
Radioactive Waste Management System



Project Decision Schedule

Revision 1

June 1991

U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Washington, DC 20585

MASTER

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

tp

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, make any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

Table of Contents

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 SCOPE	1
1.2 APPLICABILITY	2
1.3 NWPA AUTHORITIES RELATED TO THE PROJECT DECISION SCHEDULE	2
1.4 FEDERAL AGENCY REPORTING REQUIREMENTS	3
1.5 DEPARTMENT OF ENERGY REPORTING REQUIREMENTS	6
1.5.1 Departmental Reporting Required by Section 114(e)(2), NWPA	6
1.5.2 Departmental Reporting Requirements	6
2.0 DEVELOPMENT AND REVISION	7
3.0 FEDERAL AGENCY ACTIVITIES AND REQUIREMENTS	9
4.0 THE GEOLOGIC REPOSITORY	10
4.1 REPOSITORY PROJECT OVERVIEW	10
4.2 RECOMMENDATION OF SITES FOR CHARACTERIZATION	10
4.3 SITE CHARACTERIZATION	11
4.4 LICENSING REVIEW	15
4.5 CONSTRUCTION	16
5.0 MONITORED RETRIEVABLE STORAGE FACILITY	18

6.0 TRANSPORTATION SYSTEM	22
6.1 TRANSPORTATION SYSTEM OVERVIEW	22
6.2 PLANNED DEVELOPMENT OF THE TRANSPORTATION SYSTEM	23

APPENDIX A Activities Associated with the Siting, Construction, and Operation of the Radioactive Waste
 Management System (Agency-by-Agency Crosscut)

A.1 U.S. Department of Defense	A-1
A.2 U.S. Department of the Interior	A-2
A.3 U.S. Department of Transportation	A-5
A.4 Council on Environmental Quality	A-6
A.5 Environmental Protection Agency	A-7
A.6 Nuclear Regulatory Commission	A-8
A.7 U.S. Department of Justice	A-11

APPENDIX B Nuclear Waste Policy Act of 1982, Section 114(e)	B-1
---------------------------------------------------------------------	-----

APPENDIX C Nuclear Waste Policy Act of 1982, Section 120	C-1
------------------------------------------------------------------	-----

APPENDIX D Acronyms	D-1
-----------------------------	-----

APPENDIX E Comment Response Record (Disposition of Federal Agency Comments on August 1990 Draft PDS)	E-1
-----------------------------------------------------------------------------------------------------------------	-----

List of Figures

	<u>Page</u>
Figure 1 Office of Civilian Radioactive Waste Management Program Schedule	8
Figure 2 Geologic Repository Site Nomination and Characterization Phases	14
Figure 3 Geologic Repository Licensing Review and Construction Phases	17
Figure 4 Monitored Retrievable Storage Schedule	21
Figure 5 Transportation Schedule	24

List of Tables

	<u>Page</u>
Table I-A Future Milestones Associated with the Geologic Repository	25
Table I-B Completed Milestones Associated with the Geologic Repository	33
Table II-A Future Milestones Associated with the Monitored Retrievable Storage Facility	44
Table II-B Completed Milestones Associated with the Monitored Retrievable Storage Facility	45
Table III-A Future Milestones Associated with the Transportation System	46
Table III-B Completed Milestones Associated with the Transportation System	48

ABSTRACT

This is the first revision of the Project Decision Schedule (PDS) for the Civilian Radioactive Waste Management Program. The status date for milestones in the PDS is as of April 1991. This revision replaces the original PDS issued in March 1986.

The PDS, which is required by Section 114(e) of the Nuclear Waste Policy Act (NWPA) of 1982, as amended, is to portray the optimum way to attain the operation of the repository. The PDS includes a description of objectives and a sequence of deadlines for all Federal agencies that are required to take action in achieving this goal. The activity deadlines in this issue of the PDS are based on the Nuclear Waste Policy Amendments Act of 1987 and the Office of Civilian Radioactive Waste Management's Program Schedule Baseline.

The Program Schedule Baseline supports the Secretary of Energy's Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program, November 1989. That report, among other things, contains the results of a comprehensive review of the schedule for repository-related activities, including a realistic assessment of activity durations and past experience. This schedule shows a significant slip for the expected start of repository operations -- from the year 2003 to approximately 2010. To promote the Department of Energy's ability to achieve the new milestones and goals, the Secretary of Energy announced an action plan that centers on gaining access to the Yucca Mountain candidate site to continue the scientific investigations needed to evaluate the site's suitability for a repository and on establishing integrated Monitored Retrievable Storage with a target for spent fuel acceptance in 1998.

The NWPA requires that any Federal agency that determines that it cannot comply with a deadline in the PDS for attaining repository operations, or fails to so comply, shall submit a report to the Secretary of Energy and to the Congress to explain its failure or expected failure to meet each deadline. The Secretary, in turn, is required to submit to the Congress a response to the agency's report, including the reasons the Secretary could not amend the PDS to accommodate the Federal agency involved.

1.0 INTRODUCTION

1.1 SCOPE

Section 114(e) of the Nuclear Waste Policy Act (NWPA) of 1982 (Public Law 97-425)¹ requires that the Secretary of Energy (the Secretary) prepare, in cooperation with all affected Federal agencies, a Project Decision Schedule (PDS) that portrays the optimum way to attain the operation of the repository. This issue, Revision 1, replaces the original PDS issued in March 1986. It reflects the NWPA, as amended,² and the Office of Civilian Radioactive Waste Management (OCRWM) Program Schedule Baseline. The Program Schedule Baseline supports the Secretary of Energy's Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program, November 1989. The PDS contains the following:

- The schedule for attaining the operation of a geologic repository if the Yucca Mountain candidate site in Nevada is found to be suitable.
- An agency-by-agency identification of the key activities, deadlines, and planning objectives for Federal agency actions.
- A notification mechanism to alert the Secretary and the Congress to potential or actual delays in the Program that may be caused by the failure of an agency to meet a deadline established by the PDS. The formal Federal agency report on an actual or potential failure to meet a deadline is to contain the five elements noted in Section 1.4 of this document. The Secretary is then

¹ The full text of Section 114(e) is reproduced in Appendix B.

² 42 U.S.C 10101 et seq.

required to submit to the Congress, within 30 days of the receipt of such a report by the agency, a response that is to include the reasons why the PDS could not be amended.

- Provision for amending or revising the PDS either annually or as needed.

1.2 APPLICABILITY

The activities and deadlines specified in this issue of the PDS relate to candidate repository scientific investigation activities at Yucca Mountain, Nevada, with development of the site if it is found to be suitable. If at any time the site is found to be unsuitable, the Department of Energy (DOE) will terminate all scientific investigation activities and report to Congress no later than 6 months after such determination the Secretary's recommendation for further action.

Initial schedules for the Monitored Retrievable Storage (MRS) facility and the transportation system have been included in this PDS to provide an overview of those components of the waste management system.

1.3 NWPA AUTHORITIES RELATED TO THE PROJECT DECISION SCHEDULE

Section 120 of the NWPA provides for expedited consideration of ancillary requirements (e.g., the granting of rights-of-way, issuance of permits and leases) related to scientific investigation activities, repository construction, or repository operation as authorized by the NWPA. Section 120 requires any Federal agency having jurisdiction over the issuance of such authorizations, with the exception of the Nuclear Regulatory Commission (NRC), to give them priority consideration over other similar applications not related to the siting, construction, or operation of a repository.³

³ The full text of Section 120 is found in Appendix C.

1.4 FEDERAL AGENCY REPORTING REQUIREMENTS

Milestones for activities leading to the start of geologic repository operations at the Yucca Mountain, Nevada, candidate site by 2010 are delineated in this PDS. The Amendments Act also authorizes the siting, construction, and operation of one MRS facility subject to certain conditions, as detailed in Section 5.0. Therefore, this PDS also contains preliminary schedules leading to limited waste acceptance at an MRS facility and an operational transportation system supporting both the MRS and repository. The current schedule anticipates MRS facility operation beginning in 1998.

OCRWM has identified as "deadlines," and thus subject to the reporting requirements established by Section 114(e)(2) of the NWPA, only those milestones which are considered critical to repository operations and which are scheduled to occur within 3 fiscal years after the issuance of the PDS or any revision thereof. Critical Federal agency milestones are milestones that are on or have an immediate impact on the critical path to the start of repository operations at the Yucca Mountain candidate site. Milestones that are scheduled to be completed more than 3 fiscal years after the most recent issuance of the PDS are considered to be "planning objectives" rather than "deadlines" and are not subject to the Federal agency reporting requirements of Section 114(e)(2) of the NWPA. By making this distinction, OCRWM has attempted to limit the number of milestones that might require formal resolution through interagency coordination and the reporting to Congress on those milestones that are within the normal program and budget planning cycles of the affected Federal agencies.

The schedules for required Federal agency actions to support repository, MRS, and transportation activities are given in Tables I-A, II-A, and III-A, respectively. Federal agency milestones critical to repository operations and scheduled to be completed within 3 fiscal years of PDS issuance are marked

with a single asterisk. Federal agency milestones critical to repository operations but scheduled to be completed at some time beyond the 3 fiscal-year horizon, while not currently subject to the reporting requirements of Section 114(e)(2), are marked with a double asterisk. This denotes OCRWM's belief that these activities are critical and, when they do fall within the 3-year reporting horizon, DOE will notify the affected agencies if these activities are subject to the NWPA's reporting requirements.

OCRWM, in implementing the NWPA, needs the active participation and assistance of the other affected Federal agencies. As noted previously, any Federal agency that determines that it cannot comply with any deadline in the PDS for attaining repository operations, or fails to so comply, is required by the NWPA to submit a formal report to the Secretary and the Congress explaining the reason for such actual or potential failure. However, before such a report is submitted, the affected agency and OCRWM shall attempt to resolve the agency's potential inability to comply with a deadline contained in the PDS. Therefore, OCRWM will expect to receive notice as soon as the Federal agency has determined that it cannot comply, but no later than 90 days prior to the deadline, so that discussions leading to the resolution or mitigation of the effects of the failure to take the required action may be initiated in a timely fashion. Such discussions should generally lead to corrective actions that would obviate the need for the formal report required by Section 114(e)(2). A formal Federal agency report on an actual or potential failure to meet a deadline is to contain:

- An explanation of the failure or expected failure to meet the deadline;
- The reason(s) an agreement could not be reached with the Secretary of Energy regarding a modification to the PDS;
- The estimated time for completion of the action(s) required;

- The effect that this failure will have on the other deadlines and planning objectives in the PDS; and
- Any recommendations or changes in either operations, organization, or statutory authority that would mitigate the delay(s).

OCRWM also encourages affected Federal agencies to review the PDS frequently with specific attention to the near-term milestones associated with the planning objectives. Should this review indicate an emerging difficulty in complying with such a milestone, early notification may allow positive actions to be taken to mitigate the effect of such potential difficulty on the schedule of the Civilian Radioactive Waste Management Program.

The PDS, as discussed in Section 2, will be revised at appropriate times to reflect the current schedule for development of the waste management system and to identify the deadlines for a 3-year horizon that are subject to reporting.

1.5. DEPARTMENT OF ENERGY REPORTING REQUIREMENTS

1.5.1 Departmental Reporting Required by Section 114(e)(2), NWPA

The Secretary of Energy, after receiving a report from an affected Federal agency that has determined that it cannot comply, or has failed to comply, with a deadline for taking action as specified in the PDS, is required to file a response to that report with the Congress. Such response is to explain why the PDS could not be amended to accommodate the Federal agency involved.

1.5.2 Departmental Reporting Requirements

Although Section 114(e)(2) does not require that the DOE report to the Congress in the same manner as the affected agencies, the reporting responsibilities of DOE are specified elsewhere in the NWPA, and DOE will notify the Congress if legislated milestones will not be met.

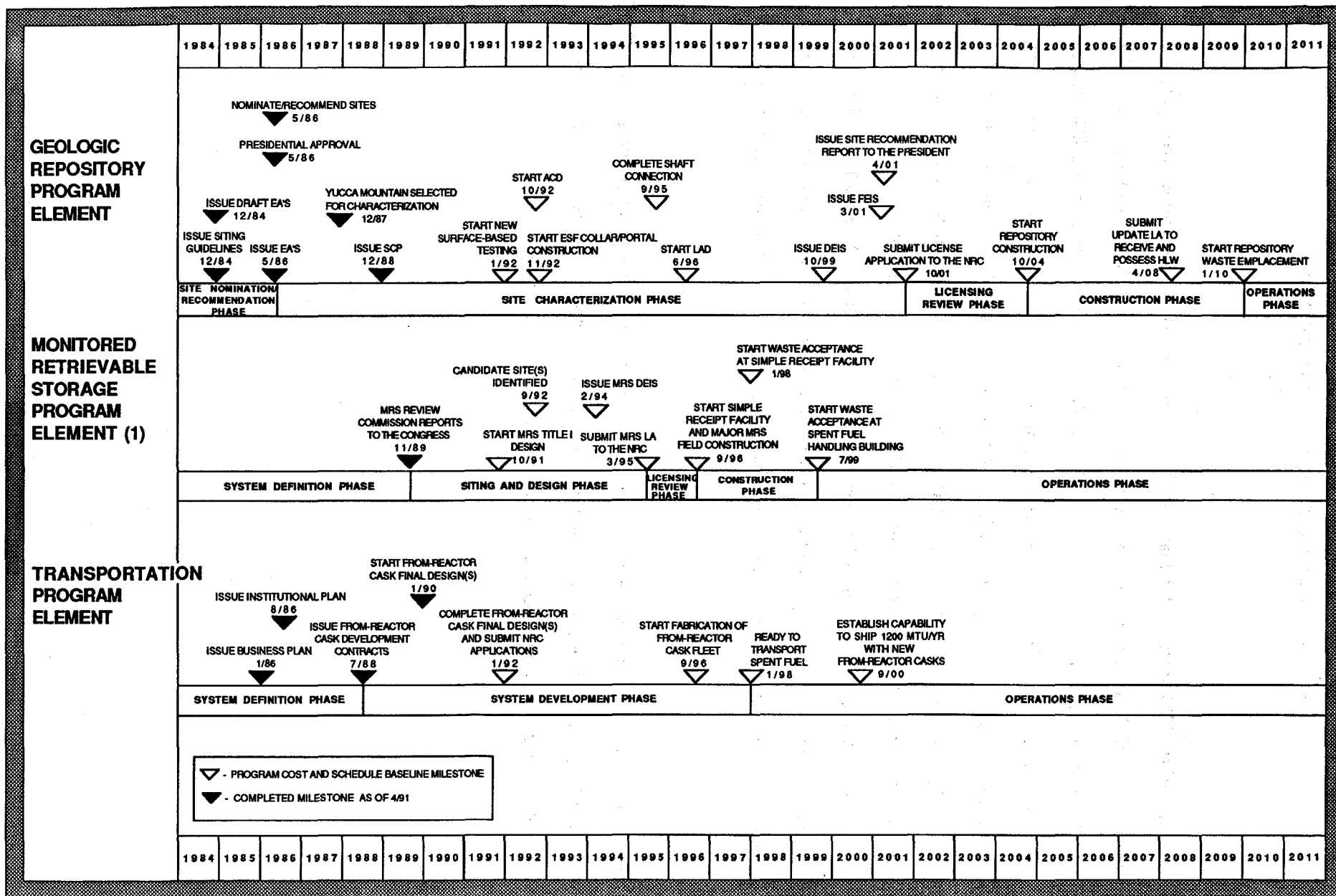
DOE is required to prepare and submit to the Congress a Mission Plan and an Annual Report on the activities and expenditures of OCRWM. OCRWM will, through revisions of the Mission Plan and the Annual Report, notify the Congress of any significant changes in the schedule that could adversely affect critical or legislated milestones and the reasons therefor. OCRWM will also provide all revisions of the PDS to the appropriate Congressional committees.

2.0 DEVELOPMENT AND REVISION

The Federal agency activity schedules and milestones in this issue of the PDS are based on the OCRWM Program Schedule Baseline developed from the current supporting logic networks used in maintaining that baseline. Figure 1 displays the current schedule baseline for development and operation of the waste management system. That schedule baseline is part of a document, the Program Cost and Schedule Baseline (PCSB), which contains all Program-level milestones that are subject to the OCRWM change control process. This same logic network will be used in assessing the impact of proposed changes on PCSB milestones. If significant changes to the schedule baseline are approved that affect PDS milestones for other Federal agencies, OCRWM will, after consultation with affected agencies, issue a revision or amendment to the PDS.

The activity schedules and milestones in the PDS will be maintained to reflect the currently approved Program Schedule Baseline. Revisions or amendments to the PDS will be issued when one of the following events occurs:

- There is a significant change in the scope or schedule of the waste management program.
- An affected Federal agency notifies OCRWM that it cannot comply with a deadline contained in the PDS. Should OCRWM and the affected Federal agency agree on a new milestone date, a letter amendment to the PDS will be issued to affected Federal agencies. Any letter amendment issued will be incorporated into the next revision of the PDS.
- External factors (enactment of Federal statutes, issuance of regulations, court decisions, etc.) arise that affect the waste management system schedule. Affected Federal agencies should be alert to each occurrence and bring the need for changes to the PDS and their possible effects to the attention of OCRWM.



(1) ASSUMES MRS SITED BY NEGOTIATION AND MODIFICATIONS TO AMENDMENTS ACT LINKAGES BETWEEN MRS AND REPOSITORY

4/31/91

FIGURE 1
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM SCHEDULE

3.0 FEDERAL AGENCY ACTIVITIES AND REQUIREMENTS

Section 4 of the PDS describes the major activities associated with the scientific investigation of the Yucca Mountain candidate repository site and those activities associated with development of the repository at Yucca Mountain, Nevada, if that site is found suitable. The monitored retrievable storage facility is addressed in Section 5 and the transportation system in Section 6. Included in these sections are tables which depict all major Program activities. Tables I-A, II-A, and III-A include those activities requiring action by affected Federal agencies and the associated milestone dates for their completion. Specifically, Tables I-A and I-B contain milestones associated with the development and operation of the repository. Tables II-A and II-B contain preliminary milestones associated with the MRS facility, and Tables III-A and III-B contain preliminary milestones associated with the transportation system. Tables I-B, II-B, and III-B are listings of completed milestones which have required action by the affected Federal agencies.

For ease of reference, Appendix A presents a crosscut by agency of the activities and milestones for which Federal agencies are responsible. As previously stated, only activities marked with a single asterisk are subject to the reporting requirements of Section 114(e)(2) of the NWPA.

4.0 THE GEOLOGIC REPOSITORY

4.1 REPOSITORY PROJECT OVERVIEW

The objective of the repository project is to conduct scientific investigations to characterize the candidate repository site at Yucca Mountain, Nevada, and, if the site is found suitable, obtain a license, develop, and begin to operate, as expeditiously as possible, a repository for the permanent disposal of spent nuclear fuel and high-level radioactive waste in a manner that protects the health and safety of the public and the quality of the environment.

4.2 RECOMMENDATION OF SITES FOR CHARACTERIZATION

Prior to the passage of the Nuclear Waste Policy Amendments Act in December 1987, which focused the Program on a single candidate repository site, three sites received Presidential approval for characterization. The completed milestones for the site recommendation phase are:

- December 1984: Issuance of the siting guidelines.
- December 1984: Issuance of draft Environmental Assessments (EA's).
- May 1986: Issuance of final EA's.
- May 1986: Nomination by the Secretary of Energy of five candidate sites, recommendation by the Secretary to the President, and Presidential approval of three candidate sites suitable for characterization.

4.3 SITE CHARACTERIZATION

OCRWM is currently in the site characterization phase of the repository project. The passage of the Amendments Act on December 22, 1987 designated the Yucca Mountain candidate site as the only site to be characterized. The first major milestone in this phase was issuance of the Consultation Draft Site Characterization Plan (CDSCP) for the Yucca Mountain, Nevada, candidate site in January 1988. This draft was provided to the NRC, the State of Nevada, and others for review and comment. The first major milestone requiring action by other Federal agencies was the issuance of the Site Characterization Plan (SCP) for Federal agency and public review in December 1988. During 1989, three public hearings were held at various locations in Nevada, and comments on the SCP were received from the State of Nevada, the NRC, and other Federal agencies. Following receipt of the necessary permits, OCRWM will begin surface-based testing at the Yucca Mountain candidate site. The near-term scientific investigations will focus on surface-based testing aimed specifically at evaluating whether the site has any features that would indicate that it is not suitable as a potential repository site. Construction of the Exploratory Studies Facility (ESF) is scheduled to begin in November 1992. It is during this phase that in situ testing activities will be conducted. Both surface-based testing and ESF in situ testing will serve the purpose of determining the suitability of Yucca Mountain as the first repository site. In addition, laboratory and field testing to evaluate the performance of materials planned for the waste package will be performed.

Information from surface-based and in situ testing will be used to prepare the draft Environmental Impact Statement (DEIS) and to continue development of the repository and waste package designs.

In accordance with applicable Council on Environmental Quality regulations (40 CFR Part 1501.6), OCRWM expects that it will request the Department of the Interior, the Department of Defense, the Department of Transportation, and the Environmental Protection Agency, to serve as cooperating agencies in the preparation of the DEIS because of their specific expertise in the area.

Upon the close of the public comment period for the DEIS, OCRWM will review and consider all comments received from Federal agencies, the State of Nevada, affected units of local government, other interested parties, and members of the public. The final Environmental Impact Statement (FEIS) will then be issued, along with a Site Recommendation Report (SRR). The SRR is a comprehensive statement of the basis of the Secretary's site recommendation to the President, as required by Section 114(a)(1) of the NWPA. No sooner than 30 days after the issuance of the FEIS, OCRWM will issue a Record of Decision (ROD), as required by 40 CFR Part 1505. Upon issuance of the ROD, the Secretary of Energy will recommend the candidate repository site to the President. If the President agrees, he will then recommend the candidate repository site to the Congress.

The NWPA, as amended, provides that the State of Nevada may submit to the Congress, within 60 days, a notice of disapproval of the site recommended by the President for repository development.⁴ If no notice of disapproval is filed, the site designation takes effect 60 days after the site is recommended by the President to the Congress. If a notice of disapproval is filed, the Congress has 90 days of continuous session to act on the notice. If the Congress overrides the notice of disapproval by a joint resolution, the site designation becomes effective. If Congress does not override, the disapproval stands, and OCRWM must report to Congress with a recommendation for other actions to be taken.

⁴ On November 1, 1989, the State Attorney General issued an opinion that the State of Nevada had disapproved the site within the meaning of Section 115 of the Nuclear Waste Policy Act. On January 5, 1990, the State of Nevada filed a petition seeking a declaration that actions of the Nevada State legislature constitute notice of disapproval under Section 116(b)(1) of the NWPA, and that Yucca Mountain is unsuitable for site characterization. On January 25, 1990, the United States Attorney General filed suit in the U.S. District Court for the District of Nevada for a declaration that the State of Nevada has not submitted a valid notice of disapproval under the NWPA, and an order that the State act upon the DOE's permit applications. On September 19, 1990, the U.S. Court of Appeals for the Ninth Circuit ruled that the State of Nevada's Notice of Disapproval is ineffective under the NWPA. On December 17, 1990, the attorney general for the State of Nevada filed a petition for a writ of certiorari with the U.S. Supreme Court. On March 4, 1991, the court announced that it had denied the State's request.

If at any time the site is found to be unsuitable, DOE will terminate all site investigation activities and report to Congress, not later than 6 months after such determination, the Secretary's recommendations for further action.

The program schedule is premised on the assumption that the Yucca Mountain candidate site will not be disqualified, that the site will be recommended to the Congress by the President, and that, if a notice of disapproval is filed by the State of Nevada, it will be overridden by Congress.

The major milestones for the site characterization phase are as follows:

- December 1987: Nuclear Waste Policy Amendments Act designates Yucca Mountain candidate site as the only site to be characterized.
- December 1988: Site Characterization Plan for Yucca Mountain, Nevada, is issued.
- 1989: Public hearings are held in Nevada and comments are received.
- 1989: Comments by NRC and other Federal agencies are received.
- December 1991: The necessary permits for surface-based testing are obtained.
- January 1992: New surface-based testing starts.
- November 1992: Exploratory Studies Facility (ESF) construction begins.
- October 1999: The DEIS is issued.
- March 2001: The FEIS is issued.
- April 2001: DOE issues the Site Recommendation Report to the President.
- May 2001: The President makes his recommendation to Congress.
- July 2001: Site designation becomes effective unless State submits notice of disapproval.

The schedule for the site nomination and site characterization phases is presented in Figure 2.

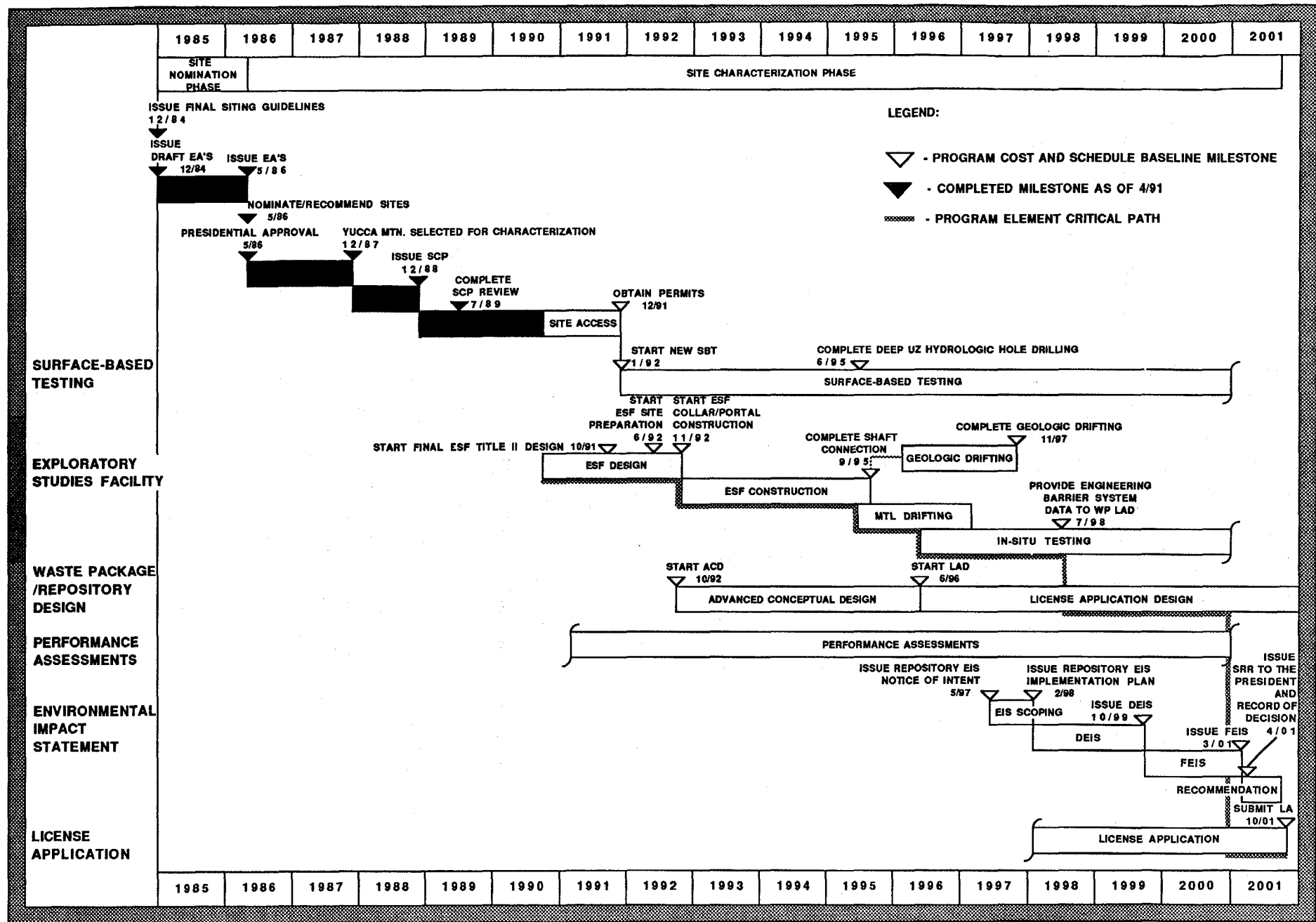


FIGURE 2
GEOLOGIC REPOSITORY SITE NOMINATION AND CHARACTERIZATION PHASES

4.4 LICENSING REVIEW

Assuming that the scientific investigation process shows the Yucca Mountain candidate site to be suitable, and after approval and designation of the site, OCRWM will submit to the NRC a license application (LA) for a repository. Section 114(d) of the NWPA allows the NRC a 3-year review period. It also authorizes the NRC to extend the review period by 1 year, if the Commission complies with the reporting requirements of the Project Decision Schedule and the request is made no later than 30 days before the 3-year deadline.

The major milestones for the licensing review phase are as follows:

- October 2001: DOE submits the LA.
- October 2004: If the license application is approved, NRC issues a construction authorization.

The program schedule assumes that the NRC will take 36 months to issue the construction authorization. The NRC, in April 1989, issued licensing procedures, including the Licensing Support System (LSS) for the geologic repository licensing process. The LSS is expected to provide early discovery of documents and thereby allow NRC to meet the statutorily mandated 3-year review period for DOE's license application. It should also be noted that the referenced NRC licensing proceedings are for a construction authorization, and that these proceedings end at the issuance of the construction authorization. Proceedings for issuance of a license to receive and possess waste will be started, if requested, after submittal of an updated license application.

4.5 CONSTRUCTION

Construction of the repository is scheduled to begin in October 2004, which will allow OCRWM to begin accepting spent fuel at the repository in the year 2010.

The major milestones for the construction phase are as follows:

- October 2004: Begin repository construction.
- April 2008: Submit updated license application to NRC to receive and possess radioactive waste.
- January 2010: NRC grants license to receive and possess waste.
- January 2010: Begin waste emplacement operations.

The schedule for the licensing review and construction phases is contained in Figure 3.

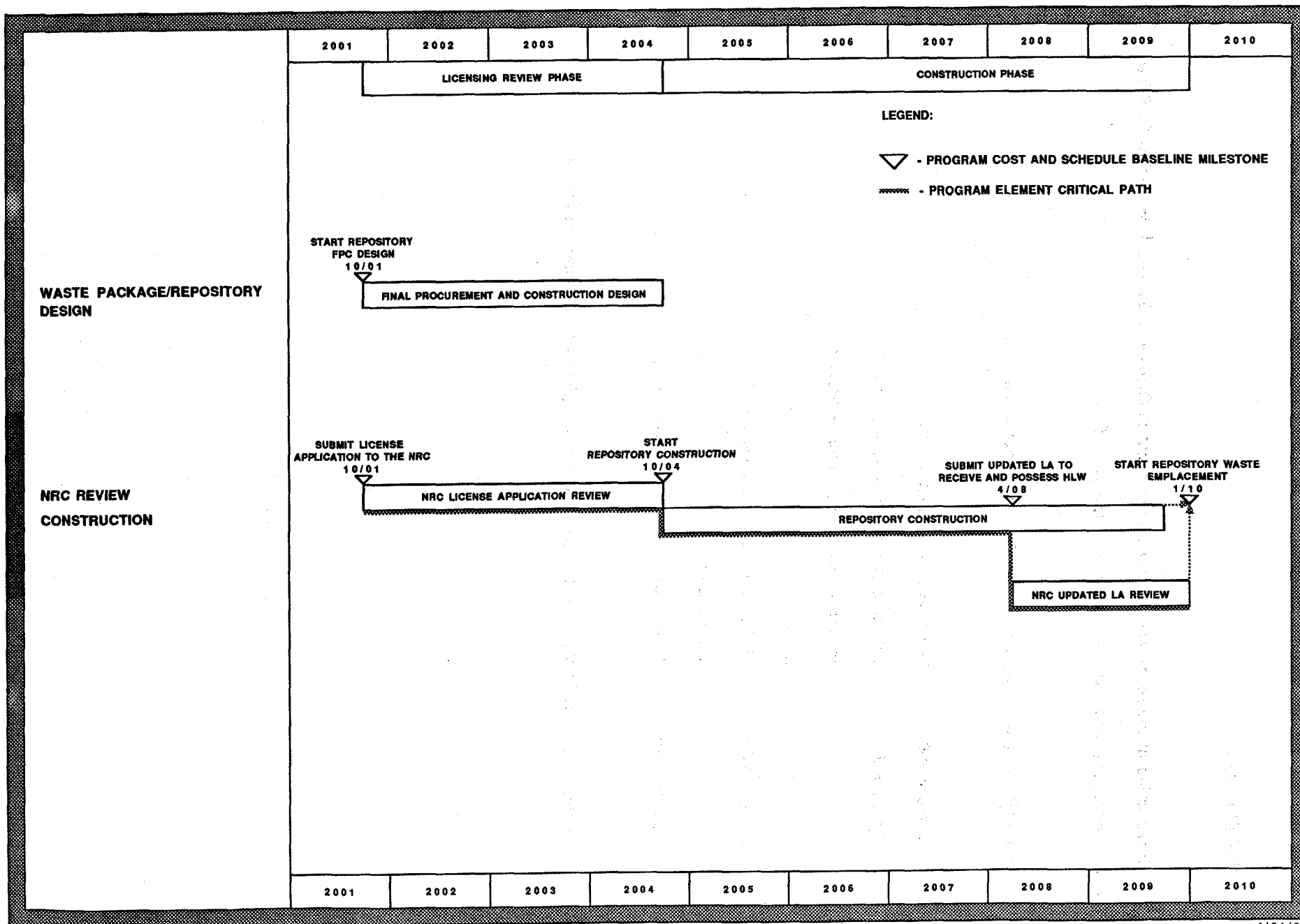


FIGURE 3
GEOLOGIC REPOSITORY LICENSING REVIEW AND CONSTRUCTION PHASES

5.0 MONITORED RETRIEVABLE STORAGE FACILITY

Section 142 (b) of the NWPA, as amended, authorizes the DOE to site, construct, and operate an MRS facility subject to certain conditions. According to the Amendments Act, at least 6 months before selecting the MRS site, based on the survey and evaluation siting process, the Secretary of Energy is to notify the Governor and the legislature of the affected State or the governing body of the affected Indian Tribe of the potential selection and the basis for the selection. The Secretary is also to hold at least one public hearing in the vicinity of the site. Moreover, the selection of the MRS site may not take place until the Secretary has recommended the repository site to the President for his approval. The selection of the MRS site is to be accompanied by an environmental assessment, and the Secretary is to notify the Congress and the appropriate State or Indian Tribe of the selection. As in the case of the repository site, the State or the affected Indian Tribe may submit a notice of disapproval that can be overridden only by a joint resolution of the Congress.

Once the selection of the site is effective, the Secretary may submit an application to the NRC for a license to construct and operate the MRS facility, accompanied by an environmental impact statement. The Amendments Act establishes other linkages between the MRS facility and the repository schedule. First, the construction of the MRS facility cannot begin until the NRC has issued a construction authorization for the repository. Second, if the construction authorization for the repository is revoked, or if construction of the repository ceases, then the construction of, or waste acceptance at, the MRS facility must also cease. The Amendments Act also specifies that no more than 10,000 metric tons of heavy metal (MTHM) can be stored at the MRS facility until the repository begins receiving waste; the quantity of waste present at the MRS site at any one time thereafter may not exceed 15,000 MTHM.

In addition to the survey and evaluation of sites, the Amendments Act established an alternative method for siting the MRS facility, i.e., a negotiated agreement with a State or an Indian Tribe that offers a technically qualified site on reasonable terms. There is no restriction as to when a site can be selected, and the nature and extent of any conditions on MRS operation may depend on the negotiated agreement. However, Congressional action is needed to approve a negotiated agreement.

Pursuant to Section 143 of the NWPAs, as amended, an independent MRS Review Commission, appointed by the Congress, was established and was to report to the Congress on the need for an MRS facility. The Amendments Act allowed the Secretary to survey and evaluate potentially suitable sites for an MRS after the MRS Review Commission submitted its report. The Commission's report was submitted on November 1, 1989. The DOE testified to the MRS Review Commission on May 25, 1989, that it supports the development of an MRS facility as an integral part of the waste management system because an integrated MRS facility is critical to achieving the goal of early acceptance of spent fuel and because it would allow the DOE better to meet other strategic objectives, such as timely disposal, schedule confidence, and system flexibility. Although the DOE considered a waste management system with an MRS facility subject to the current statutory linkages superior to a system without an MRS facility, the DOE stated that a revision of the linkages would allow the advantages of an MRS facility to be realized more fully.

Figure 4 presents the schedule for the MRS facility. Tables II-A and II-B depict the activities, scheduled milestone dates, and agencies responsible for actions associated with the development and operation of the MRS facility. The reference schedule for the MRS facility assumes that (1) a volunteer site will be obtained and (2) the statutory linkages specified in the NWPAs, as amended, between the MRS facility and the repository will be modified. Under these assumptions, it is estimated that waste acceptance at a simple receipt facility could begin, on a limited basis, as early as January 1998; a full-capability MRS facility (i.e., a facility that would store spent fuel as necessary and stage spent-fuel

shipments to the repository for final disposal), as recommended by DOE's May 1989 statement to the MRS Review Commission, would be available in the year 1999.

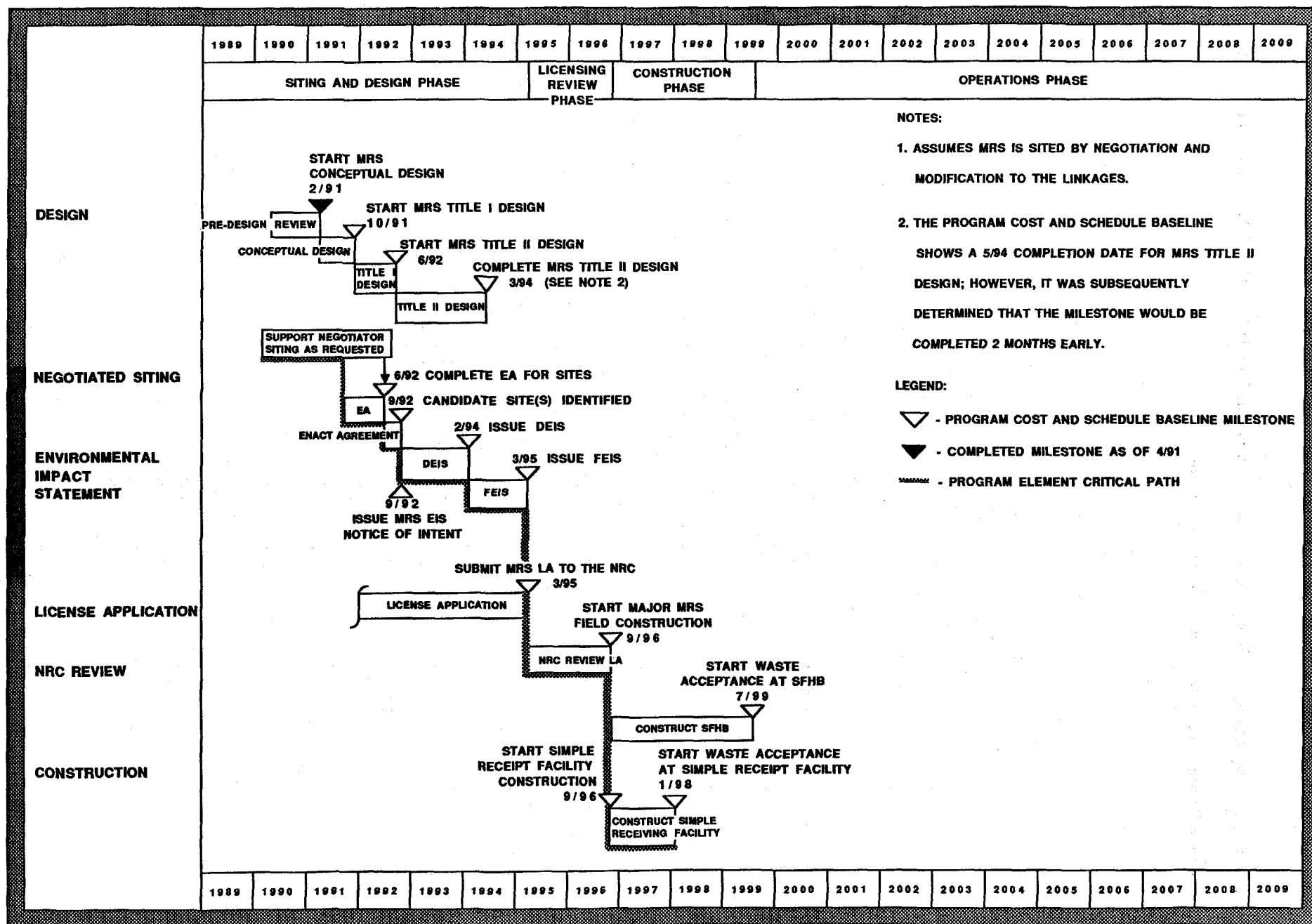


FIGURE 4
MONITORED RETRIEVABLE STORAGE SCHEDULE

6.0 TRANSPORTATION SYSTEM

6.1 TRANSPORTATION SYSTEM OVERVIEW

The DOE will take title to civilian spent nuclear fuel and high-level waste at reactor sites, or at other points of origin, and arrange for transportation to a repository or to related storage facilities. Although OCRWM has full responsibility for managing transportation activities, Section 137(a)(2) of the NWPA directs that the private sector be utilized to the fullest extent possible in all aspects of developing and operating the transportation system. Direct Federal services for waste transportation may be used only if the Secretary of Transportation, in consultation with the Secretary of Energy, determines that the private sector is unwilling or unable to provide the needed equipment or service at reasonable cost. In addition to the shipment of civilian spent nuclear fuel and high-level radioactive waste, OCRWM will be responsible for shipping high-level radioactive waste generated in national defense activities to a repository. These defense waste shipments will be made on a schedule to be integrated with shipment of civilian spent nuclear fuel or high-level radioactive waste.

All transportation-related activities (e.g., cask procurement and transportation operations) will be subject to rigorous supervision and will be required to comply with NRC and Department of Transportation (DOT) regulations. In addition, Section 180 of the NWPA, as amended, specifies that the casks used for transporting waste to a repository or an MRS facility are to be certified by the NRC, and that the DOE is to comply with NRC regulations regarding the advance notification of State and local governments before the transportation of waste through their jurisdictions. It also provides for technical assistance and funds to States for training public safety officials of appropriate units of local government and Indian Tribes for routine transportation and emergency response situations.

6.2 PLANNED DEVELOPMENT OF THE TRANSPORTATION SYSTEM

The transportation system will move waste from designated points of origin and storage locations to the MRS facility and the repository. Shipments of waste from reactors to the MRS facility or the repository are expected to be by rail and truck, whereas shipments from the MRS facility to the repository are expected to be by rail in dedicated trains carrying several transportation casks. However, no surface mode of transportation has been ruled out, and in the case of reactors located on waterways, it is possible that spent fuel may be shipped part of the way by barge and transferred to a rail car for the remainder of the trip to the MRS facility or the repository. Both defense and commercial high-level wastes are expected to be shipped predominantly by rail.

The designs of casks to be used in transportation will be developed by private industry, certified by the NRC, and the casks will be fabricated by private industry. The casks to be developed for shipments from reactors will differ from the casks currently used for spent fuel shipments in that they will have considerably greater capacities. For shipments from the MRS facility, the cask design will depend on the functions performed at the MRS facility.

The schedule for the development of the transportation system has been coordinated with that of the waste management system as a whole and therefore is to be ready to support MRS and repository operations. Currently, the development of the transportation system has a basic goal of establishing a limited capability to transport spent fuel by 1998.

Figure 5 presents the schedule for the transportation system. Tables III-A and III-B depict the activities, scheduled milestone dates, and agencies responsible for actions associated with the development and operation of the transportation system.

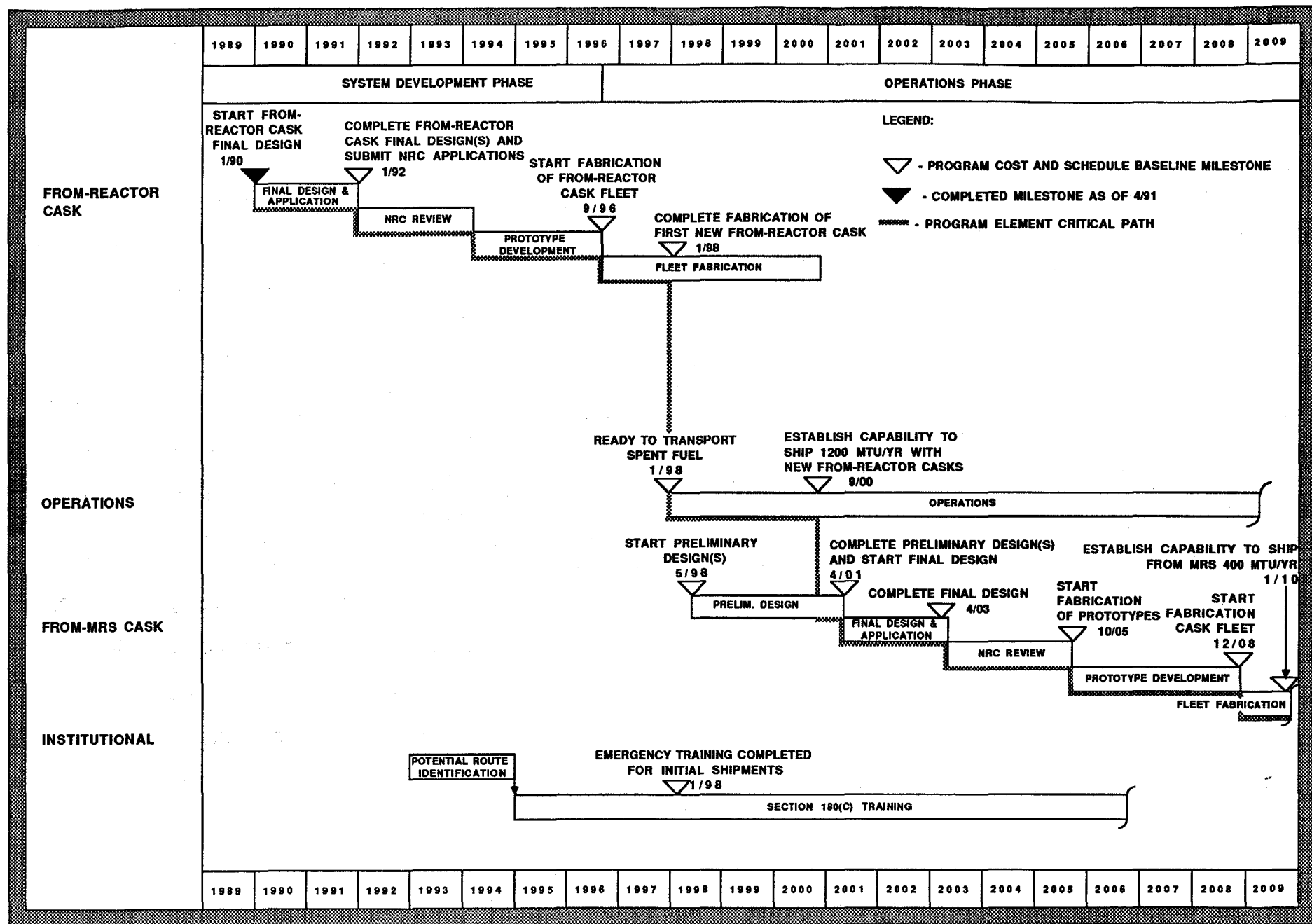


FIGURE 5
TRANSPORTATION SCHEDULE

TABLE I-A

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(1) <u>Format and Content Guide for License Application</u>		
(1a) Issue Final Format and Content Guide	9/94	NRC
(2) <u>Land Acquisition Procedures for Candidate Repository Site</u>		
(Temporary Withdrawal)		
(2a) Begin Preparing Application and Supporting Documentation for Secretarial Review of Request to Extend Temporary Withdrawal for Additional 12-Year Period	01/00	DOE, DOI(BLM)
(2b) Submit Application and Supporting Documentation	1/01	DOE
** (2c) Temporary Withdrawal Extended by Secretary of Interior	1/03	DOI(BLM)
(Permanent Legislative Withdrawal)		
** (2d) Prepare Proposal for Congressional Action on Permanent Legislative Withdrawal	4/08	DOE, DOI(BLM)
(2e) Congress enacts Permanent Legislative Withdrawal	1/10	Congress
(3) <u>NRC Rulemakings</u>		
(3a) Conform 10 CFR 60 to EPA High-Level Waste Standard	TBD	NRC

** Milestone proposed for Section 114(e) reporting requirements.

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(4) <u>Semiannual Site Characterization Progress Report</u>		
<p>"During the conduct of site characterization activities at the Yucca Mountain site, the Secretary shall report not less than once every 6 months to the Commission and to the Governor and legislature of the State of Nevada on the nature and extent of such activities and the information developed from such activities." Section 113(b)(3) of the NWPAs as amended.</p>		
(4a) Issue Semiannual Progress Reports	1990-2001	DOE
(5) <u>Site Recommendation Public Hearing</u>		
<p>"The Secretary shall hold public hearings in the vicinity of the Yucca Mountain site for the purposes of informing the residents of the area of such consideration and receiving their comments regarding the possible recommendation of such site." Section 114(a) of the NWPAs, as amended.</p>		
(5a) DOE hold Public Hearings on Site Recommendation	11/99	DOE

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(6) <u>Environmental Impact Statement</u>		
<p>"Any recommendation made by the Secretary under this section shall be considered a major Federal action significantly affecting the quality of the human environment for purposes of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.). A final environmental impact statement prepared by the Secretary under such Act shall accompany any recommendations to the President to approve a site for a repository." Section 114(1)(f) of the NWPA.</p>		
(6a) Pursuant to Section 1501.6 of the Council on Environmental Quality National Environmental Policy Act regulations, 40 CFR Parts 1500-1508, DOE as the lead agency will request certain other affected Federal agencies to serve as cooperating agencies.	TBD	(Under Review)
(6b) Issue Repository Environmental Impact Statement (EIS) Notice of Intent	5/97	DOE
(6c) Issue Draft EIS for Review	10/99	DOE
** (6d) Review and Comment on DOE Repository Draft EIS	10/99-2/00	DOD(AF), DOI(BLM) (USGS), DOT, CEQ EPA, NRC
(6e) Issue FEIS, Considering Above Comments	3/01	DOE

** Milestone proposed for Section 114(e) reporting requirements.

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(7) <u>NRC Preliminary Sufficiency Comments</u>		
"Preliminary comments of the Commission concerning the extent to which the at-depth site characterization analysis and the waste form proposal for such site seem to be sufficient for inclusion in any application to be submitted by the Secretary for licensing of such site as a repository." Section 114(a)(1)(E) of the NWPA.		
** (7a) NRC Issues Comments on Sufficiency of Site Characterization Analysis and Waste Form Proposal	1/01	NRC
(8) <u>Site Recommendation Report</u>		
". . .the Secretary shall notify the Governor and legislature of the State of Nevada or the governing body of the affected Indian tribe, as the case may be, of such decision. . .Together with any recommendation of a site under this paragraph, the Secretary shall make available to the public, and submit to the President, a comprehensive statement of the basis of such recommendation." Section 114(a)(1) of the NWPA, as amended.		
(8a) Notify Affected States and/or Indian Tribes of Proposed Site Selection	10/99	DOE
(8b) Notify Affected States and/or Indian Tribes of Site Selection	3/01	DOE
(8c) Issue Site Recommendation Report to President	4/01	DOE

** Milestone proposed for Section 114(e) reporting requirements.

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(9) <u>Record of Decision (40 CFR Part 1505)</u>		
(9a) Issue Record of Decision	4/01	DOE
(10) <u>Site Recommendation</u>		
"If, after recommendation by the Secretary, the President considers the Yucca Mountain site qualified for application for a construction authorization for a repository, the President shall submit a recommendation of such site to Congress." Section 114 (a)(2)(A) of the NWPA, as amended.		
(10a) President Recommends Site to Congress	5/01	President
(11) <u>License Application</u>		
"If the President recommends to the Congress the Yucca Mountain site under subsection (a) and the site designation is permitted to take effect under section 115, the Secretary shall submit to the Commission an application for a construction authorization for a repository at such site not later than 90 days after the date on which the recommendation of the site designation is effective . . ." Section 114(b) of the NWPA, as amended.		
(11a) Submit LA to the NRC	10/01	DOE
** (11b) NRC Review of LA	10/01-10/04	NRC
** (11c) NRC Completes Acceptance Review of License Application for Docketing	12/01	NRC
** (11d) NRC Issues Construction Authorization	10/04	NRC

** Milestone proposed for Section 114(e) reporting requirements.

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(12) <u>NRC Status Report</u>		
<p>"Not later than 1 year after the date on which an application for a construction authorization is submitted under subsection (b), and annually thereafter until the date on which such authorization is granted, the Commission shall submit a report to the Congress describing the proceedings undertaken through the date of such report with regard to such application. . ." Section 114(c) of the NWPA.</p>		
(12a) NRC's Status Report on LA Review to Congress	10/02, 10/03	NRC
(13) <u>Adoption of FEIS</u>		
<p>"Any environmental impact statement prepared in connection with a repository proposed to be constructed by the Secretary under this subtitle shall, to the extent practicable, be adopted by the Commission in connection with the issuance by the Commission of a construction authorization and license for such repository." Section 114(f) of the NWPA.</p>		
** (13a) NRC Adoption of DOE FEIS, to Extent Practicable	10/04	NRC
(14) <u>Update License Application in Accordance with 10 CFR Part 60.24</u>		
(14a) Submit Updated LA to Receive and Possess HLW	4/08	DOE
** (14b) NRC Review of Updated LA	4/08-1/10	NRC
** (14c) Issue License to Receive and Possess High-Level-Waste	1/10	NRC

** Milestone proposed for Section 114(e) reporting requirements.

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(15) <u>Review Panel</u>		
"The Review Panel required to be established by section 171(b)(1) of this Act shall consist of a Chairman selected by the Secretary in consultation with the Governor of the State or governing body of the Indian tribe, as appropriate, that is party to such agreement and 6 other members." Section 172(a) of the NWPA, as amended.		
(15a) "A Review Panel be established in accordance with section 172." Section 171(b)(1) of the NWPA, as amended.	Following entry into a benefits agreement	DOE
(16) <u>Written Agreement</u>		
"Not later than 60 days after (1) the approval of a site for site characterization for such a repository under Section 112(c), or (2) the written request of the State or Indian tribe in any affected State notified under Section 116(a) to the Secretary, whichever first occurs, the Secretary shall seek to enter into a binding written agreement, and shall begin negotiations, with such State and, where appropriate, to enter into a separate binding agreement with the governing body of any affected Indian tribe, setting forth (but not limited to) the procedures under which the requirements of subsections (a) and (b), and the provisions of such written agreement, shall be carried out. . . Each such written agreement shall, to the maximum extent feasible, be completed not later than six months after such notification. If such written agreement is not completed within 30 days on the status of negotiations to develop such agreement . . ."		
Section 117(c) of the NWPA.		
(16a) DOE Negotiate Written Agreements with States and/or Affected Indian Tribes.	Ongoing	DOE
(16b) If No Agreement is Reached, DOE Submit Written Explanation to Congress.	7 Months After Request	DOE

TABLE I-A (continued)

Future Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Completed Milestones See Table I-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(17) <u>Notification of Site Termination</u>		
"If the Secretary at any time determines the Yucca Mountain site to be unsuitable for development as a repository, the Secretary shall --. . . report to Congress not later than 6 months after such determination . . ." Section 113(c)(3) of the NWPA, as amended.		
(17a) Report to Congress if Yucca Mountain Site is Determined to be Unsuitable.	No later than 6 months after determination of site unsuitability	DOE
(18) <u>Site Access</u>		
(18a) Conduct Legal Action Against Nevada to Obtain Permits	1/90-12/91	DOJ
(19) <u>Environmental Protection Agency Standards</u>		
"Not later than 1 year after the date of the enactment of this Act, the Administrator, pursuant to authority under other provisions of law, shall, by rule, promulgate generally applicable standards for protection of the general environment from offsite releases from radioactive material in repositories." Section 121(a) of the NWPA.		
* (19a) Issue Revised 40 CFR Part 191	Proposed 6/92	EPA

* Milestone subject to Section 114(e) reporting requirements.

TABLE I-B

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(1) <u>State Notification</u>		
"The Secretary shall identify the States with one or more potentially acceptable sites for a repository within 90 days after the date of enactment of this Act." Section 116(a) of the NWPA.		
(1a) State Notification of Potentially Acceptable Sites by DOE.	2/2/83	DOE
(2) <u>Memorandum of Understanding (MOU) with NRC</u>		
(2a) Develop MOU Between NRC and DOE Concerning Interaction During the Site Characterization Phase of Repository Development.	6/27/83	DOE, NRC
(2b) Develop MOU Between NRC and DOE to Establish the Terms Under Which NRC will be Reimbursed for Pre-Application Activities Related to Disposal of HLW at a Geologic Repository.	8/88	DOE, NRC
(3) <u>MOU with DOI</u>		
(3a) Develop MOU Between DOI and DOE Concerning Interaction During the Site Characterization Phase of Repository Development.	6/83	DOE, DOI(BLM)
(4) <u>MOU with DOI</u>		
(4a) Develop MOU Between DOI and DOE Concerning USGS Reviewing Site Characterization Plans for the First Repository.	3/29/84	DOE, DOI(USGS)

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(5) <u>MOU with DOI</u>		
(5a) Develop MOU Between DOI and DOE Concerning National Park Service Role for Consultation and Review of OCRWM Documents.	5/1/84	DOE, DOI(NPS)
(6) <u>Interagency Agreement with DOI</u>		
(6a) Sign Interagency Agreement Between DOI and DOE Concerning National Park Service Role for Reviewing EA's.	9/14/84	DOE, DOI(NPS)
(7) <u>Siting Guidelines</u>		
<p>"Not later than 180 days after the date of the enactment of this Act, the Secretary, following consultation with the Council on Environmental Quality, the Administrator of the Environmental Protection Agency, the Director of the Geological Survey, and interested Governors, and the concurrence of the Commission, shall issue general guidelines for the recommendation of sites for repositories." Section 112(a) of the NWPA.</p>		
(7a) Complete Consultation on Siting Guidelines/Issue Draft to NRC for Concurrence	11/22/83	CEQ, EPA, DOI, (USGS), DOE
(7b) Concurrence From NRC on Siting Guidelines	6/22/84	NRC
(7c) Issue Siting Guidelines	12/6/84	DOE

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(8) <u>Pre-nomination Notification (1st Repository)</u>		
<p>"Before nominating a site, the Secretary shall notify the Governor and legislature of the State in which such site is located, or the governing body of the affected Indian tribe where such site is located, as the case may be, of such nomination and the basis for such nomination." Section 112(b)(1)(G) of the NWPA, as amended.</p> <p>"Before nominating any site, the Secretary shall hold public hearings in the vicinity of such site to inform the residents of the area in which such site is located of the proposed nomination of such site and to receive their comments. At such hearings, the Secretary shall also solicit and receive any recommendations of such residents with respect to issues that should be addressed in the environmental assessment described in paragraph (1) and the site characterization plan described in Section 113(b)(1)." Section 112(b)(2) of the NWPA.</p>		
(8a) Notify States and Affected Indian Tribes of Pre-Nomination	12/19/84	DOE
(8b) Participate in Public Hearings	3/83-5/83	DOE
(9) <u>Environmental Assessments</u>		
<p>"Following the issuance of guidelines and consultation with the Governors of the affected States, the Secretary shall nominate at least five sites that he determines suitable for site characterization for selection of the first repository site." Section 112 (b)(1)(D) of the NWPA as amended.</p> <p>"Each nomination shall be accompanied by an environmental assessment." Section 112(b)(1)(A) of the NWPA.</p>		
(9a) DOE Issue Draft EAs for Review	12/20/84	DOE

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(9b) Review and Comment on Draft EAs	12/20/84-3/20/85	DOE, DOD (AF)(COE), DOI, DOT, EPA, NRC
(9c) Issue Final EAs	5/28/86	DOE
(10) <u>NRC Requirements for SCP</u>		
"A general plan for site characterization activities to be conducted at such candidate site, which plan shall include-- . . . any other information required by the Commission." Section 113(b)(1)(A) of the NWPA.		
(10a) Issue Rev. 1 to Regulatory Guide 4.17	3/87	NRC
(10b) Issue Annotated Outlines for SCP	4/87	DOE
(11) <u>Environmental Protection Agency Standards</u>		
"Not later than 1 year after the date of the enactment of this Act, the Administrator, pursuant to authority under other provisions of law, shall, by rule, promulgate generally applicable standards for protection of the general environment from offsite releases from radioactive material in repositories." Section 121(a) of the NWPA.		
(11a) EPA Develop Standards	8/15/85 ⁵	EPA

⁵ A Court of Appeals decision in 1987 has required the EPA to reconsider its postclosure standard.

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>		<u>Completion Date</u>	<u>Agency</u>
(12) <u>NRC Develop Requirements and Criteria</u>			
<p>"Not later than January 1, 1984, the Commission, pursuant to authority under other provisions of law, shall, by rule, promulgate technical requirements and criteria that it will apply, under the Atomic Energy Act of 1954 (42 U.S.C 2011, <u>et seq.</u>) and the Energy Reorganization Act of 1974 (42 U.S.C 5081, <u>et seq.</u>)."</p> <p>Section 121 (a)(1) of the NWPA.</p>			
(12a) Issue 10 CFR 60 Final Rule.		6/21/83	NRC
(13) <u>NRC Rulemaking</u>			
(13a) NEPA/Review Procedures for Geologic Repositories for HLW (10 CFR 2, 51, 60)	Proposed	5/5/88	NRC
	Final	7/3/89	
(13b) Site Characterization and State/Tribal Participation Licensing Procedure (10 CFR 60)	Proposed	1/17/83	NRC
	Final	7/30/86	
(13c) Unsaturated Zone Technical Criteria (10 CFR 60)	Proposed	2/16/84	NRC
	Final	7/22/85	
(13d) EPA Standard/Technical Criteria (10 CFR 60)	Proposed	6/19/86	NRC

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>		<u>Completion Date</u>	<u>Agency</u>
(13e) Licensing Support System.	Final	4/89	NRC
(13f) NEPA/EIS Review Procedures for Geologic Repositories for HLW.	Final	7/89	NRC
(13g) Amendments to 10 CFR Part 61 Requiring the Disposal of GTCC Low-Level Radioactive Waste (LLW) in a Geologic Repository unless NRC Approves other Disposal.	Final	8/89	NRC
(13h) Revise Rules of Practice for the Licensing Procedure on the Disposal of HLW at a Geologic Repository.	Proposed	9/89	NRC
(13i) Review of the Commission's Findings Under the 1984 Waste Confidence Decision.	Proposed Final	9/89 9/90	NRC
(14) <u>Nominate and Recommend Sites for Characterization</u>			
"The Secretary is to nominate five sites for site characterization for the first repository." Section 112 (b)(1)(a) of the NWPA.			
"Subsequent to such nominations, the Secretary shall recommend to the President three of the nominated sites . . ." Section 112 (b)(1)(B) of the NWPA.			
(14a) Secretary Nominate at Least Five (5) Sites for Characterization		5/28/86	DOE
(14b) Secretary Recommend Three (3) Sites for Characterization		5/28/86	DOE

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(15) <u>Preliminary Determination</u>		
"...the Secretary shall consider as alternate sites for the first repository to be developed under this subtitle three candidate sites with respect to which (1) site characterization has been completed under section 113; and (2) the Secretary has made a preliminary determination, that such sites are suitable for development as repositories . . ." Section 114(f) of the NWPA.	5/28/86	DOE
(16) <u>Presidential Review of Recommendation</u>		
"The President shall review each candidate site recommendation made by the Secretary under subsection (b). Not later than 60 days after the submission by the Secretary of a recommendation of a candidate site, the President, in his discretion, may either approve or disapprove such candidate site . . ." Section 112(c)(1) of the NWPA.		
(16a) Transmit Decision on Approval or Disapproval of Site Recommendation to the DOE and the Affected States and/or Indian Tribes.	5/28/86	President
(17) <u>Socioeconomic Report</u>		
"Within one year of the date of the enactment of the Nuclear Waste Policy Amendments Act of 1987, the Secretary shall report to Congress on the potential impacts of locating a repository at the Yucca Mountain site including the recommendations of the Secretary for mitigation of such impacts and a statement of which impacts should be dealt with by the Federal Government, which should be dealt with by the State with State resources, including the benefits payments under section 171, and which should be a joint Federal-State responsibility. The report under this subsection shall include the analysis of the Secretary of the authorities available to mitigate these impacts and the appropriate sources of funds for such mitigation." Section 175(a) of the NWPA, as amended.		
(17a) Issue Section 175(a) Report	12/88	DOE

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
<u>(18) Site Characterization Plan</u>		
Before proceeding to sink shafts at any candidate site, the Secretary shall submit to the NRC and the affected States or Indian tribes, for review and comment, a general plan for site characterization activities, a waste form or packaging description and a conceptual repository design. Section 113(b)(1) of the NWPA.		
(18a) Issue SCP for Review and Comments	12/88	DOE
(18b) Review and Comment on SCP	6/89	DOD(AF), DOI(BLM) (USGS), DOT, EPA, NRC
<u>(19) Quality Assurance Program</u>		
(19a) Develop and Implement Site-Specific Quality Assurance Program (Issued NNWSI Project Q.A. Plan - 88-9)	5/19/88	DOE
(19b) Review and Comment	7/88	NRC
(19c) Issue Revised QA Requirements Document/QA Program Description to the NRC	4/90	DOE
(19d) Issue Safety Evaluation Report for the QA Requirements/QA Program Description	12/90	NRC
(19e) Accept OCRWM QA Program ⁶	1/91	NRC

⁶ This milestone signifies that the NRC has determined that the OCRWM QA Program is procedurally adequate and in selected areas acceptable to begin site characterization. This milestone does not signify that NRC has lifted its site characterization analysis objection.

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(20) <u>Land Acquisition Procedures for Candidate Repository Site</u>		
(20a) Bureau of Land Management (BLM) Right-of-Way Granted for 13 Years	1/88	DOI(BLM)
(20b) Received Air Force (AF) Concurrence for Right-Of-Way on AF Lands	2/3/88	DOD(AF), DOI(BLM)
(20c) Modified Concurrence Under Review by AF	4/88	DOD(AF)
(20d) DOI (BLM) Right-Of-Way Granted for AF Lands	5/86	DOD(AF), DOI(BLM), DOJ
(20e) Begin Pre-Application Consultation for Administrative Land Withdrawal	7/88	DOE, DOI, (BLM)
(20f) Apply for Administrative Withdrawal of Public Land	12/88	DOE
(20g) Begin Preparation of Case File Reports Including Environmental Documentation	1/89	DOE
(20h) Publish Notice in <u>Federal Register</u> for Withdrawal Application, and Invitation to Comment	1/89	DOE
(20i) BLM Issue ROW for AF Lands or Modify Existing BLM-ROW	4/89	DOI(BLM)
(20j) Public Meetings	12/89	DOE, DOI, (BLM)
(20k) Submit Case File Reports	1/90	DOE
(20l) Issue Public Land Order	9/90	DOI

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(21) <u>Site Characterization</u>		
"The Secretary shall carry out, in accordance with the provisions of this section, appropriate site characterization activities . . ." Section 113(a) of the NWPA.		
(21a) DOE Begins Site Characterization Activities	5/86	DOE
(22) <u>Site Characterization Analysis</u>		
(22a) NRC Provide Comments on Consultation Draft Site Characterization Plan for Yucca Mountain	5/88	NRC
(22b) NRC Issue Site Characterization Analysis	7/89	NRC
(23) <u>Format and Content Guide for License Application</u>		
(23a) Issue Draft Table of Contents for Format and Content Guide	8/89	NRC
(24) <u>SCP Public Hearings</u>		
"Before proceeding to sink shafts at the Yucca Mountain site, the Secretary shall (A) make available to the public the site characterization plan described in paragraph (1); and (B) hold public hearings in the vicinity of such candidate site to inform the residents of the area in which such candidate site is located of such plan, and to receive their comments." Section 113(b)(2) of the NWPA, as amended.		
(24a) Conduct Open Public Hearings on SCP	3/89	DOE

TABLE I-B (continued)

Completed Milestones Associated with the Siting,
Construction, and Operation of the Geologic Repository
(For Upcoming Milestones See Table I-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(25) <u>Appoint Negotiator</u>		
"... a Nuclear Waste Negotiator who shall be appointed by the President by and with the advice and consent of the Senate." Section 402(b)(1) of the NWPA, as amended.		
(25a) President Appoints Negotiator	8/90	President

TABLE II-A

Future Milestones Associated with the Siting, Construction
and Operation of the Monitored Retrievable Storage Facility
(For Completed Milestones See Table II-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(1) <u>Negotiated Siting</u>		
(1a) Complete Environmental Assessments for Sites (Negotiated Siting)	6/92	DOE
(1b) Candidate Site(s) Identified (Negotiated Siting)	9/92	DOE
(1c) Nuclear Waste Negotiator's Legislated Term Expires	1/93	President
(2) <u>Environmental Impact Statement</u>		
(2a) Pursuant to Section 1501.6 of the CEQ NEPA regulations, 40 CFR Parts 1500-1508 DOE as the lead agency may request certain other affected Federal agencies to serve as cooperating agencies	TBD	(Under Review)
(2b) Issue MRS EIS Notice of Intent	9/92	DOE
(2c) Issue MRS DEIS	2/94	DOE
(2d) Issue MRS FEIS	3/95	DOE
(3) <u>License Application</u>		
<p>"Once the selection of a site for a monitored retrievable storage facility is effective under section 146, the Secretary may submit an application to the Commission for a license to construct such a facility as part of an integrated nuclear waste management system and in accordance with the provisions of this section and applicable agreements under this Act affecting such facility."</p> <p>Section 148(b)(1) of the NWPA, as amended.</p>		
(3a) Submit MRS License Application to the NRC	3/95	DOE
(3b) NRC Grants Materials License	9/96	NRC

TABLE II-B

Completed Milestones Associated with the Siting, Construction,
and Operation of the Monitored Retrievable Storage Facility
(For Upcoming Milestones See Table II-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(1) <u>MRS Review Commission</u>		
<p>"The report under this subsection, together with the recommendation of the MRS Review Commission, shall be transmitted to Congress . . ."</p> <p>Section 143(a)(3) of the NWRPA, as amended.</p>		
(1a) MRS Review Commission Report to Congress	11/89	MRS Review Commission
(1b) Additional MRS Review Commission Report to Congress	12/89	MRS Review Commission
(2) <u>Appoint Negotiator</u>		
<p>"... a Nuclear Waste Negotiator who shall be appointed by the President by and with the advice and consent of the Senate."</p> <p>Section 402(b)(1) of the NWRPA, as amended.</p>		
(2a) President Appoints Negotiator	8/90	President

TABLE III-A

Future Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System
(For Completed Milestones See Table III-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(1) <u>Transportation System Planning</u>		
(1a) Issue Transportation Plan	TBD	DOE
(1b) Comment on DOE Transportation System Planning	2/85 through completion of program	NRC, DOT
(2) <u>Cask System Development (From-Reactor Cask Development)</u>		
(2a) Submit Safety Analysis Reports for Packaging to NRC	1/92	DOE
(2b) NRC Review of Safety Analysis Reports for Packaging (Includes submittal and review of rail-barge and legal weight truck cask designs)	1/92-1/94	NRC
(2c) Complete From-Reactor Cask Certification of Compliance	1/94	NRC
(3) <u>Cask Maintenance Facility (CMF) Development</u>		
(3a) Decision on CMF Systems Development	TBD	DOE
(4) <u>Service Contractor and Fleet Acquisition</u>		
<p>"The Secretary, in providing for the transportation of spent fuel under this Act, shall utilize by contract private industry to the fullest extent possible in each aspect of such transportation." Section 137(a)(2) of the NWPA.</p>		
(4a) Award Service Contract for Operations	TBD	DOE
(4b) Award Cask Fleet Contract	TBD	DOE

TABLE III-A (continued)

Future Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System
(For Completed Milestones See Table III-B)

<u>Provision and Required Action</u>	<u>Reference Schedule</u>	<u>Agency</u>
(5) <u>DOE/DOT Interaction</u>		
(5a) DOT Determines Transportation Services, if required	TBD	DOT
(6) <u>Cask System Development (From-MRS Cask Development)</u>		
(6a) Start From-MRS Cask Preliminary Design(s)	5/98	DOE
(6b) Submit Safety Analysis Reports for Packaging to the NRC	4/03	DOE
(6c) NRC Review of Safety Analysis Reports for Packaging for From-MRS Casks	4/03-10/05	NRC
(6d) Complete Certification of Compliance for From-MRS Casks	10/05	NRC
(7) <u>Emergency Training</u>		
". . . Secretary shall provide technical assistance and funds to States for training . . ." Section 180(c) of the NWPA, as amended.		
(7a) Start Emergency Training for Initial Shipments	1/95	DOE
(7b) Section 180 (c) Training Complete for Initial Shipments	1/98	DOE

TABLE III-B

Completed Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System
(For Upcoming Milestones See Table III-A)

<u>Provision and Required Action</u>	<u>Completion Date</u>	<u>Agency</u>
(1) <u>Transportation System Planning</u>		
(1a) Sign Procedural Agreement With NRC to Address Certification Process for Transportation Casks	11/3/83	DOE, NRC
(1b) Issue Business Plan	1/86	DOE
(1c) Issue Institutional Plan	8/86	DOE
(2) <u>Cask System Development (From-Reactor Cask Development)</u>		
(2a) Develop Transportation Cask Performance Specification for Request for Proposals	11/85	DOE
(2b) Issue Information Package for From-Reactor Cask Program	2/86	DOE
(2c) Issue RFP to Private Industry for From-Reactor Cask Development	8/87	DOE
(2d) Award Cask Development Contracts	7/88	DOE
(3) <u>DOE/DOT Interaction</u>		
(3a) Sign MOU with DOT to Cover Transportation Aspects of the Nuclear Waste Policy Act	8/85	DOE, DOT

APPENDIX A.1

AGENCY: U.S. DEPARTMENT OF DEFENSE (DOD)

Air Force (AF)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.2

AGENCY: U.S. DEPARTMENT OF THE INTERIOR (DOI)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.2

AGENCY: U.S. DEPARTMENT OF THE INTERIOR (DOI)

Bureau of Land Management (BLM)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-2a	Land Acquisition Procedures for Candidate Repository Site	Begin Preparing Application and Supporting Documentation for Secretarial Review of Request to Extend Temporary Withdrawal for Additional 12-year period	1/00
I-A-2c **	Land Acquisition Procedures for Candidate Repository Site	Temporary Withdrawal Extended by Secretary of Interior	1/03
I-A-2d **	Land Acquisition Procedures for Candidate Repository Site	Prepare Proposal for Congressional Action on Legislative Withdrawal	4/08
I-A-6d **	Environmental Impact Statement	Review and Comment on Repository DEIS	10/99- 2/00

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.2

AGENCY: U.S. DEPARTMENT OF THE INTERIOR (DOI)

U.S. Geological Survey (USGS)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00

** Milestone proposed for Section 114(e) reporting requirements.

AGENCY: U.S. DEPARTMENT OF TRANSPORTATION (DOT)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00
III-A-1b	Transportation System Planning	Comment on DOE Transportation System Planning	2/85 through completion
III-A-5a	DOE/DOT Interaction	DOT Determines Transportation TBD Services, If Required	

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.4

AGENCY: COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.5

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-6a,6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99- 2/00
I-A-19a *	Environmental Protection Agency Standards	Issue Revised 40 CFR Part 191 (Proposed)	6/92

* Milestone subject to Section 114(e) reporting requirements.

** Milestone proposed for Section 114(e) reporting requirements.

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-1a	Format and Content Guide for License Application	Issue Final Format and Content Guide	9/94
I-A-3a	NRC Rulemakings	Conform 10 CFR 60 to EPA High-Level Waste Standard	TBD
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99-2/00
I-A-7a **	NRC Preliminary Sufficiency Comments	NRC Issues Comments on Sufficiency of Characterization Analysis and Waste Form Proposal	1/01
I-A-11b **	License Application	NRC Review of LA	10/01-10/04
I-A-11c **	License Application	NRC Completes Acceptance Review of License Application for Docketing	12/01
I-A-11d **	License Application	NRC Issues Construction Authorization	10/04
I-A-12a	NRC Status Report	NRC's Status Report on LA Review	10/02, 10/03
I-A-13a **	Adoption of Repository FEIS	NRC Adoption of DOE FEIS, to Extent Practicable	10/04
I-A-14b **	Update LA in Accordance with 10 CFR Part 60.24	NRC Review of Updated LA	4/08- 1/10
I-A-14c **	Update LA in Accordance with 10 CFR Part 60.24	Issue License to Receive and Possess HLW	1/10

** Milestone proposed for Section 114(e) reporting requirements.

APPENDIX A.6

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC) (continued)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
II-A-3b	MRS License Application	NRC Grants Materials License	9/96

APPENDIX A.6

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC) (continued)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
III-A-1b	Transportation System Planning	Comment on DOE Transportation System Planning	2/85 through completion of program
III-A-2b	Cask System Development	NRC Review of Safety Analysis Report for Packaging Rail-barge and Legal Weight Truck Cask Designs	1/92-1/94
III-A-2c	Cask System Development	Complete From-Reactor Cask Certification of Compliance	1/94
III-A-6c	Cask System Development	NRC Review of Safety Analysis Report for Packaging for From-MRS Casks	4/03-10/05
III-A-6d	Cask System Development	Complete From MRS-Cask Certification of Compliance	10/05

APPENDIX A.7

AGENCY: U.S. Department of Justice (DOJ)

<u>Table Reference</u>	<u>Task</u>	<u>Action Required</u>	<u>Date</u>
I-A-18a	Site Access	Conduct legal action against Nevada to obtain permits	1/90-12/91

APPENDIX B

NUCLEAR WASTE POLICY ACT OF 1982, SECTION 114(e)

(e) PROJECT DECISION SCHEDULE

(1) The Secretary shall prepare and update, as appropriate, in cooperation with all affected Federal agencies, a project decision schedule that portrays the optimum way to attain the operation of the repository involved, within the time periods specified in this subtitle. Such schedule shall include a description of objectives and a sequence of deadlines for all Federal agencies required to take action, including an identification of the activities in which a delay in the start, or completion, of such activities will cause a delay in beginning repository operation.

(2) Any Federal agency that determines that it cannot comply with any deadline in the project decision schedule, or fails to so comply, shall submit to the Secretary and to the Congress a written report explaining the reason for its failure or expected failure to meet such deadline, the reason why such agency could not reach an agreement with the Secretary, the estimated time for completion of the activity or activities involved, the associated effect on its other deadlines in the project decision schedule, and any recommendations it may have or actions it intends to take regarding any improvements in its operation or organization, or changes to its statutory directives or authority, so that it will be able to mitigate the delay involved. The Secretary, within 30 days after receiving any such report, shall file with the Congress his response to such report, including the reasons why the Secretary could not amend the project decision schedule to accommodate the Federal agency involved.

APPENDIX C

NUCLEAR WASTE POLICY ACT OF 1982, SECTION 120

EXPEDITED AUTHORIZATION

Section 120(a) ISSUANCE OF AUTHORIZATIONS

(1) To the extent that the taking of any action related to the site characterization of a site or the construction or initial operation of a repository under this subtitle requires a certificate, right-of-way, permit, lease, or other authorization from a Federal agency or officer, such agency or officer shall issue or grant any such authorization at the earliest practicable date, to the extent permitted by the applicable provisions of law administered by such agency or officer. All actions of a Federal agency or officer with respect to consideration of applications or requests for the issuance or grant of any such authorization shall be expedited, and any such application or request shall take precedence over any similar applications or requests not related to such repositories.

(2) The provisions of paragraph (1) shall not apply to any certificate, right-of-way, permit, lease, or other authorization issued or granted by, or requested from, the Commission.

(b) TERMS OF AUTHORIZATION--Any authorization issued or granted pursuant to subsection (a) shall include such terms and conditions as may be required by law, and may include terms and conditions permitted by law.

APPENDIX D

ACRONYMS

ACD - Advanced Conceptual Design
AF - Air Force
BLM - Bureau of Land Management
CA - Construction Authorization
CDSCP - Consultation Draft Site Characterization Plan
CEQ - Council on Environmental Quality
COE - Army Corps of Engineers
DEIS - Draft Environmental Impact Statement
DOD - Department of Defense
DOE - Department of Energy
DOI - Department of the Interior
DOJ - Department of Justice
DOT - Department of Transportation
EA - Environmental Assessment
EIS - Environmental Impact Statement
EPA - Environmental Protection Agency
ESF - Exploratory Studies Facility
FEIS - Final Environmental Impact Statement
FPC - Final Procurement and Construction
HQ - Headquarters
LA - License Application
LAD - License Application Design
LSS - Licensing Support System

MOU - Memorandum of Understanding
MRS - Monitored Retrievable Storage
MTHM - Metric Tons of Heavy Metal
MTL - Main Test Level
MTU - Metric Tons of Uranium
N/A - Not Applicable
NRC - Nuclear Regulatory Commission
NPS - National Park Service
NWPA - Nuclear Waste Policy Act of 1982 (Public Law 97-425)
NWPAA - Nuclear Waste Policy Amendments Act of 1987 (Public Law 100-203)
OCRWM - Office of Civilian Radioactive Waste Management
PCSB - Program Cost and Schedule Baseline
PDS - Project Decision Schedule
ROD - Record of Decision
SBT - Surface-Based Testing
SCP - Site Characterization Plan
Secretary - Secretary of Energy
SFHB - Spent Fuel Handling Building
SRR - Site Recommendation Report
USGS - United States Geological Survey
UZ - Unsaturated Zone

APPENDIX E

COMMENT RESPONSE RECORD
AUGUST 1990 FINAL DRAFT PROJECT DECISION SCHEDULE

AUGUST 1990

PDS

SECTION/PAGE

COMMENT

RESPONSE

Table 1-A, page 33 and
Appendix A.5, page A-7

COMMENT I.D.: EPA-1

"In accordance with your August 31, 1990 letter requesting the Environmental Protection Agency review the final draft revision of the Project Decision Schedule (PDS), we submit the following date change to Appendix A.5 found on page A-7: Table Reference: I-A-20a, Task: Environmental Protection Agency Standards, Action required: Issue Revised 40 CFR Part 191, Old Date: proposed 12/90 New Date: 02/91."

Adopted. The date for milestone I-A-(19a) [formerly I-A-(20a)], "Issue Revised 40 CFR Part 191", has been changed to "Proposed 6/92" based on information received at the 26th Advisory Committee on Nuclear Waste (ACNW) meeting.

Appendix A.4, page A-6

COMMENT I.D.: CEQ-1

"Page A-6 indicates that the Council on Environmental Quality (CEQ) will review and comment on the Repository DEIS pursuant to Section 309 of the Clean Air Act. While CEQ is certainly willing to review and comment on the DEIS for a repository, we would do so pursuant to the National Environmental Policy Act, not Section 309 of the Clean Air Act. CEQ may also be required to review the DEIS under the Nuclear Waste Policy Act, as amended.

Adopted. The description of milestone I-A-(6d) has been changed to "Review and Comment on DOE Repository DEIS." Reference to Section 309 of the Clean Air Act has been removed from page A-6.

COMMENT

COMMENT I.D.: NRC-1

"In the area of QA, the staff's comment noted that there may be some misunderstanding on the meaning of milestone (19c), 'Accept OCRWM [Office of Civilian Radioactive Waste Management] QA Program'. The staff expressed concern that the milestone could be misinterpreted as the date by which the NRC would lift its Site Characterization Analysis (SCA) objection. In its response, DOE acknowledged that its interpretation of the milestone was consistent with the NRC's, and that milestone (19c) did not represent lifting the SCA objection. Although DOE has clarified its understanding of the milestone, it did not provide this clarification directly in the PDS, but rather provided it in the summary of comment responses. Without changing the PDS to clarify the meaning of the milestone, the milestone may still be misinterpreted. Therefore, the staff recommends that the milestone be broken into two separate milestones. Revised milestone (19c) would be 'Determine OCRWM QA Program is Procedurally Adequate and in Selected Areas Acceptable to Begin Site Characterization' with a completion date of January 1991. A new milestone (19d) would be 'Determine QA Implementation is Effective and NRC Removes SCA Objection.' The completion date for this milestone would be 'TBD' until DOE provides a better schedule of its own actions to accept the QA program."

RESPONSE

Adopted with modification. A footnote has been added to milestone I-B-(19e) [formerly I-A-(19c)], stating, "This milestone signifies that the NRC has determined that the OCRWM QA program is procedurally adequate and in selected areas acceptable to begin site characterization. This milestone does not signify that NRC has lifted its site characterization analysis objection." Because of the addition of the footnote, DOE does not feel that milestone I-B-(19e) requires rewording or that a new milestone is required.

COMMENT

RESPONSE

General

COMMENT I.D.: NRC-2

"In its response to the lack of a schedule for the LSS in the PDS, DOE noted that it was committed to the development of an LSS but that the absence of LSS milestones in the PDS is due to significant budget cuts and delays in the program. However, it a recent action, OCRWM and NRC's Office of the LSS Administrator have agreed on an LSS development schedule that would result in the acquisition of an LSS pilot system available for testing and evaluation in the 1993 time frame. Therefore, DOE should revise the PDS to include a schedule for the LSS and reflect the results of the NRC/DOE agreement."

Not adopted. The Department's FY 1992 Congressional budget request provides no funding for the Licensing Support System (LSS) for FY 1992 and beyond. Therefore, LSS milestones cannot be established at this time.

General

COMMENT I.D.: NRC-3

"Covering the MRS, the staff raised a number of concerns about DOE's ability to accept limited wastes by 1998. The bases for these concerns were (1) the fact that, through legislation, the MRS is presently tied to the progress on the repository and (2) the selection of a site for the MRS. Before DOE could have an operational MRS by 1998, legislation would have to be enacted to remove this coupling of the MRS and repository, or a state volunteers a site. Although DOE acknowledged in its response that there is uncertainty in the MRS schedule contained in the PDS, it did not change any of the information in the PDS. Therefore, the staff believes that without providing a discussion of the major obstacles facing the MRS, the PDS may in fact be too optimistic in its presentation. Hence, DOE

Not adopted. The concerns raised by NRC were discussed on pages 20 and 21 of the August 1990 PDS. The designation of former MRS milestone II-A-(4b) as potentially subject to Section 114 (e) reporting requirements was in error and has been removed since Section 114 (e) of the NWPA applies only to the repository and repository milestones.

COMMENT

RESPONSE

Table III-A, page 48 and
Appendix A.6, page A-
11

should provide a discussion of the legislative and political events that need to take place before the MRS schedule would be achievable. Because of the speculative nature of some of the activities, the NRC cannot commit to the schedules and deadlines listed, but will use them as guidance as to what response times DOE desires for various activities."

COMMENT I.D.: NRC-3

"Also in the area of MRS, the staff stated in its comment on original milestone (7b) that the milestone should reflect an NRC review of the MRS transportation storage system development technology, not approval. In responding to this comment, DOE expanded original milestone (7b) into three milestones covering (1) submittal of a DOE application for the System, (2) an NRC review, and (3) NRC approval. Based on discussion with OCRWM representatives, the staff was informed that at this time, DOE is not certain what the technology will involve and is also uncertain what type of action will be required by the NRC staff. If it involves developing reports on the types of technology that will be used, the appropriate NRC activity would be to review and comment. On the other hand, if it involves the development of a dual purpose cask, the NRC action would involve certification of the cask. Therefore, a more appropriate milestone would be to revise milestone (7b) as 'DOE Determines Type of Technology to be Developed,' with no further milestones. This is because the future milestones would be dependent on the results of milestone (7b)."

DOE has deleted milestones pertaining to the MRS Transport/Storage System from the PDS. New milestones will be added when DOE selects an MRS technology.

AUGUST 1990

PDS

SECTION/PAGE

COMMENT

RESPONSE

Table I-A, -
page 26 and
Appendix A.6,
page A-8

COMMENT I.D.: NRC-4

"Milestone (1a), 'Issue Final Format and Content Guide,' has a tentative completion date of September 1994. Hence, the present 'TBD' for milestone (1a) can be changed to September 1994."

Adopted. The reference date for milestone I-A-(1a), "Issue Final Format and Content Guide", has been changed to September 1994.

Table I-A, page 26 and
Appendix A.6, page A-8

COMMENT I.D.: NRC-5

"The first milestone that needs to be changed is milestone (3b) 'Review of the Commission's Findings under the 1984 Waste Confidence Decision.' This action has been completed. Therefore, it can be moved to Table I-B with a completion date of September 18, 1990."

Adopted. Milestone I-B-(13i) [formerly I-A-(3b)], "Review of the Commission's Findings under the 1984 Waste Confidence Decision", has been moved to Table I-B with a completion date of September 1990.

Table I-A, page 33 and
Appendix A.6, page A-8

COMMENT I.D.; NRC-6

"Milestone (19b), 'Issue Safety Evaluation Report for the QA Requirements/QA Program Description,' needs to have its June 1990 proposed completion date changed to December 1990. The reason for this change is a late submittal by DOE of the necessary information plus additional time needed by DOE to respond to staff questions raised on that material."

Adopted. Milestone I-B-(19d) [formerly I-A-(19b)], "Issue Safety Evaluation Report for the QA Requirements/QA Program Description", has been moved to Table I-B with a completion date of December 1990.

Table I-B,
page 38 and
Appendix A.6,
page A-8

COMMENT I.D.: NRC-7

"Milestone (13a), 'NEPA/Review Procedures for Geologic Repositories for HLW,' in Table I-B. For milestone (13a), Table I-B DOE should add that the final rule was issued on July 3, 1989."

Adopted. The date for issuance of the final rule was added to milestone I-B-(13a).

AUGUST 1990

PDS

SECTION/PAGE

Table II-A,
page 44 and Appendix
A.6, page A-10

COMMENT

COMMENT I.D.: NRC-8

"In Table II-A, items (5b) and (5c) identify the granting of a construction authorization by NRC for a simple receipt facility and a spent fuel handling building. With respect to these milestones, DOE should understand that licensing under 10 CFR Part 72 is a one-step process, and that the NRC only issues a materials license not a construction authorization and then an operations authorization. Therefore, the milestones should be revised to reflect this."

RESPONSE

Adopted. The description of milestone II-A-3(b) [formerly II-A-(5b)] has been changed to "NRC Grants Materials License." Former milestone II-A-(5c) has been deleted.