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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

PROJECT DECISION SCHEDULE REVISION 1

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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 January 1990. 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 (Public Law 97-425), 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 (Title V, Subtitle A, Public Law 100-203) and the Office of Civilian Radioactive Waste Management's Program Schedule Baseline.

The Program Schedule Baseline is consistent with 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 the initiation of an action plan, which 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 an initiative for 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, 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), as amended,[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 is based on the Nuclear Waste Policy Amendments Act of 1987[2] (Amendments Act) and the Office of Civilian Radioactive Waste Management (OCRWM) Program Schedule Baseline. The Program Schedule Baseline is consistent with 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 as 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

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

[2] The Nuclear Waste Policy Amendments Act of 1987, Title V, Subtitle A. of the Budget Reconciliation Act for Fiscal Year 1988 (Public Law 100-203) was enacted on December 22, 1987.

is to contain the five elements noted in Section 1.4 of this document. The Secretary is then 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) and the transportation system have been included in this PDS only 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]

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 of Section 114(e)(2) of the NWPA, only those milestones which are considered critical 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.

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

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. Critical Federal agency milestones scheduled to be completed within 3 fiscal years of PDS issuance are marked with a single asterisk. Critical Federal agency milestones 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, 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

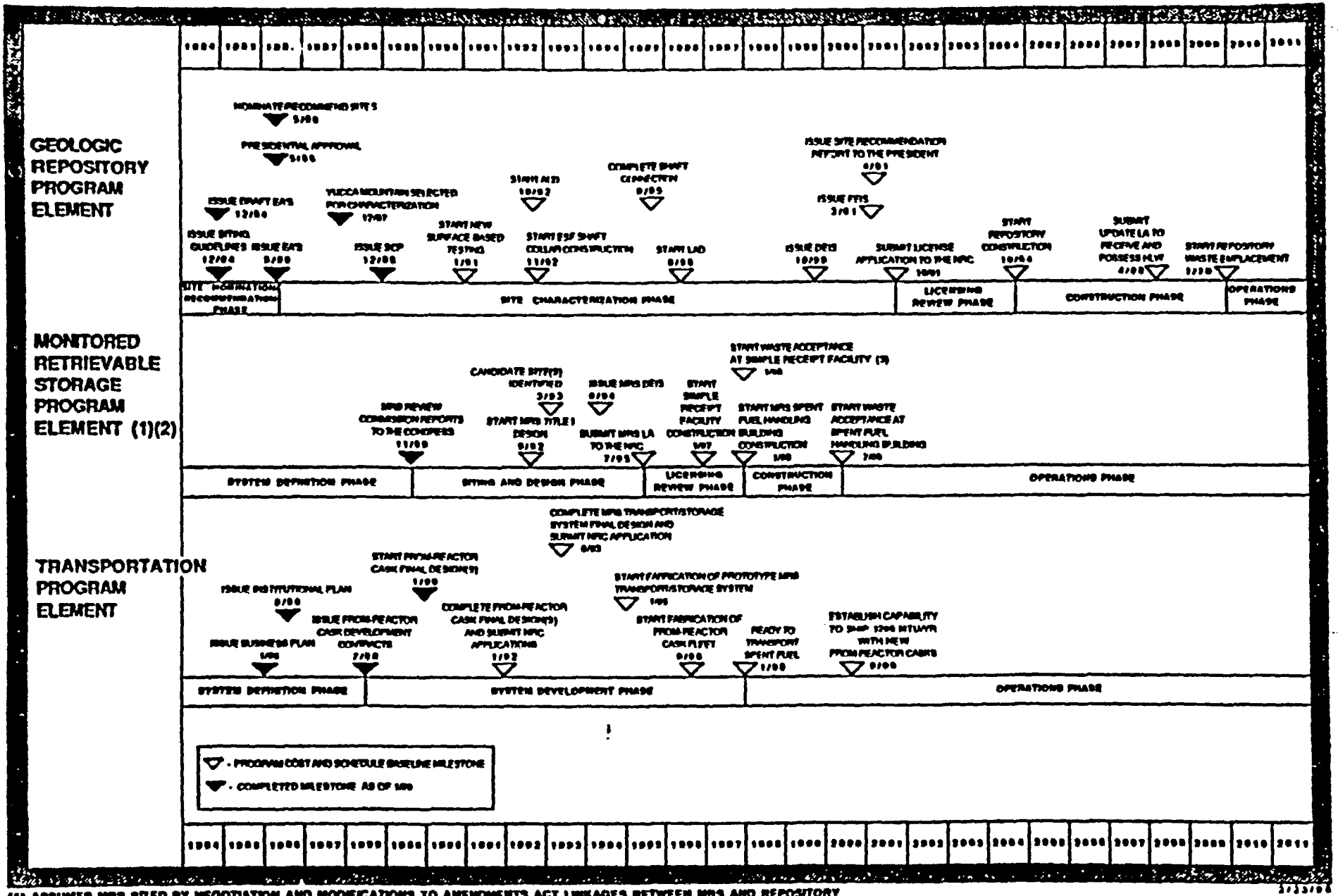
The Federal agency activity schedules and milestones in this issue of the PDS are based on the OCRWM Program Schedule Baseline developed from the current supporting logic networks used in maintaining that baseline. Figure 1 displays the current schedule for development and operation of the waste management system. That schedule baseline is part of a document, the Program Cost and Schedule Baseline (PCSB), which contains all Program-level milestones. 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
(2) MILESTONES ASSOCIATED WITH THE MRS ARE SUBJECT TO CHANGE UPON APPROVAL OF THE MRS STRATEGY
(3) 1/98 WASTE ACCEPTANCE AT MRS SIMPLE RECEIPT FACILITY ASSUMES USE OF TRANSPORT/STORAGE SYSTEM

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, if that site is found suitable, those activities associated with development of the repository at Yucca Mountain, Nevada. 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, 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 from the State of Nevada, 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 Shaft 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 the 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, the disapproval stands, and OCRWM must report to Congress with a recommendation for other actions to be taken.

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[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.

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 1990: The necessary permits for surface-based testing are obtained.
- January 1991: New surface-based testing starts.
- October 1992: The necessary permits for exploratory shaft construction are obtained.
- November 1992: Exploratory shaft 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.

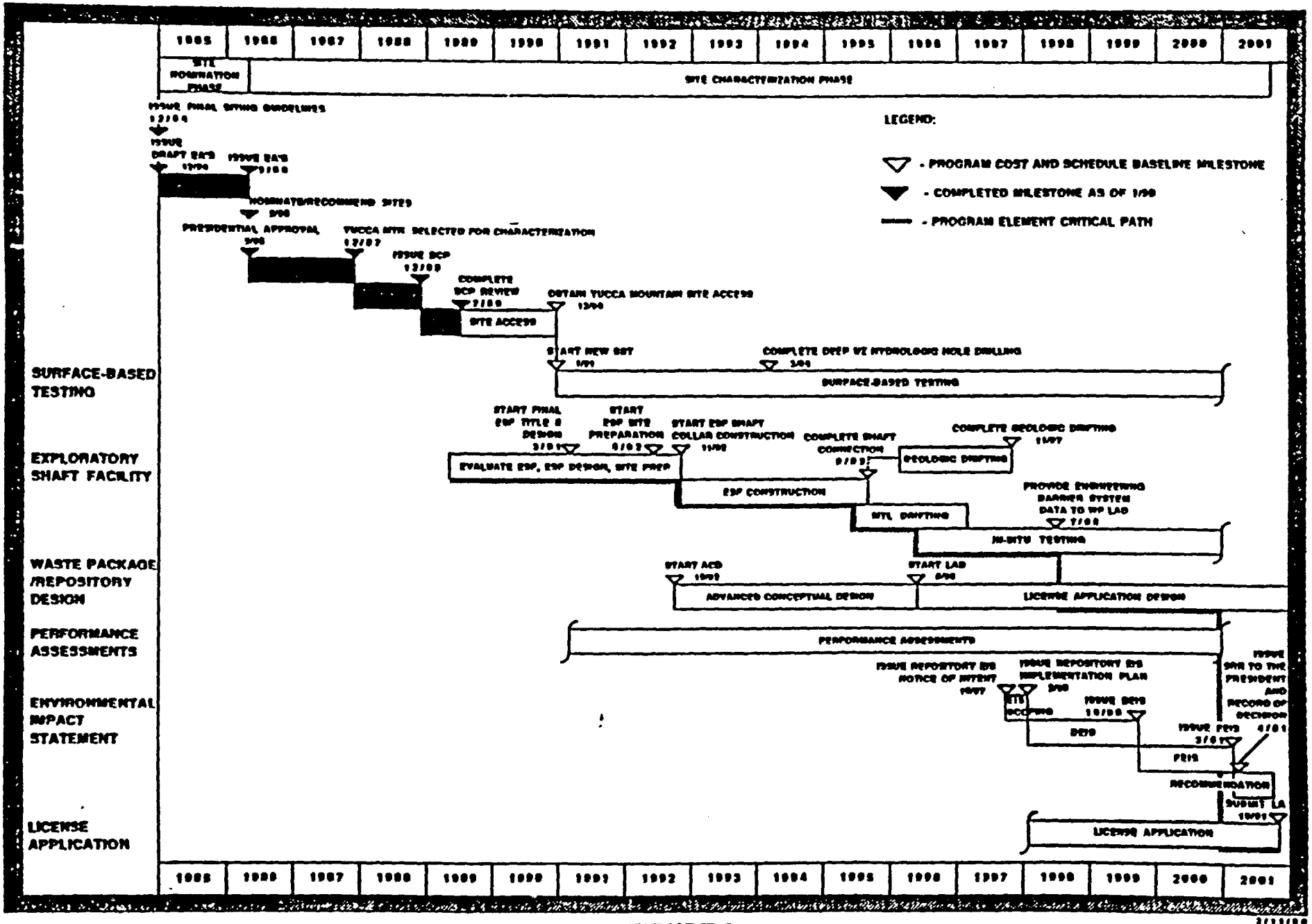

FIGURE 2
GEOLOGIC REPOSITORY SITE NOMINATION AND CHARACTERIZATION PHASES

4.4 LICENSING REVIEW

Assuming 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.

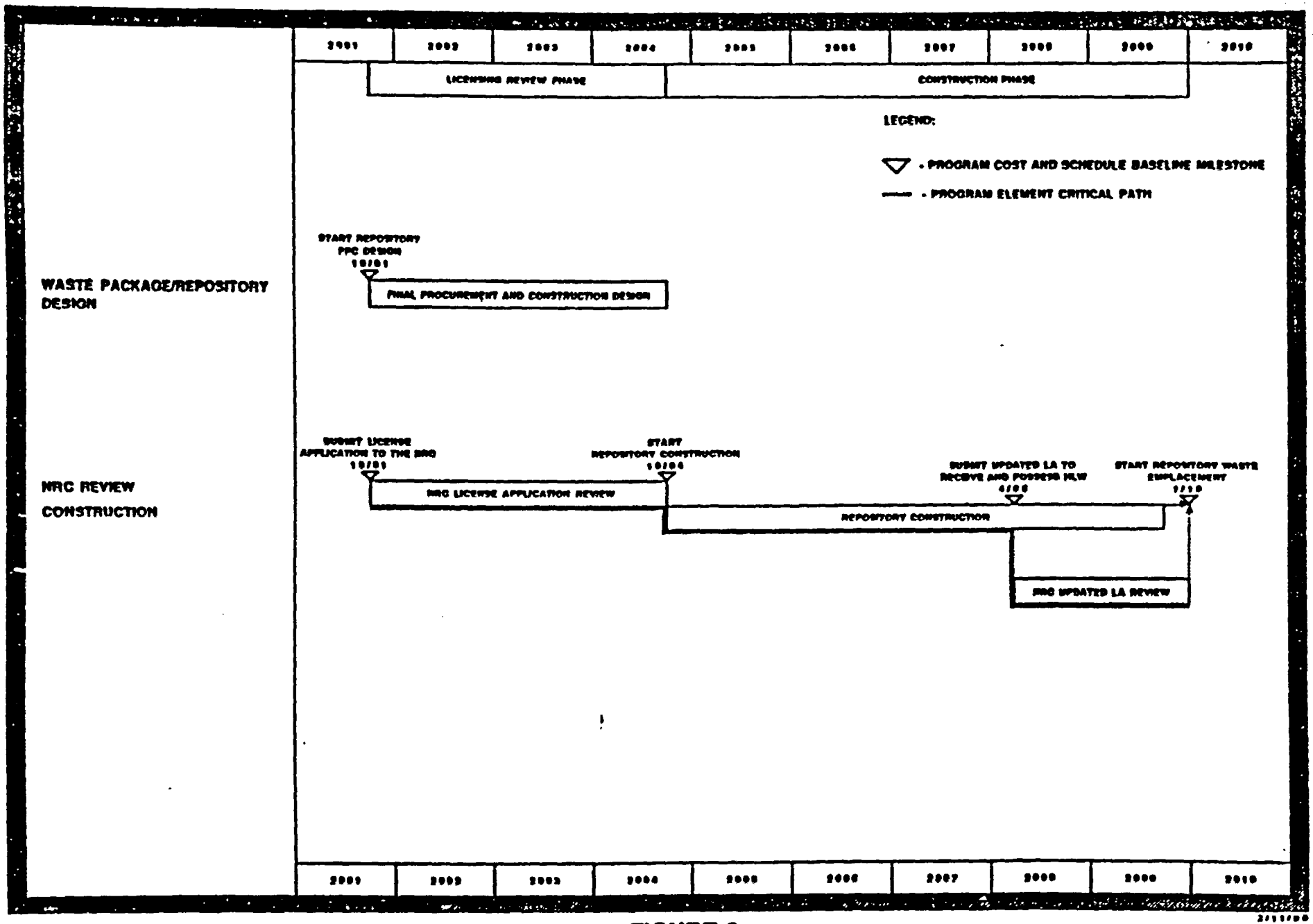

FIGURE 3
GEOLOGIC REPOSITORY LICENSING REVIEW AND CONSTRUCTION PHASES

5.0 MONITORED RETRIEVABLE STORAGE FACILITY

Section 142 (b) of the NWPA, as amended, authorizes the DOE to site, license, 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 NWPA, 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 has 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 Nuclear Waste Policy Amendments Act 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 2000.

OCRWM is developing a revised MRS strategy which will present DOE's plans for deploying an MRS facility that will ensure timely acceptance of spent fuel from utilities. The plan covers the strategy for obtaining a volunteer site, determining the facility configuration, developing a transportation system that supports the selected configuration, and expediting the licensing process. The revised MRS strategy will likely result in significant changes to the MRS schedule, and the PDS will also be revised at that time.

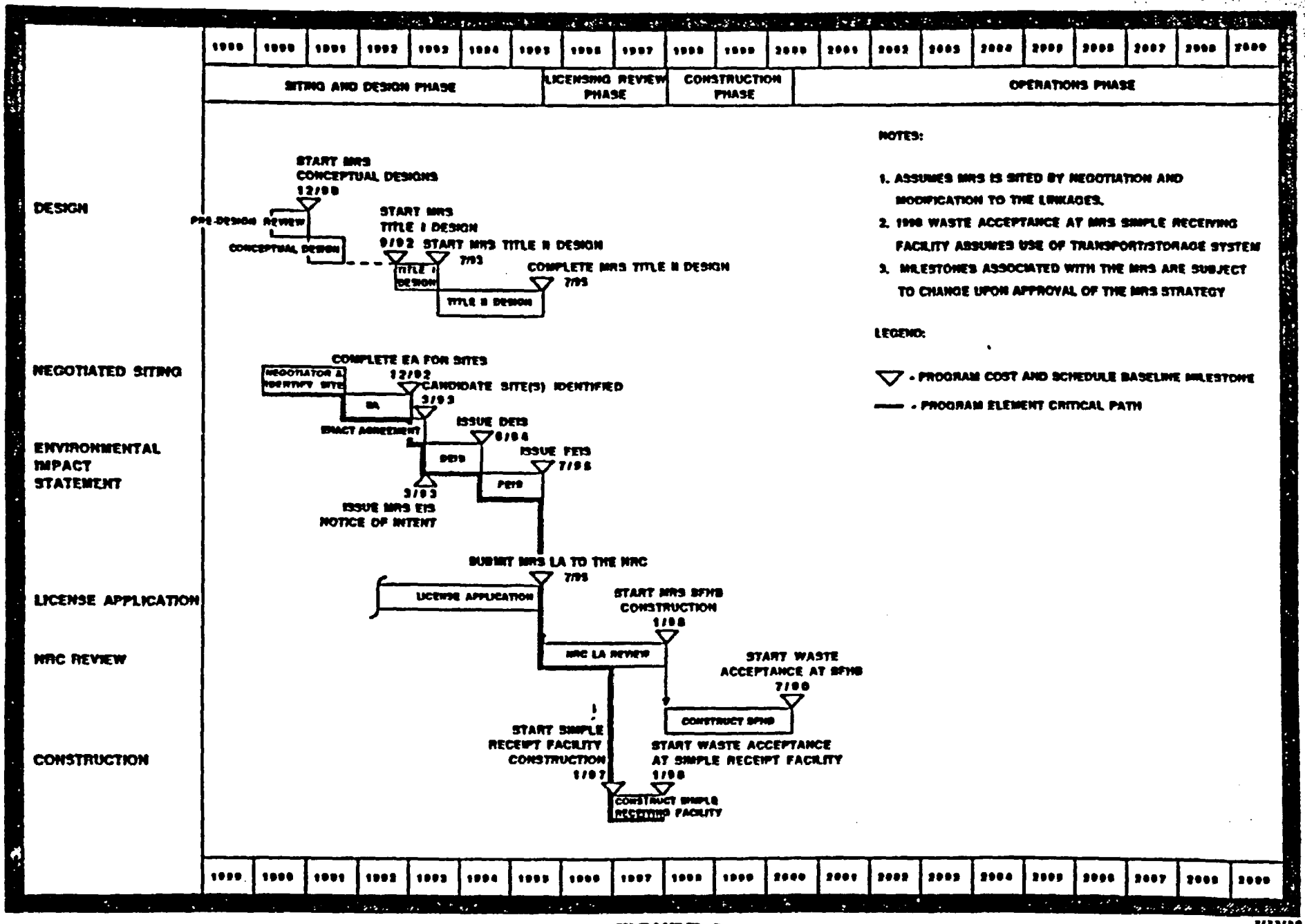

FIGURE 4
MONITORED RETRIEVABLE STORAGE SCHEDULE

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 the management of 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 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 and Indian Tribes through whose jurisdictions the waste will be transported for training public safety officials 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 railcar 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 casks to be used in transportation will be developed by private industry and certified by the NRC. 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. OCRWM will revise Figure 5 and Table III-A if the MRS strategy requires significant changes to the transportation schedule.

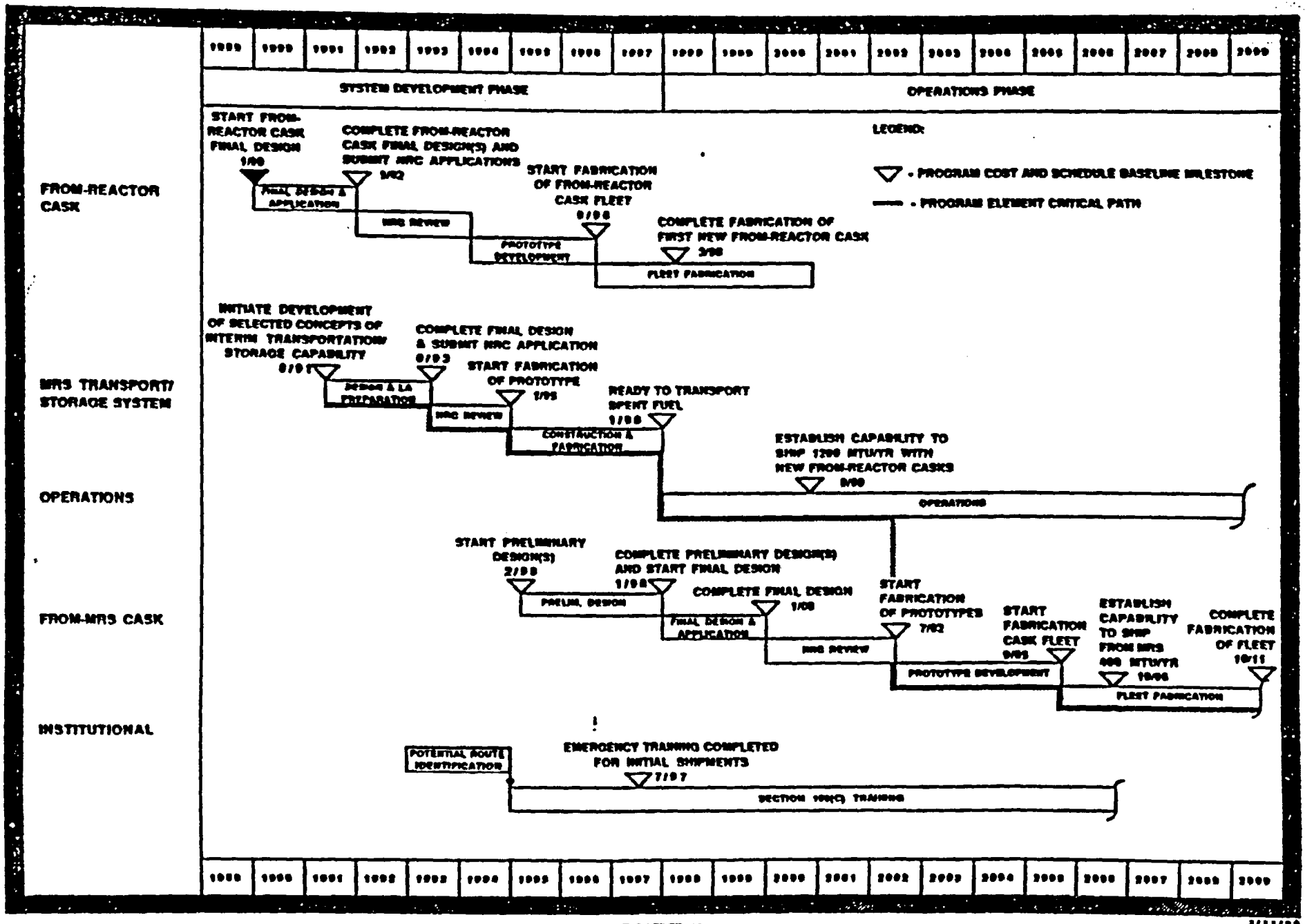

FIGURE 5
TRANSPORTATION SCHEDULE

TABLE I-A

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

	Provision and Required Action	Reference Schedule	Agency
(1)	Format and Content Guide for License Application		
	(1a) Issue Final Format and Content Guide	TBD	NRC
(2)	Land Acquisition Procedures for Candidate Repository Site		
	(Temporary Withdrawal)		
	(2a) Submit Case File Reports	1/90	DOE
*	(2b) Issue Public Land Order	12/90	DOI
	(2c) ~~Begin Pre-Application Consultation for Permanent Land Withdrawal~~	~~4/91~~	
	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)~~
	(2d) Submit Application and Supporting Documentation	1/01	DOE
	(2e) ~~Apply for Permanent Withdrawal of Public Land~~	~~6/01~~	~~DOE~~
**	(2e) Temporary Withdrawal Extended by Secretary of Interior	1/03	DOI(BLM)
	(Permanent Legislative Withdrawal)		
	(2f) ~~Begin Preparation of Case File Reports including Environmental Documentation~~	~~6/01~~	~~DOE~~
**	(2f) Prepare Proposal for Congressional Action on Permanent Legislative Withdrawal	4/08	DOE,DOI
	(2g) ~~Publish Notice in Federal Register for Withdrawal Application~~	~~5/01~~	~~DOE~~
	(2g) Congress enacts Permanent Legislative Withdrawal	1/10	Congress

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

TABLE I-A

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

Provision and Required Action	Reference Schedule	Agency
~~(2h) Public Comment Period Closes~~	~~7/01~~	~~DOE, DOI (BLM)~~
~~(2i) Submit Case File Reports~~	~~9/01~~	~~DOE~~
~~** (2j) Issue Public Land Order~~	~~3/03~~	~~DOI~~
~~(2k) Provide Congress with Withdrawal Information~~	~~3/03~~	~~DOE~~
~~(2l) Withdrawal Takes Effect~~	~~3/04~~	~~Congress~~
(3) NRC Rulemakings		
(3a) Conform 10 CFR 60 to EPA High-Level Waste Standard	TBD	NRC
(3b) Review of the Commission's Findings under the 1984 Waste Confidence Decision	TBD	NRC
(4) Semiannual Site Characterization Progress Report		
"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 NWPA as amended.		
(4a) Issue Semiannual Progress Reports	1990-2001	DOE

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

TABLE I-A

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

Provision and Required Action	Reference Schedule	Agency
(5) Site Recommendation Public Hearing		
"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 NWPA, as amended.		
(5a) DOE hold Public Hearings on Site Recommendation	11/99	DOE
(6) Environmental Impact Statement		
"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.		
(6a) Pursuant to Section 1501.6 of the Council of 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	10/97	DOE
(6c) Issue Draft EIS for Review	10/99	DOE

TABLE d)

Milestones Ass· the Siting,
Construction, and Oper. Geologic Repository
(For Completed A ee Table I-B)

Provision and Required Action	Reference Schedule	Agency
** (6d) Review and Comment on DOE Repository Draft EIS	10/99-2/00	DOT,DOD, (AF),CEQ, NRC,DOI, (USGS), (BLM),EPA
(6e) Issue FEIS, Considering Above Comments	3/01	DOE
(7) NRC Preliminary Sufficiency Comments		
"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	~~4/01~~ 1/01	NRC
(8) Site Recommendation Report		
"...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

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

TABLE I-A (continued)

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

Provision and Required Action	Reference Schedule	Agency
(8c) Issue Site Recommendation Report to President	4/01	DOE
(9) Record of Decision (40 CFR Part 1505)		
(9a) Issue Record of Decision	4/01	DOE
(10) Site Recommendation		
"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) License Application		
"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.		

TABLE I-A (continued)

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

	Provision and Required Action	Reference Schedule	Agency
	(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
	(12) NRC Status Report		
	"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.		
	(12a) NRC's Status Report on LA Review to Congress	10/02, 10/03	NRC
	(13) Adoption of FEIS		
	"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.		
**	(13a) NRC Adoption of DOE FEIS, to Extent Practicable	10/04	NRC
	(14) Update License Application in Accordance with 10 CFR Part 60.24		
	(14a) Submit Updated LA to Receive and Possess HLW	4/08	DOE
**	(14b) NRC Review of Updated LA	4/08-1/10	NRC

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

TABLE I-A (continued)

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

Provision and Required Action	Reference Schedule	Agency
** (14c) Issue License to Receive and Possess High-Level-Waste	1/10	NRC
(15) Review Panel		
"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 NWPAA.		
(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) Written Agreement		
"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

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

TABLE I-A (continued)

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

Provision and Required Action	Reference Schedule	Agency
(17) Notification of Site Termination		
"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) Site Access		
* (18a) Conduct Legal Action Against Nevada to Obtain Permits	1/90-12/90	DOJ
(19) Quality Assurance (QA) Program		
(19a) Issue Revised QA Requirements Document/QA Program Description to the NRC	4/90	DOE
(19b) Issue Safety Evaluation Report for the QA Requirements/QA Program Description	6/90	NRC
* (19c) Accept OCRWM QA Program	1/91	NRC
(20) Environmental Protection Agency Standards		
"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.		
* (20a) Issue Revised 40 CFR Part 191	Proposed 12/90 ~~6/90~~	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)

Provision and Required Action	Completion Date	Agency
(1) State Notification		
"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) Memorandum of Understanding (MOU) with NRC		
(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) MOU with DOI		
(3a) Develop MOU Between DOI and DOE Concerning Interaction During the Site Characterization Phase of Repository Development.	6/83	DOE,DOI (BLM)
(4) MOU with DOI		
(4a) Develop MOU Between DOI and DOE Concerning USGS Reviewing Site Characterization Plans for the First Repository.	3/29/84	DOE,DOI (USGS)

Completed M sociated with the Siting,
Construction, an n of the Geologic Repository
(For Upcor stones See Table I-A)

Provision and Required Action	Completion Date	Agency
(5) MOU with DOI		
(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) Interagency Agreement with DOI		
(6a) Sign Interagency Agreement Between DOI and DOE Concerning National Park Service Role for Reviewing EA's.	9/14/84	DOE,DOI (NPS)
(7) Siting Guidelines		
"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.		
(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)

Provision and Required Action	Completion Date	Agency
(8) Pre-nomination Notification (1st Repository)		
"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.		
"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.		
(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) Environmental Assessments		
"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.		
"Each nomination shall be accompanied by an environmental assessment." Section 112(b)(1)(A) of the NWPA.		
(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)

Provision and Required Action	Completion Date	Agency
(9b) Review and Comment on Draft EAs	12/20/84-3/20/85	DOE,NRC, DOI,EPA, DOT,DOD, (AF)(COE)
(9c) Issue Final EAs	5/28/86	DOE
(10) NRC Requirements for SCP		
"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) Environmental Protection Agency Standards		
"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)

Provision and Required Action		Completion Date	Agency
(12) NRC Develop Requirements and Criteria			
"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, et seq.) and the Energy Reorganization Act of 1974 (42 U.S.C 5081, et seq.)." Section 121 (a)(1) of the NWPA.			
(12a) Issue 10 CFR 60 Final Rule.		6/21/83	NRC
(13) NRC Rulemaking			
(13a) NEPA/Review Procedures for Geologic Repositories for HLW (10 CFR 2, 51, 60)	Proposed	5/5/88	NRC
(13b) Site Characterization and State/Tribal Participation Licensing Procedure (10 CFR 60)	Proposed Final	1/17/83 7/30/86	NRC
(13c) Unsaturated Zone Technical Criteria (10 CFR 60)	Proposed Final	2/16/84 7/22/85	NRC NRC
(13e) 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)

Provision and Required Action		Completion Date	Agency
(13f) Licensing Support System.	Final	4/89	NRC
(13g) NEPA/EIS Review Procedures for Geologic Repositories for HLW.	Final	7/89	NRC
~~(13h) Establishment of the Criteria for Containment of Greater Than Class C Low-Level Waste when it is Disposed of in a Deep Geologic Repository.~~			
(13h) 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
(13j) Revise Rules of Practice for the Licensing Procedure on the Disposal of HLW at a Geologic Repository. ~~Waste Confidence Decision.~~	Proposed	9/89	NRC
(13i) Review of the Commission's Findings Under the 1984 Waste Confidence Decision.	Proposed	9/89	NRC
(14) Nominate and Recommend Sites for Characterization			
"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)

Provision and Required Action	Completion Date	Agency
(15) Preliminary Determination		
"...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) Presidential Review of Recommendation		
"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) Socioeconomic Report		
"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

. .BLE I-B (continued)

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

Provision and Required Action	Completion Date	Agency
(18) Site Characterization Plan		
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	DOI (USGS) (BLM) DOD(AF), EPA, DOT
(19) Quality Assurance Program		
(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
(20) Land Acquisition Procedures for Candidate Repository Site		
(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)

TABLE I-B (continued)

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

Provision and Required Action	Completion Date	Agency
(20) Land Acquisition Procedures for Candidate Repository Site		
(20d) DOI (BLM) to Grant ROW for AF Lands	5/86	DOI(BLM), DOJ DOD(AF)
(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 Federal Register 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)
(21) Site Characterization		
"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

TABLE I-B (continued)

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

Provision and Required Action	Completion Date	Agency
(22) Site Characterization Analysis		
(22a) ~~NRC Staff Provide Comments and Guidance on Staff Related Activities~~	~~7/89~~	NRC
NRC Provide Comments on Consultation Draft Site Characterization Plan for Yucca Mountain	5/88	
(22b) NRC Issue Site Characterization Analysis	7/89	NRC
(23) Format and Content Guide for License Application		
(23a) Issue Draft Table of Contents for Format and Content Guide	8/89	NRC
(24) SCP Public Hearings		
"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 II-A
Milestones Associated with the Siting, Construction
and Operation of the Monitored Retrievable Storage Facility[6]
(for completed Milestones See Table II-B)

Provision and Required Action	Reference Schedule	Agency
(1) Appoint Negotiator		
"... 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.		
(1a) President Appoints Negotiator	TBD	President
(2) Negotiated Siting		
(2a) Complete Environmental Assessments for Sites (Negotiated Siting)	12/92	DOE
(2b) Candidate Site(s) Identified (Negotiated Siting)	3/93	DOE
(3) Environmental Impact Statement		
(3a) Pursuant to Section 1501.6 of the CEQ NEPA 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)
(3b) Issue MRS EIS Notice of Intent	3/93	DOE
(3c) Issue MRS DEIS	6/94	DOE
(3d) Issue MRS FEIS (See also 5a)	7/95	DOE

[6] Milestones associated with the MRS are subject to change upon approval of the MRS strategy.

TABLE II-A (continued)
Milestones Associated with the Siting, Construction
and Operation of the Monitored Retrievable Storage Facility[7]
(for completed Milestones See Table II-B)

Provision and Required Action	Reference Schedule	Agency
(4) Site Selection		
"At least 6 months before selecting a site under subsection (a), 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 potential selection and the basis for such selection." Section 145(e)(1) of the NWPA, as amended.		
(4a) Notify Governor(s) or Tribe(s)	1/95	DOE
(5) License Application		
"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." Section 148(b)(1) of the NWPA, as amended.		
(5a) Submit MRS License Application to the NRC	7/95	DOE
** (5b) NRC Grants Construction Authorization for Simple Receipt Facility	1/97	NRC
** (5c) NRC Grants Construction Authorization for Spent Fuel Handling Building	1/98	NRC

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

[7] Milestones associated with the MRS are subject to change upon approval of the MRS strategy.

TABLE II-B

Completed Milestones Associated with the Siting, Construction, and Operation of the Monitored Retrievable Storage Facility

Provision and Required Action	Completion Date	Agency
(1) MRS Review Commission		
"The report under this subsection, together with the recommendation of the MRS Review Commission, shall be transmitted to Congress . . ." Section 143(a)(3) of the NWPA, as amended.		
(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

TABLE III-A

Activity Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System

Provision and Required Action	Reference Schedule	Agency
(1) Transportation System Planning		
(1a) Issue Transportation Plan	TBD	DOE
~~(1b) Interact with Public and Intergovernmental Agencies to Identify Spent Fuel and and Defense High Level Waste Acceptance Scheduling, Routing, and Impacts~~	2/85 through completion of program	~~DOE,~~ DOT,
(1b) Comment on DOE Transportation System Planning		NRC
(2) Cask System Development (From-Reactor Cask Development)		
(2a) DOE 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) Cask Maintenance Facility (CMF) Development		
(3a) Decision on CMF Systems Development	TBD	DOE
(4) Service Contractor and Fleet Acquisition		
"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.		
(4a) Award Service Contract for Operations	TBD	DOE
(4b) Award Cask Fleet Contract	TBD	DOE

TABLE III-A (continued)

Activity Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System

Provision and Required Action	Reference Schedule	Agency
(5) DOE/DOT Interaction		
(5a) DOT Determines Transportation Services, if required	TBD	DOT
(6) Cask System Development (From-MRS Cask Development)		
(6a) Start From-MRS Cask Preliminary Design(s)	2/95	DOE
(6b) DOE Submits Safety Analysis Reports for Packaging to the NRC	1/00	~~NRC~~ DOE
(6c) NRC Review of Safety Analysis Reports for Packaging	1/00-6/02	NRC
(6d) Complete Certification of Compliance for From-MRS Casks	7/02	NRC
(7) Transportation System Development (MRS Transport/Storage System Development)[8]		
(7a) Initiate Development of Selected Concepts of Interim Transportation/Storage Capability	6/91	DOE
(7b) Complete Final Design and Submit NRC Application	6/93	DOE
~~(7b) Receive NRC Approval of MRS Transport/Storage System Technology~~	~~1/95~~	NRC
(7c) NRC Review of Safety Analysis Reports for Packaging	6/93-1/95	
** (7d) Receive NRC Approval of MRS Transport/Storage System Technology	1/95	NRC

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

[8] Milestones associated with the MRS are subject to change upon approval of the MRS strategy.

TABLE III-A (continued)

Activity Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System

Provision and Required Action	Reference Schedule	Agency
(8) Emergency Training		
". . . Secretary shall provide technical assistance and funds to States for training . . ." Section 180(c) of the NWPA, as amended.		
(8a) Start Emergency Training for Initial Shipments	1/95	DOE
(8b) Emergency Training Complete for Initial Shipments	7/97	DOE

TABLE III-B

Completed Milestones Associated with Development
and Operation of the Radioactive Waste Management Transportation System

Provision and Required Action	Completion Date	Agency
(1) Transportation System Planning		
(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) Cask System Development (From-Reactor Cask Development)		
(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) DOE/DOT Interaction		
(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)

Table Reference	Task	Action Required	Date
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)

Table Reference	Task	Action Required	Date
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)

Table Reference	Task	Action Required	Date
I-A-2b *	Land Acquisition Procedures for Candidate Repository Site	Issue Public Land Order	12/90
I-A-2c	Land Acquisition Procedures for Candidate Repository Site	~~Begin Pre-Application Consultation for Permanent Land Withdrawal~~	~~4/01~~
		Begin Preparing Application and Supporting Documentation for Secretarial Review of Request to Extend Temporary Withdrawal for Additional 12-year period	1/00
~~I-A2e~~	~~Land Acquisition Procedures for Candidate Repository Site~~	~~Apply for Permanent Withdrawal of Public Land~~	~~6/01~~
I-A-2e **	Land Acquisition Procedures for Candidate Repository Site	Temporary Withdrawal Extended by Secretary of Interior	1/03
~~I-A-2f~~	~~Land Acquisition Procedures for Candidate Repository Site~~	~~Being Preparation of Case File Reports Including Environmental Document~~	~~6/01~~
I-A-2f **	Land Acquisition Procedures for Candidate Repository Site	Prepare Proposal for Congressional Action on Legislative Withdrawal	4/08
~~I-A-2h~~	~~Land Acquisition Procedures for Candidate Repository Site~~	~~Public Comment Period Closes~~	~~7/01~~
~~I-A-2j **~~	~~Land Acquisition Procedures for Candidate Repository Site~~	~~Issue Public Land Order~~	~~3/03~~
I-A-6d **	Environmental Impact Statement	Review and Comment on Repository DEIS	10/99-2/00

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

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

APPENDIX A.2

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

U.S. Geological Survey (USGS)

Table Reference	Task	Action Required	Date
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.3

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

Table Reference	Task	Action Required	Date
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS	10/99-2/00
III-A-1b	Transportation System Planning	~~Interact with Public and Intergovernmental Agencies to Identify Fuel Acceptance Schedule, Routing, and Impacts~~	2/85 through completion of program
		Comment on DOE Transportation System Planning	
III-A-5a	DOE/DOT Interaction	DOT Determine Transportation Services, If Required	TBD

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

APPENDIX A.4

AGENCY: COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)

Table Reference	Task	Action Required	Date
I-A-6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS Pursuant to Sec. 309 of the Clean Air Act	10/99-2/00

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

APPENDIX A.5

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

Table Reference	Task	Action Required	Date
I-A-6a,6d **	Environmental Impact Statement	Review and Comment on DOE Repository DEIS, Serve as Cooperating Agency	10/99-2/00
I-A-20a *	Environmental Protection Agency Standards	Issue Revised 40 CFR Part 191 (Proposed)	~~6/90~~ proposed 12/90

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

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

APPENDIX A.6

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC)

Table Reference	Task	Action Required	Date
I-A-1a	Format and Content Guide for License Application	Issue Final Format and Content Guide	TBD
I-A-3a	NRC Rulemakings	Conform 10 CFR 60 to EPA High-Level Waste Standard	TBD
I-A-3b	NRC Rulemakings	Review of the Commission's Findings Under the 1984 Waste Confidence Decision	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	~~4/01~~ 1/01
I-A-11b **	License Application	NRC Review 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 Issue 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
I-A-19b	Quality Assurance Program	Issue Safety Evaluation Report for the QA Requirements/QA Program Description	6/90
I-A-19c *	Quality Assurance Program	Accept OCRWM QA Program	1/91

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

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

APPENDIX A.6

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC) (continued)

Table Reference	Task	Action Required	Date
II-A-5b **	MRS License Application	NRC Grant Construction Authorization for Simple Receipt Facility	1/97
II-A-5c **	MRS License Application	NRC Grant Construction Authorization for Spent Fuel Handling Building	1/98

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

APPENDIX A.6

AGENCY: NUCLEAR REGULATORY COMMISSION (NRC) (continued)

Table Reference	Task	Action Required	Date
III-A-1b	Transportation System Planning	~~Interact with Public and Intergovernmental Agencies to Identify Spent Fuel Acceptance Scheduling, Routing, and Impacts~~	2/85 through completion of program
		~~Comment on DOE Transportation System Planning~~	
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	1/00-6/02
III-A-6d	Cask System Development	Complete From MRS-Cask Certification of Compliance	7/02
~~III-A-7c~~	~~Transportation System Development~~	~~NRC Review of Safety Analysis Report for Packaging for MRS Transport/Storage System~~	~~6/93-1/95~~
~~III-A-7b **~~	~~Cask System Development~~	~~Complete MRS Transport/Storage System Certification of Compliance~~	
~~III-A-7d **~~	~~Transportation System Development~~	~~NRC Approval of MRS Transport/Storage System Technology~~	~~1/95~~

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

APPENDIX A.7

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

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

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

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, 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 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 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 Shaft 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

[illegible] of Decision

[illegible]-Based Testing

[illegible] - Site Characterization Plan

Secretary - Secretary of Energy

SFHB - Spent Fuel Handling Building

SRR - Site Recommendation Report

USGS - United States Geological Survey

UZ - Unsaturated Zone

FEBRUARY 1990 PROJECT DECISION SCHEDULE REVISION
COMMENT RESPONSE DOCUMENT

February 1990

PDS SECTION/PAGE	COMMENT	RESPONSE
Table 1-A page 29	COMMENT I.D.: DOT-1 I note that the specific inclusion of the Department's participation in the review of the Draft Environmental Impact Statement is a new required action. However, the scheduled dates for this task are so far in the future that we should be able to live with this requirement.	As noted in the PDS, in accordance with applicable Council on Environmental Quality regulations (40 CFR 1501.6), the Department anticipates that it will request DOT, as well as DOI, DOD, and EPA to serve as cooperating agencies in the preparation and review of the DEIS. In addition, all transportation-related activities associated with the program (e.g., cask procurement and transportation operations) will be subject to DOT regulations. As a result, it is important for DOT to participate fully in the DEIS review process.
Table 1-A page 33	COMMENT I.D.: EPA-1 We have carefully reviewed our activities under the draft schedule, and we have one clarification. EPA is required to develop standards for the management and disposal of high-level	Milestone (20a), Table 1-A, has been revised to reflect the change that the proposed rule on EPA high-level radioactive waste standards is expected to be issued by December 1990.

PDS SECTION/PAGE	COMMENT	RESPONSE
	radioactive waste under Section 121 (a) of the Nuclear Waste Policy Act, as amended. These standards (40 CFR 191) were promulgated in 1985. A Court of Appeals decision requires EPA to reconsider a portion of these standards. The PDS Revision indicates that the proposal is expected in June of 1990. We expect the reproposal of the standards to be no later than December of 1990. This change should be reflected on pages 37 and A-7. We hope to repropose this rule before December.	
Table 1-A page 33	COMMENT I.D.: EPA-2 One additional issue relating to DOE's program is the possible applicability of the Resource Conservation and Recovery Act (RCRA). High-level radioactive wastes frequently possess characteristics that also identify hazardous waste. These "mixed wastes" exhibit both hazardous and radioactive properties. Certain waste forms (and possibly spent nuclear fuel) may be hazardous because they contain lead or other hazardous waste constituents. If the high-level waste form accepted at the repository is hazardous, RCRA permitting milestones are needed for the PDS. Similarly, if the waste is hazardous, RCRA permitting might be	RCRA permitting milestones cannot be provided for the PDS since the applicability of the Resource Conservation and Recovery Act (RCRA) to the spent fuel and high-level waste has not been determined. The Department plans to perform the Toxicity Characteristic Leach Procedure (TCLP) in order to ascertain the concentration of the restricted RCRA defined hazardous waste constituent in the waste form and thereby determine the applicability of RCRA regulations to the repository program.

PDS SECTION/PAGE	COMMENT	RESPONSE
	addressed by a delegated state program.	
Table 1-A page 33	COMMENT I.D.: NRC-1 The Draft Revision includes only one NRC deadline within the current three-year scheduling horizon. That is Milestone (19), "Accept OCRWM QA (Quality Assurance) Program," which is scheduled for September 1990. NRC is concerned that this milestone could be interpreted as the timeframe when NRC will lift its QA objection in its Site Characterization Analysis (SCA). NRC's interpretation of Milestone (19c), which is based on recent NRC-DOE QA Program meetings, is that NRC should be able to accept DOE's QA Program plans for implementation by September 1990. Until DOE demonstrates its ability to implement its QA program, for all program areas, through development of study plans and technical procedures, the NRC cannot lift its SCA objection. NRC expects, however, that by January 1991, DOE should be able to demonstrate	Based on recent NRC/DOE quality assurance meetings, the Department interprets Milestone (19), Table 1-A, as does the NRC. "Accept OCRWM QA Program" is not interpreted as the timeframe when NRC will lift its QA objection in its site characterization analysis (SCA). DOE expects that the NRC would lift the SCA objection for those portions of the QA program needed to begin surface-based testing only after demonstration of further implementation and assessment of effectiveness.

PDS SECTION/PAGE	COMMENT	RESPONSE
	acceptable implementation for those portions of the QA programs needed to begin surface-based testing. However, NRC's lifting of its QA objection for any part of the program will be contingent on DOE's further demonstration of QA program implementation.	
	Comment I.D.: NRC-2	
	NRC is also concerned that the Draft Revision does not include milestones for development of the Licensing Support System (LSS). As NRC stated in its comments to DOE on the "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program," DOE's reference schedule for the repository program should include DOE milestones for the design and development of the LSS. This would help ensure that the LSS will be operational on a schedule that will allow participants in the licensing proceeding early access to documents relevant to the licensing decision.	Milestones for LSS development will be tied to the repository schedule. The absence of LSS milestones in the PDS is due to significant budget cuts and the delay in the program. The Department, however, is committed to the development of the LSS on a schedule that will make the LSS available to participants in the licensing proceeding.
	COMMENT I.D.: NRC-3	
	NRC offers the general comment that in reviewing the PDS milestones, we have made the assumption that the review time for PDS activities is the maximum	The review time provided in the PDS is the maximum allowable review time for agency activities.

PDS SECTION/PAGE	COMMENT	RESPONSE
	allowable time for the period indicated. For example, if the review period is April 1990 to June 1990, it is assumed that the time for the review is the maximum time possible, three full months.	
Section 1.4 page 3	COMMENT I.D.: NRC-4 The PDS should explain the basis for deciding that a milestone is "critical", and thus subject to NWPA reporting requirements. The PDS should also explain the basis for proposing that selected planning objectives be subject to NWPA reporting requirements.	Section 1.4 has been expanded to provide the criteria for designating milestones as "critical." The same criteria are used to designate planning objectives that will be subject to NWPA reporting requirements.
Table 1-A page 29	COMMENT I.D.: NRC-5 Milestone (7a), "NRC Issues Comments on Sufficiency of Site Characterization Analysis and Waste Form Proposal," is currently a planning objective with a target date of April 2001. In preparation for meeting this planning objective, NRC will be reviewing DOE progress in its site characterization activities and waste form development, on an ongoing basis.	Noted.
	The NRC will also review DOE's Waste Form Proposal prepared under Section 114(a)(1)(B) of the NWPA as a basis for its Sufficiency Comments. The PDS	Information on the waste form and packaging is incorporated in the Site Characterization Plan. NRC will receive the status of these activities in the

PDS SECTION/PAGE	COMMENT	RESPONSE
	should indicate when DOE plans to issue the Waste Form Proposal so that NRC can evaluate whether there is adequate review time for it to meet Milestone (7).	SCP Progress Reports.
Table 1-A page 29	COMMENT I.D.: NRC-6 Milestone (7) is scheduled for the same month that DOE issues its Site Recommendation Report (SRR), Milestone (8c), to the President. Because the NWPA requires that these NRC comments be part of the basis for the SRR, it does not appear that the April 2001 dates for both of these actions are realistic.	The Department has revised the date for milestone (7a) to January 2001.
Table 1-A page 31	COMMENT I.D.: NRC-7 Milestone (11a) in Table I-A is DOE's submittal of the License Application to NRC. A new milestone should be inserted after (11a) for NRC's decision on docketing DOE's License Application. This decision would be made as a result of NRC's acceptance review to determine if DOE's License Application is complete and acceptable for docketing. We anticipate this decision can be made two months after License Application submittal.	A new milestone (11c), "NRC completes Acceptance Review of License Application for Docketing," has been added to Table 1-A. This milestone is shown two months following milestone (11a) "Submit License Application to the NRC."

PDS SECTION/PAGE	COMMENT	RESPONSE
Table 1-A page 31	COMMENT I.D.: NRC-8 Milestone (11b) should be retitled "NRC License Application Review and Licensing Hearing" to more accurately reflect the major activities in this time period. The three-year statutory NRC licensing time period will begin after NRC dockets the License Application, and not when DOE submits the License Application. The PDS schedule should be changed to reflect a two-month period for NRC's docketing decision.	Since NRC has a regular practice of performing acceptance reviews of license applications, the Department considers Milestone (11b), Table 1-A, to cover the time period for acceptance review. The Department has added a new milestone, (11c), for acceptance review as requested in NRC comment 7.
Table 1-A page 31	COMMENT I.D.: NRC-9 The schedule for NRC's review of the updated License Application and decision regarding a license to receive and possess waste under Milestone 14 and shown on Figure 3 shows approximately 21 months for this activity. DOE scheduled NRC's review to begin about 18 months before completion of construction, and end about three months after construction is completed. This 21-month period is longer than the nine months provided in the June 1987 Mission Plan Amendment; however, the three months after construction is completed	The 1987 Mission Plan Amendment (MPA) had allocated 30 months for NRC review and decision on the Department's updated license application for receipt and possession of spent fuel and HLW at the repository, with the updated license application to be submitted when repository construction and testing was 50% complete. However, the OCRWM Program Schedule Baseline has now provided for a 21-month review period, with submittal of the updated license application when repository construction and testing is approximately 70%

PDS SECTION/PAGE	COMMENT	RESPONSE
	is less than the nine months originally planned. NRC is concerned that this three-month period is not enough unless the overall 21-month review period starts when DOE's construction is "substantially complete" (see 10 CFR 60.41). DOE should clarify when construction will be substantially complete.	complete.
	(We would also note that, unlike Figure 3, Figure 1 does not show any time between completion of construction and the start of waste emplacement.)	Figure 1 provides the overall OCRWM program schedule, while Figure 3 appropriately provides a detailed schedule for the repository licensing review and construction phases. Figure 1 does show time between completion of construction and the start of waste emplacement.
Table 1-B page 39	COMMENT I.D.: NRC-10	
	It is not clear what Milestone (13h) means. In May 1989, NRC issued a final rule, amending 10 CFR Part 61, on disposal of Greater-than-Class-C (GTCC) low-level radioactive waste in a deep geologic repository unless disposal elsewhere has been approved by the Commission (54 FR 22578). NRC's rulemaking on GTCC containment criteria has not been issued and is, in fact, only under consideration as a potential future rulemaking.	The title of Milestone (13h), Table 1-B, has been changed to read "Amendments to 10 CFR Part 61 requiring the Disposal of GTCC Low-Level Radioactive Waste (LLW) in a Repository Unless NRC Approves Other Disposal."

PDS SECTION/PAGE	COMMENT	RESPONSE
Table 1-B page 39	COMMENT I.D.: NRC-11 Milestone (13i) should read "Review of the Commission's Findings Under the 1984 Waste Confidence Decision."	The description of milestone (13i), Table 1-B, has been changed as requested.
Table 1-B page 39	COMMENT I.D.: NRC-12 The words "Waste Confidence Decision" should be deleted from Milestone (13j).	The description of milestone (13j), Table 1-B, has been changed as requested.
Table 1-B page 43	COMMENT I.D.: NRC-13 Milestone (22a) is unclear. NRC provided comments on DOE's "Consultation Draft Site Characterization Plan for Yucca Mountain" in May 1988. The Milestone should be revised, as necessary.	The description of milestone (22a), Table 1-B, has been changed as requested.
Table 1-A page 43	COMMENT I.D.: NRC-14 Milestone (23a) should be retitled "Issue Draft Table of contents for Format and Content Guide."	Milestone (23a), Table 1-B, has been changed as requested.

PDS SECTION/PAGE	COMMENT	RESPONSE
Appendix A-6 page A-8	COMMENT I.D.: NRC-15	
	The list of NRC activities in Appendix A-6 does not include NRC review of the Draft Environmental Impact Statement (DEIS) included in Table I-A. We would suggest that the PDS include NRC's review of the DEIS in Appendix A-6 to be consistent with milestones for review of the DEIS by other Federal agencies in Appendixes A-1 through A-5.	In the final rule (54 FR 27864) on 10 CFR Part 51, entitled "NEPA Review Procedures for Geologic Repositories for High-Level Waste," NRC declined the role of a "cooperating agency" but instead wanted to be a "commenting agency." In view of the rule, a milestone has been added to Appendix A-6: "Review and comment on DOE repository DEIS, 10/99-2/00."
	Also, as noted above, NRC recommends that a new planning objective be added to Table I-A (Item 11) and Appendix A-6 for NRC docketing of the License Application.	See Response to comment NRC-7.
Section 5.0 page 21	COMMENT I.D.: NRC-16	
	Regarding the MRS, DOE assumes that a State will volunteer a site for an MRS and that the statutory restrictions linking the MRS to progress on the repository will be modified. Only if these assumptions are realized, and litigation does not ensue, may it be possible to meet the target 1998 schedule for limited waste acceptance.	The Department recognizes that there is uncertainty with regard to a volunteer host for an MRS site. If a site is not found, the target 1998 schedule for limited waste acceptance will be impacted unless activity durations can be shortened elsewhere in the schedule.

February 1990

PDS SECTION/PAGE	COMMENT	RE:
	The "revised MRS strategy" referenced on p.21, which will cover obtaining a volunteer site and expediting the licensing process, will "likely result in significant changes to the MRS schedule." These changes are to be reflected in future updates to the PDS. The NRC believes that it is likely that the changes to the MRS schedule will be to further delay the schedule.	N. .ee above. Tl · changes to the schedule currently under review do not include delays to initial waste acceptance.
Table III-A page 47, 48	COMMENT I.D.: NRC-17 In Table III-A, the date of DOE submittal of the Safety Analysis Report for the from-reactor and from-MRS cask development should be indicated.	Milestones (2a) and (6b) have been added to Table III-A. These milestones provide the dates for submittal of the Safety Analysis Report for the from-Reactor and from-MRS casks to the NRC.
Table 1-A page 47	COMMENT I.D.: NRC-18 In Appendix A-6, Item III-A-1(b) is inappropriately assigned to NRC. DOE should have the lead for this item, in consultation with NRC.	The required action for milestone (1b) in Appendix has been revised to note that NRC will be asked to comment on DOE transportation system planning.

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Table III-A	COMMENT I.D.: NRC-19 Also in Appendix A-6, Item III-A-7(b) should refer to NRC "review" of the MRS Transport/Storage System Certification of Compliance.	Milestone (7b), Table 111-A, has been revised as (7c) to read "NRC Review of Safety Analysis Report for Packaging" for MRS Transport/Storage System.
Table 1-A page 33	COMMENT I.D.: DOJ-1 In reviewing the draft Project Decision Schedule, I note that the Department of Energy has projected December 1990 as the time for completion of litigation necessary to obtain permits from the State of Nevada that the Department of Energy needs to begin intensive site characterization. The draft also identifies the Department of Justice as the agency responsible for meeting this deadline. As you are aware, the Department of Justice is supporting your program by actively pursuing litigation in both the United States Court of Appeals for the Ninth Circuit to remove obstacles to obtaining the necessary permits from the State of Nevada. We believe we have been managing this litigation in the	The reporting requirement for milestone (18a), Table 1-A, has been deleted as requested.

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	most expeditious manner possible, and we have every hope of reaching a successful conclusion in the reasonable foreseeable future. Completion of the litigation by a specific date, however, is subject to a major contingency over which the Department of Justice has no control, and that is the issuance of final decisions by the various courts involved. Consequently, we do not think it is appropriate to treat the completion of the litigation as action that is "required" of the Department of Justice by a certain date, in the language that Section 114(e) utilizes. We do not mean to suggest at all that it is inappropriate for the Department of Energy to project a date for completion of the litigation. We merely request that the Project Decision Schedule be changed so as not to identify the Department of Justice as responsible for meeting a deadline for the termination of the litigation. If there in fact is a delay in concluding this litigation, it would appear that the Department of Energy, after consultation with the Department of Justice, could easily provide the explanation Congress has required in Section 114(e)(2).	

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Table 1-A page 26	COMMENT I.D.: DOI-I Table 1-A, pages 26 and 27, shows land acquisition would be accomplished by a public land order (PLO) which is prepared by our Bureau of Land Management (BLM). This same task is also shown on Appendix A-2. In actuality, the BLM prepares a public land order which is signed by the Secretary of the Interior. Initially, there would be a temporary withdrawal followed by a permanent withdrawal. As with the Waste Isolation Pilot Project (WIPP) in New Mexico, we advise a congressional withdrawal is preferred rather than a public land order. A temporary withdrawal which protects the integrity of the land during site characterization, but does not transfer jurisdiction or authorize storage of radioactive waste, can be accomplished by a PLO. If the site is determined as suitable for a high-level nuclear waste repository, then we urge the DOE to draft legislation to permanently transfer the site. Since, by law, the Secretary may only administratively withdraw the land for a period of 20 years, a permanent withdrawal and transfer of the land to DOE by Congress would be more appropriate when considering the	The Department agrees that the follow-on withdrawal identified on pages 26-27 of Table 1-A and Appendix A-2 should be identified as a permanent legislative withdrawal. A permanent legislative withdrawal is a Congressional action requiring preparation of appropriate legislation. DOI/BLM's involvement is at DOE's discretion, i.e., BLM may be requested to review the legislation for technical accuracy, not for concurrence. The PDS has been revised to indicate that legislation for the permanent withdrawal will be drafted and submitted to the Congress for consideration.

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	projected term of the Yucca Mountain Project. An administrative withdrawal made by the Secretary envisions that the land withdrawn, to a large extent, will be somewhat suitable for return to its former status and public land uses at the conclusion of the withdrawal. A repository for high-level nuclear waste would not seem to meet this criteria. We recommend that the DOE revise the PDS to show that permanent withdrawal and transfer of the land be accomplished through legislation.	