates the first HLW. The government does not consider the long-term, permanent disposal of nuclear waste a priority. Subsequently, the nuclear weapons program grows in the 1940's and 1950's as the Cold War escalates, resulting in the creation of different types and higher quantities of HLW.
- *1954*: Congress passes the Atomic Energy Act of 1954, authorizing civilian, commercial use of nuclear power. In doing so, the Federal government permits private entities to generate spent nuclear fuel (SNF). By directly authorizing the creation of SNF, the Federal government recognizes its obligations to develop a solution to dispose permanently of the material.
 - The Atomic Energy Commission (AEC) oversees all aspects of generation, regulation, and licensing of civilian nuclear facilities.
- *1964 -1971*: The AEC pursues a disposal in a salt formation located in Lyons, Kansas. After subsequent scientific analysis, the site is found to be unworkable. Additionally, the state government loses trust in AEC and objects to further work on nuclear waste disposal in Kansas. The AEC formally terminates the project in 1971.
- *1971 – 1982*: The Federal government, through the AEC and subsequently the Energy Research and Development Administration (ERDA), considers a wide variety of options relating to nuclear waste management, including the “Retrievable Surface Storage Facility” (RSSF), to serve as a consolidated interim storage site, and the “Nuclear Waste Terminal Storage Program” (NWTSP) to site a permanent repository.
 - In 1974, ERDA terminates the RSSF program primarily due to objections raised by the Environmental Protection Agency (EPA). EPA opposed the program out of concern that it would ultimately become a *de facto* repository due to cost considerations and distract ERDA from the development of a permanent disposal facility.
 - The NWTSP attempted to site a permanent repository through a process of identifying technically suitable sites and then working through the respective state governments. In 1976, NWTSP notified 36 states of site consideration and requested to work with those Governors to conduct site characterization activities for a repository. Ultimately, no Governors agreed to participate in the program.
 - During this time, ERDA and DOE conducted extensive scientific and technical evaluation of the viability of the Nevada Test Site. This included a demonstration research project in which SNF was emplaced at the site, gathering information to help prove SNF could be disposed of in the geologic conditions that are present the Yucca Mountain site.

- *1974:* Congress passes the Energy Reorganization Act, which abolishes the AEC. The regulatory functions for nuclear material are assigned to the newly established Nuclear Regulatory Commission (NRC) and policy initiatives are assigned to ERDA.
 - One concern Congress held regarding AEC's effectiveness was the loss of public trust that was a result of the failed Lyons, Kansas disposal program.
- *1977:* Congress establishes the Department of Energy (DOE) and transfers legacy responsibilities for nuclear waste disposal from ERDA.
- *1982:* Congress enacts the Nuclear Waste Policy Act (NWPA), formally establishing a comprehensive nuclear waste management strategy. Key components of the law include:
 - Assigning responsibility to dispose of SNF to DOE;
 - Stating that DOE would take title to SNF for disposal by January 31, 1998, making this a contractual obligation;
 - Establishing a "fee-for-service" funding model, in which fees assessed for electricity generated by nuclear power are paid to the Federal government to finance a disposal program;
 - Creating the Office of Civilian Radioactive Waste Management (OCRWM) to serve as the lead DOE office to manage the nuclear waste management program; and
 - Establishing the requirements for state participation in the process, including a formal disapproval mechanism with ability for Congress to override the state.
- *1985:* Pursuant to section 8 of the NWPA, President Reagan determines that HLW from atomic energy defense activities should be "co-mingled" with commercial SNF for permanent disposal.
 - Congress appropriates funding from the national defense budget accounts to pay for the portion of the Yucca Mountain costs attributable to defense waste.
 - Through 2016, taxpayers have paid \$3.6 billion from defense budget accounts for the Yucca Mountain project.
- *1987:* Congress enacts the Nuclear Waste Policy Act Amendments of 1987,¹¹ redirecting DOE's nuclear waste management activities to focus solely on the Yucca Mountain site. Congress was concerned about the costs and time delay associated with continuing to study multiple sites.
 - From 1983-1987, DOE conducted multiple analyses to evaluate the site characteristics at multiple specific locations under evaluation. Yucca Mountain was consistently rated as a top performer for technical qualifications among the studied sites.
 - The 1998 deadline established by the NWPA was approaching and Congress sought to streamline the program to meet the statutorily required schedule. Additionally, the Federal government had already expended \$5 billion studying multiple sites; focusing evaluations on a single, well-qualified site increased program efficiency.

¹¹ The language was included on the Omnibus Budget Reconciliation Act of 1987.

- Nevada opposes the legislation and formalizes opposition against the 1987 amendments.
- *1987-2002*: Extensive scientific characterization is conducted on the Yucca Mountain site, led by DOE National Laboratories. EPA updates regulatory requirements for Yucca Mountain to set potential release limits for up to one million years. DOE prepares underlying information for the draft Environmental Impact Statement (EIS) in August 1999, then the Final EIS released in February 2002.
- *2002*: Following a formal recommendation submitted by the Secretary of Energy, President Bush formally recommends the Yucca Mountain site to host a repository. Nevada Governor Guinn submits the State's disapproval to the Federal government. Congress subsequently followed the process established by section 115 of the NWPA to approve of the Yucca Mountain site.
 - The House of Representatives voted 306-117 to approve the Yucca Mountain site.
 - The Senate passed the resolution by voice vote.
- *2007*: DOE submits the "Nuclear Fuel Management and Disposal Act" to Congress to advance the Yucca Mountain Repository Program by providing for permanent land withdrawals and water rights; repealing the statutory limit of spent nuclear fuel; licensing process improvements; authorizing certain infrastructure activities; reforming the funding mechanisms; enhancing certain regulatory requirements; and clarifying transportation regulatory authority.
- *June 2008*: Following decades of work on the Yucca Mountain site, DOE submits the Yucca Mountain License Application (LA) to the NRC for review. The NRC formally accepts and docket the LA in September.
- *February 2010*: President Obama finds the Yucca Mountain project is "unworkable" and terminates the program. This includes the closure of the DOE Office of Civilian Radioactive Waste Management (OCRWM) program.
 - The NRC halts all work relating to the review of the Yucca Mountain LA.
 - President Obama creates a "Blue Ribbon Commission on America's Nuclear Future" to make recommendations on alternative policy for nuclear waste policy.
- *August 2013*: The D.C. Circuit Court of Appeals issues a rare writ of mandamus to the NRC directing work on the Yucca Mountain LA continue in the "*In re: Aiken County*" decision.¹²
 - The Court found the NRC violated the law governing the Yucca Mountain licensing process.
 - The NRC's Atomic Safety and Licensing Board (ASLB) also determines that DOE does not have the authority to withdraw the license and denies the motion to withdraw.

¹² [https://www.cadc.uscourts.gov/internet/opinions.nsf/BAE0CF34F762EBD985257BC6004DEB18/\\$file/11-1271-1451347.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/BAE0CF34F762EBD985257BC6004DEB18/$file/11-1271-1451347.pdf)

- *November 2013*: The D.C. Court of Appeals found that DOE could not continue to collect the nuclear waste fee in the absence of a credible¹³ cost estimate for nuclear waste disposal, following the shutdown of the Yucca Mountain program.
 - In response to the Court decision, DOE halted collection of the fee in May 2014.
- *March 2015*: President Obama reverses President Regan’s determination regarding disposal of defense HLW and that a separate repository for defense waste is required.
 - In January 2016, the Government Accountability Office found that “DOE’s cost-benefit analysis for this decision was unreliable and recommended DOE redo its analysis to comprehensively assess the costs and benefits of having two repositories.”¹⁴
- *October 2014- January 2015*: NRC issues the five volume scientific and technical analysis of DOE’s Yucca Mountain LA, known as the Safety Evaluation Report. This independent NRC evaluation determined that Yucca Mountain would remain safe for one million years, as required by Federal regulations.

¹³ The court stated, “[t]he Secretary determined the cost of the fund could be “somewhere between a \$2 trillion deficit and a \$4.9 trillion surplus. This range is so large as to be absolutely useless as an analytical technical to be employed to determine – as the Secretary is obligated to do – the adequacy of the annual fees... (This presentation reminds us of the lawyers song in the musical ‘Chicago,’ – ‘Give them the old razzle dazzle.’)”

¹⁴ <http://www.gao.gov/products/GAO-17-174>.