NUCLEAR WASTE LEGISLATION--ISSUES AND IMPACTS

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ABSTRACT

Since the early 1970's, Congress has attempted to enact legislation dealing with permanent disposal of high-level nuclear waste. As a result of a coalition of interest among the Congress, industry, environmental, and public interest groups, legislation was finally enacted and signed into law on January 7, 1983. This legislation provided for a process involved with siting, licensing, and construction of a repository. In addition, a number of significant issues were addressed by the legislation including interim storage of spent fuel, a study of monitored retrievable storage, among others, and of particular significance, a mechanism for funding the program.

For over twenty years the United States has had in place a program of research and development on nuclear wastes, leading to current plans by the Department of Energy for the construction of a repository for the disposal of high-level waste by about the end of this century. Nevertheless, the public is under the general impression that the nuclear waste problem has not been "solved." To many the word "solved" does not mean the availability of a program or a technology to handle the problem, but instead means the establishment of a firm national policy or commitment to get the job done. A public law recently passed by the Congress and signed by the President represents that commitment; and hence the passage of nuclear waste legislation is a matter of considerable significance.

Several broad objectives were established as a basis for the passage of nuclear waste legislation, and these topics were incorporated in one form or another in the several versions of the bills considered during 1982. These were: a) establishment of a firm schedule for site selection, construction, and operation of nuclear waste facilities; b) establishment of an effective method for State governments to participate in resolving site selection issues; c) establishment of a system of user fees to fund the construction and operation of nuclear waste facilities; d) provision for a user-financed temporary storage facility (away-from-reactor spent fuel storage facility) with a time limit on fuel storage; e) provision for consideration (study) of a Federally owned and operated monitored retrievable storage (MRS) facility for the interim period prior to operation of a permanent repository; and f) application of the bill only to civilian-generated wastes, with military nuclear wastes addressed separately.

Closely related to these broad concepts were several issues bearing importantly on the overall thrust of the legislation. These include: a) whether States should be given an absolute veto over the siting of nucler waste facilities within their boundaries; b) the most appropriate method for Congressional response to State objections to repository siting, with the main question being whether the burden of proof for justifying sites should be on the Executive Branch of Government, which selects the site, or on the States objecting to siting decisions; c) the extent to which public hearings, judicial reviews, safety and environmental reviews, and other public participation activities should be included in the bill; d) whether specific population criteria should be employed for repository siting selection, and whether specific sites should be ruled out by such criteria; e) the size and type of an away-from-reactor spent fuel storage facility; f) the inclusion of a test and evaluation facility, and whether it should be collocated at a repository site; g) the number of sites that should be identified for characterization, and the timing of this activity; h) whether a separate Office of Nuclear Waste Management should be established inside the Department of Energy reporting directly to the Secretary of Energy; and i) whether one or more sites presently under consideration should be "grandfathered" or partially exempted from some of the provisions of the bill.

Resolution of these issues rested as much on institutional and political decisions as it did upon technology. In fact, the whole subject of the need for nuclear waste legislation, its provisions, and all matters related thereto has been driven to a considerable extent by institutional considerations. The specific interests of members of Congress, in terms of either considering the needs of their constituencies or in advancing their own proposed solutions to specific problems concerning nuclear wastes, have played a major role in shaping this legislation.

As of January 7, 1983, with the enactment of PL 97-425, the Nuclear Waste Policy Act of 1982, these issues and more were finally, but in some cases not conclusively, addressed. This paper will address these issues, primarily in the repository area, and the impact of the law on the way the Department is preceding to implement the provisions of the Act.

In a general sense, the basic elements of the Act can be summarized as follows:

- The schedule and processes for siting, licensing, and construction of the first repository was established,
- A procedure was provided for regional siting of a second repository,
- Requirements for consultation and cooperation with States and Indian Tribes was mandated,

- A provision for States to disapprove a site and two Houses of Congress needed for override was enacted,
- Research and development for permanent disposal was focused mainly on a test and evaluation facility,
- Waste disposal and interim storage funds were established in the U.S. Treasury, financed by user fees, to pay for all costs of the program,
- A "last resort" storage program for Away-From-Reactor (AFR) storage of spent fuel and provisions for study of a monitored retrievable storage concept,
- An Office of Civilian Radioactive Waste Management within the Department was established and a study of alternate management of the program initiated,
- A study of military waste disposal in a commercial repository was mandated, and
- Authority for the Department to assume title and custody of low-level waste sites under certain specific conditions was mandated.

These elements of the Act can be grouped into four major areas (as shown in Fig. 1): permanent disposal of high-level nuclear waste; storage of nuclear waste; a waste disposal/interim storage fund; and policy and management. This paper will not attempt to cover all provisions of the Act; instead, it will center on the key provisions of the four major areas shown.

Permanent Disposal of High-Level Nuclear Waste

The events leading to the first repository are shown in Fig. 2. The arrows at the top of the bar show the Department's schedule and the arrows at the bottom the not later than (NLT) dates mandated by the Act. There are some major differences both at the start and the end of the mandated dates. In particular, it is important to note that detailed site characterization (first arrow) must begin about the time originally planned by the Department. Otherwise, it will not be possible to achieve the mandated dates, such as select repository site--there just will not be sufficient time to sink shafts and do underground testing.

Since the Department has the primary responsibility to implement the provisions of the Act, it should be no surprise that literally thousands of man-hours have been expended and continue to be expended to develop an understanding of the Act and to restructure our program to comply with its requirements. This effort has been greatly complicated by the interrelationship of various sections of the Act where one section may appear to modify the provisions of another, the nuances of the language, the special provisions and clauses; the numerous colloquies which provide the intent of members; and the omnipresence of the Congressional Committees and staff with jurisdiction. We believe that at this point we generally understand what needs to be done and are proceeding accordingly, as will be described. However, it would be misleading to suggest that all surprises are in the box. Not true; there will be years of court challenges and litigation before the provisions of the Act are finally sorted out.

In Fig. 2 the Department's date for start of site characterization of three sites was projected for late summer 1983. Based on our understanding of the Act, to reach this point we need to: 1) notify States with potentially acceptable sites (we have done this); 2) issue siting guidelines by July 7, 1983 (our proposed SG have been published in the FR); 3) consult with the Governors of affected States (in process); 4) hold public meetings to inform local residents of the proposed site nomination, receive their comments, and receive comments and recommendations on issues to address in an EA and SCP (planned for late March, early April); 5) prepare an EA for five sites and nominate five sites; 6) recommend three sites to the President for characterization; and finally, 7) receive Presidential approval of three sites for characterization. Receiving Presidential approval still does not result in the start of site characterization, i.e., shaft sinking. A number of additional steps are required including the development and issuance of Site Characterization Plans, Waste Package Plans, and a Repository Conceptual Design to the Nuclear Regulatory Commission (NRC) and States for review and comment. Additional public hearings and State consultations are also required before shaft sinking can begin.

In a similar manner, the Act requires that a number of steps be taken prior to selection of the first repository site. Figure 3 summarizes these steps. The most interesting provision to note is that the President makes the recommendation to Congress on the selection of the first repository site not the Secretary. But, as noted in figure 4, the affected State or Indian Tribe can submit a Notice of Disapproval and unless both Houses of Congress pass a resolution approving the site, the disapproval stands. In the event of disapproval and no action by Congress to reverse the State's position, the Department must designate a second site within one year. Like the first repository, the second repository must proceed through a similar set of steps for site selection in 1990. In regard to the Notice of Disapproval and the requirement that both Houses of Congress must vote to override, it is of interest to note that just prior to final enactment both the Senate and House bills contained a similar provision that would have required any State veto to be sustained by Congress in order to stand. Yet, in the final "hours" of the 97th Congress, the more restrictive passage was enacted.

Test and Evaluation Facility

An interesting section of the Act pertains to research and development on disposal of high-level nuclear waste; specifically, the Act provides for the design and construction of a Test and Evaluation Facility, or TEF. The TEF is defined in the Act as an "at-depth, prototypic, underground cavity with subsurface lateral excavations extending from a central shaft . . ." This definition and the specific provisions of the Act clearly establishes the intent of Congress to extend repository technology in a meaningful and supportive way to the design, licensing, construction, and operation of the first repository.

In some respects the TEF is subject to requirements by the Act which in many ways are as stringent as the requirements for siting a repository, particularly if the TEF is collocated at a repository site. For example, siting guidelines *must be established*, EA's issued, interactions with States and Indian Tribes undertaken and agreements reached, public hearings held, an EIS prepared for tests with radioactive materials, and others. Further, the Department is required to submit a report to Congress by next January on whether or not the TEF will be collocated with the first repository. If it is collocated, than construction of the TEF cannot start until the repository site is approved (approximately 8/87). This last requirement of the Act was established to

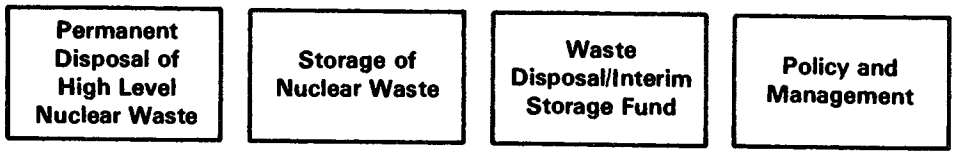
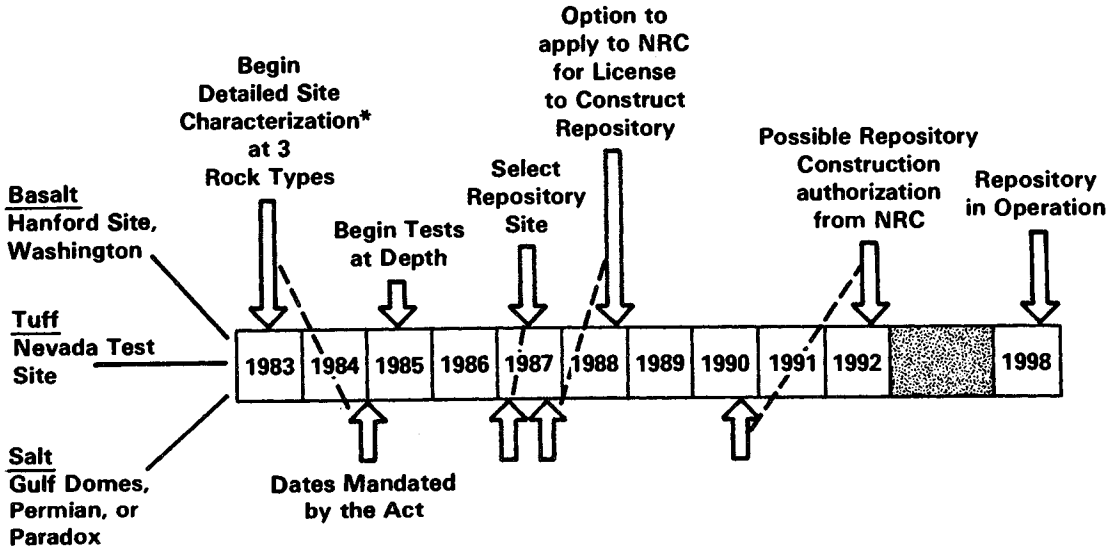


Fig. 1. Nuclear Waste Policy Act of 1982 (PL 97-425).



*Includes Exploratory Shaft.

Fig. 2. Planned Construction Schedule for First Repository.

- **Hold Public Hearings Near Each Site Under Consideration to Inform the Residents of this Consideration and Receive Their Comments**
- **Complete Site Characterization at not Less Than 3 Candidate Sites**
- **Make Preliminary Determination that 3 Sites are Suitable for Development of a Repository**
- **Notify Governor/Legislature of the Decision to Designate Site**
- **Prepare FEIS**
- **Prepare Repository Site Recommendation for Presidential Approval**
- **Submit Presidential Recommendation to Congress NLT March 31, 1987**

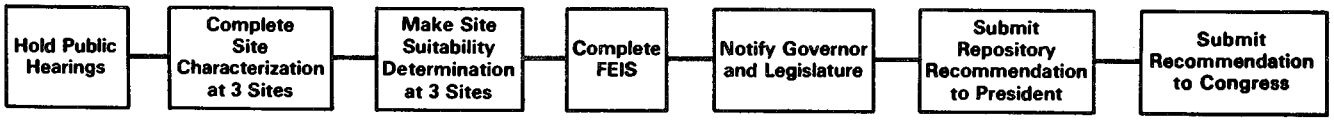


Fig. 3. Requirements Prior to Repository Site Approval.

ensure that the TEF did not become a defacto repository without complying with all the institutional safeguards clearly delineated in the legislation.

Waste Disposal Fund

A very important provision of the Act in regard to both storage and disposal is the establishment of a waste disposal fund. This fund, in my judgment, provides the necessary lubricant to keep the process moving. Some of the key provisions of the Act pertaining to the fund are:

- A mandatory 1 mill per kilowatt hour disposal fee, which may be revised annually is provided,
- Contracts with the utilities for disposal of their spent fuel must be signed and in place by June 30, 1983,
- Authority to borrow and invest funds, and
- A separate fund established for storage activities.

It is the Department's expectation that revenues should begin about September 1983,

Other Key Repository Provisions of the Act

Figure 5 lists an important requirement of the Act related to consultation and cooperation with the States on repository siting. The Act, as should be expected, is very sensitive to the needs and concerns of the States. I have already noted how the Act was changed at the eleventh hour to give the States a particularly strong role in the decision on the repository site. With the Consultation and Cooperation provision of the Act, there is a clear mandate that the States should actively be involved in the siting process--even to the extent of providing financial assistance to mitigate the impact to the States of the added financial burden of overviewing the siting activities of the Department. Further, the Act ensures the States that whatever appropriate information is needed to perform its review of the Department's program in the State will be promptly provided. All of the interactions between the State and the Department must be covered by binding agreements. Figure 6 lists various documents and plans that the Department is required to provide. The Project Decision Schedule is viewed by the Department as a particularly useful activity since it provides a mechanism for the Department to receive schedule commitments from other Federal agencies on activities they are mandated to perform in support of the Department's lead role in the Act. The legislation requires that if the other agencies do not perform in accordance with the decision schedule, they must explain the reasons to appropriate Congressional Committees. The Mission Plan is a straightforward directive to the Department to present its approach and the decision-making process it will use to implement the provisions of the Act. Of particular interest is the study of alternative management approaches which includes a study of the way the Department manages the requirements of the Act. Earlier, I showed you how the Act could be divided into four major areas. The Department, on an interim basis, is organized in the same manner. Within a year the Department is mandated to recommend whether the current structure, or a totally different structure, within the government or private, is preferred.

Legislatively Mandated Products

The final figure, Fig. 7, provides a listing of products the Department is required to produce in the next 24 months.

Summary

I believe on balance that this is a good piece of legislation. It provides: a framework to deal with both institutional and legal issues on siting a repository; a schedule to accomplish the task; a mechanism for the States to express their disapproval, if desired, and a procedure for Congress to override the disapproval, if so inclined; a funding mechanism for both permanent disposal and temporary storage; research and development, as appropriate, in the form of a TEF or alternate (to repositories) permanent disposal; even a safety valve for spent fuel storage. In short, the Act permits us to proceed to address and solve the complex problem of nuclear waste management.

- **Site Designation is Effective if a Notice of Disapproval by the State or Indian Tribe is not Submitted to Congress Within 60 Days of the President's Recommendation**

- **If a Notice of Disapproval is Submitted, the Site Designation Will be Disapproved 90 Days Following its Submittal Unless Both Houses Pass a Resolution Approving the Site**

- **If Disapproval is Effective, a Second Site Must be Designated within One Year**

Fig. 4. Review of Repository Site Selection Prior to Submission of Construction Authorization Request.

- **Obtaining Financial and Technical Assistance**
  - **During Site Characterization**
  - **Impact Mitigation**
  - **Fees in Lieu of Taxes**
- **Obtaining Information**
  - **Written Requests Must be Answered Within 30 Days, Otherwise State can Formally Object to the President Which if not Responded to Within 30 Days Results in Suspension of Activity**
- **Consultation and Cooperation**
  - **Binding Written Agreements Required Between DOE and State**

Fig. 5. Consultation and Cooperation on Repository Siting.

- **PROJECT DECISION SCHEDULE**
  - **PREPARED IN COOPERATION WITH ALL AFFECTED FEDERAL AGENCIES**
  - **PORTRAYS OPTIMUM WAY TO ATTAIN THE OPERATION OF THE REPOSITORY**
- **MISSION PLAN**
  - **DUE 17 MONTHS AFTER ENACTMENT**
  - **PROVIDES INFORMATIONAL BASIS SUFFICIENT TO PERMIT INFORMED DECISIONS**
- **STUDY OF ALTERNATIVE MANAGEMENT APPROACHES**
  - **DUE 1 YEAR AFTER ENACTMENT**
  - **SECRETARY TO CONSULT WITH OMB, NRC AND OTHER FEDERAL AGENCIES**
  - **INCLUDES ASSESSMENT OF FEASIBILITY OF ESTABLISHING A PRIVATE CORPORATION**

Fig. 6. Other Required Documents and Plans.

	Due Date	Planned Date(s)
• 5 Public Hearings Before EA's	*	1/83, 3/83, 4/83
• 5 EA's Nominating Sites	*	2/83, 5/83, 6/83
• 2 Sets of Siting Guidelines (Repository and T&E Facility)	180 D ADE	5/83
• 3 SCP's WPP, RCD to NRC, States and Public	*	11/82, 6/83, 10/83
• 3 Public Hearings on SCP	*	1/83, 9/83, 1/84
• 3 TEF EA's/Site Proposals to Congress (T&E Optional)	1 Year ADE	December 1983
• 1 Project Decision Schedule to Congress	1 Year ADE	December 1983
• 1 Mission Plan to Congress	17 Mo. ADE	May 1984
• 1 Report on Whether TEF is to be Located at a Repository Site to Congress	1 Year ADE	December 1983
• Semi-Annual Reports on Site Characterization	*	TBD
• Notification of States Having Potentially Acceptable Sites	90 Days ADE	January 1983
	Due Date	**Planned Date(s)**
• 1 Report Establishing Payment Procedures to Congress	180 Days ADE	June 1983
• Criteria on Terms and Conditions Under Which DOE will Provide Disposal	90 Days ADE	March 1983
• 1 MRS R&D Report to Congress	6 Months ADE	June 1983
• 1 MRS Proposal to Congress	June 1, 1985	TBD
• 1 Report on Alternative Management Approaches to Congress	1 Year ADE	Dec. 1983
• 1 Annual Report of Director of OCWM to Congress	*	Dec. 1983
• 1 Written Understanding on DOE/NRC T&E Cooperation to Congress	1 Year ADE	Dec. 1983
• 3-6 Written Binding C&C Agreements With States (3 for Repository and 3 for T&E)	6 Months After Site Approval Under Sect. 112	ASAP
• 1 Joint DOE/NRC Notice in FR on Non-Nuclear Weapons States Assistance	90 Days ADE	March 1983
• 1 Annual Review of Sufficiency of File	*	TBD
• Contracts with Waste Generators	June 30, 1983	June 1983

Fig. 7. Summary of Legislatively-Required Products From DOE in Next 24 Months.