

THE DEPARTMENT OF ENERGY
MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

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ABSTRACT

The Nuclear Waste Policy Act of 1982, Pub. L. 97-425, was signed by the President on January 7, 1983. Section 301 of this Act requires the Secretary of Energy to prepare a comprehensive report known as the Mission Plan. The purpose of this report is to "provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program and the research, development, and demonstration programs required under the Act."

Section 301 of the Act further requires the Secretary to submit a draft Mission Plan to the States, the affected Indian Tribes, the Nuclear Regulatory Commission, and other Government agencies as the Secretary deems appropriate for their comments.

The draft Mission Plan was completed in April 1984. About 3000 copies were distributed for review and comment. The Department of Energy received sets of comments from over 100 organizations and individuals totalling nearly 2500 individual comments. Many differing positions and viewpoints have been strongly expressed.

The major topics covered in the comments include: the consultation and cooperation process with the States; plans for disposing of defense waste; the repository schedule; the preliminary determination that sites are suitable for development as repositories; the need for a second exploratory shaft; DOE taking title to spent fuel by 1998; the need for strong, centralized management; transportation concerns; monitored retrievable storage criteria; integration of the first and second repository schedules; need for strong quality assurance; the need and timing for a second repository; socioeconomic and institutional concerns; and the repository site recommendation methodology.

The Department is expanding and adding discussions of various topics in the Mission Plan as requested. In addition, the Department is addressing all areas of concern in the comments in a separate Comment Response Document to be published as a companion to the Mission Plan.

BACKGROUND AND LEGISLATIVE REQUIREMENT

The Nuclear Waste Policy Act of 1982 (Public Law 97-425, referred to in this paper as "the Act" assigned to the U.S. Department of Energy (DOE) the authority for the disposal of high-level radioactive waste and spent nuclear fuel. Among other provisions, Section 301.(a) of the Act requires the Secretary of Energy to "prepare a comprehensive report, to be known as the mission plan, which shall provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program and the research, development, and demonstration programs required under this Act." The Act identified eleven specific areas to be addressed in the plan. These are shown in Table I.

The Act further specifies the requirements for obtaining review and comments on the draft mission plan in preparation for submitting it to Congress as follows:

- (b) SUBMISSION OF MISSION PLAN - (1) Not later than 15 months after the date of the enactment of this Act, the Secretary shall submit a draft mission plan to the States, the affected Indian tribes, the Commission, and other Government agencies as the Secretary deems appropriate for their comments.

- (2) In preparing any comments on the mission plan, such agencies shall specify with precision any objections that they may have. Upon submission of the mission plan to such agencies, the Secretary shall publish a notice in the Federal Register of the submission of the mission plan and its availability for public inspection, and, upon receipt of any comments of such agencies respecting the mission plan, the Secretary shall publish a notice in the Federal Register of receipt of comments and of the availability of the comments for public inspection. If the Secretary does not revise the mission plan to meet objections specified in such comments, the Secretary shall publish in the Federal Register a detailed statement for not so revising the Mission Plan.
- (3) The Secretary, after reviewing any other comments made by such agencies and revising the mission plan to the extent that the Secretary may consider to be appropriate, shall submit the mission plan to the appropriate committees of the Congress not later than 17 months after the date of the enactment of this Act. The mission plan shall be used by the Secretary at the end of the first period of 30 calendar days (not includ-

ing any day on which either House of Congress is in session because of adjournment of more than three calendar days to a day certain) following receipt of the mission plan by the Congress.

Purpose of the Mission Plan

The Mission Plan is today's best estimate of the Department's programmatic plans and intentions for carrying out the radioactive waste management program in compliance with the Nuclear Waste Policy Act. It is a planning document and not a contract for performance. It should be recognized that in a program that will span many decades, time and circumstances are bound to change the Plan. As significant changes impact the program, the Department intends to periodically modify the Mission Plan accordingly. To quote Ben Rusche, with the Mission Plan, "we are not striving for perfection, but for communication effectiveness. We don't look for unanimity, but for understanding."

TABLE I

Mission Plan Content as Required by the Act

1. Information needs for repository facilities
2. Plans for obtaining the unavailable information needed to site, construct, and operate a repository
3. Potential financial, political, legal, and institutional problems
4. The test and evaluation facility
5. Significant results and implications of research and development programs of the different geologic media
6. Guidelines for recommending sites for repositories
7. Site characterization description and activities
8. Waste solidification and packaging processes
9. Repository capacities and construction and operations schedules
10. Costs of constructing and operating commercial radioactive waste facilities
11. Socioeconomic impacts

DOE Actions to Comply With the Act

To obtain input early during the preparation of the formal draft from those affected by the program, the Department submitted a "working draft" of the first part of the Mission Plan to the States, affected Indian tribes, the Nuclear Regulatory Commission, and other Government agencies as well as citizen organizations, the nuclear utilities and industry, and the press for their review and comment on December 20, 1983. The working draft presented a brief overview and a discussion of program strategy, a description of program plans for the repository, monitored retrievable storage, transportation, interim storage and system inte-

gration activities, and an explanation of the program management planning and control functions being implemented. The eleven specific information areas were not addressed in the first part of the plan. Copies of the document were also provided to interested members of Congress and their staffs for information.

As a consequence, the Department received over 60 sets of comments which provided pertinent and thoughtful reactions on nearly every major area discussed in the working draft of the Plan. Significantly, many of the respondents expressed concern that the Department only allowed about one month for review and comment and requested a longer review period when the formal draft would be circulated.

The Department, after considering all comments received on the "working draft," revised the first part of the Mission Plan, completed the remainder, and issued the formal draft Mission Plan on May 9, 1984. In addition to a substantial direct mailing, the Department announced the availability of the document for public review and comment in the Federal Register on May 9, 1984 (49 FR 10996). Approximately 3000 copies of the Mission Plan were distributed.

In recognition of the necessity to provide reviewers with sufficient time in which to "specify with precision" their constructive criticisms, the Department extended the formal draft comment period to two months (ending on July 9, 1984).

The Department received 102 written responses on the formal draft from the following: eight Federal agencies (including the Nuclear Regulatory Commission), 38 State agencies (of which nine were signed by State governors), and 30 utility and nuclear industry organizations, four Indian tribes or their representatives) 11 citizens, public interest, or environmental organizations, three public utility commissions, and several private individuals.

As comments on the formal draft were received, each letter was assigned a code number to identify it and its originator. Where an individual, organization, or agency had submitted multi-topical comments, they were disaggregated, assigned a sequential code, and then reaggreated into common topical groupings. Disaggregated, the 102 submissions produced over 2,500 single subject comments.

As required by the Act, the Department announced in the Federal Register on September 5, 1984 (49 FR 35038) the availability of all the comments on the draft Mission Plan for public inspection. Set of comments were made available for review at the Department's Headquarters building in Washington, D.C., and at 23 other Department of Energy facilities around the country. In addition, the Department sent copies of all comments received on the draft Mission Plan to all those who provided comments.

AREAS OF MAJOR COMMENTS ON THE DRAFT MISSION PLAN

As in the case of the comments on the December 1983 working draft, the comments on the April 1984 formal draft of the Mission Plan reflect many strongly-held often divergent positions and viewpoints. However, the scope of the comments and their complexity were greater than those received after the review of the working draft. The ten

areas of the draft Mission Plan, addressed most frequently in the comments or expressed in the strongest terms, are discussed below.

1. Institutional Relations

Many people commented on the imbalance in the Mission Plan between the amount of information and discussion on technical areas such as repository site geology versus institutional issues such as the appropriate role of States and affected Indian tribes in review of program documents. The Mission Plan, and conduct of the Program itself, was criticized for being overly optimistic in its assessment of problems with States, inadequate airing of public views, insufficiently involving States and Indian tribes in decisionmaking, and providing inadequate educational activities and information especially on the Consultation and Cooperation (C&C) process. More information was requested on procedures or the "management plan" to resolve financial, political, legal and institutional conflicts.

In response, we are adding an entirely new chapter to Part I of the Mission Plan on Institutional Relations. This chapter will reiterate and expand on our policy to promote "full, open, and timely sharing of information" and describe the process for conducting these activities. Further, as discussed below, we will respond to all comments received on the Mission Plan in a Comment Response Document.

2. Plans for Defense Waste

Nearly all parties, States, environmental groups, utilities, etc, wanted more information on the plans to dispose of defense wastes.

The Department recently completed a comparative evaluation of disposing of defense waste in a separate defense-only repository, or putting it in the civilian repositories. This study concluded that there was no compelling need for a defense-waste-only repository and a cost savings results if defense waste were disposed of in a civilian repository. This report was forwarded to the President for his evaluation as required by the Act. The Department's planning is proceeding assuming the President accepts the Department's recommendation and the Mission Plan discussion of defense waste will be expanded accordingly.

3. Waste Acceptance Beginning in 1998

The comments in this area were almost evenly divided between those seeking a strong DOE commitment to begin accepting waste by 1998, and those opposing such a commitment. In general the utilities favored the commitment citing the Department's obligation under the "Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste." The States and the environmental groups emphasized the need for sound, defensible decision-making regardless of time constraints.

The Department recognizes both concerns and is planning to meet both obligations. The Mission Plan will discuss at length a waste management system scheduled to begin operation no later than 1998 to accept and dispose of commercially generated spent fuel and high-level radioactive waste in a manner that protects the health and safety of the public and maintains the quality of the environment.

4. Repository Schedule

The overwhelming majority of comments about the repository schedule stated that it was too optimistic to be achievable. Reasons for lack of confidence in the schedule included: highly suspect sequencing of activities to meet 1998, near term dates missed by the end of the Mission Plan comment period, and short public review periods for program documents. Commentors suggested that the reference schedule should be DOE's best estimate of what is achievable, not what would have to occur to meet the 1998 deadline.

DOE recognizes that the reference schedule portrayed in the Mission Plan is success-oriented and aggressive. As indicated earlier, the Mission Plan should be viewed as the vehicle to present today's best estimate of what is going to be done. If unforeseen technical problems develop or litigation delays the program, the schedule will be re-established.

5. Site Characterization and Recommendation

Many commentors requested that the Mission Plan describe the site recommendation decision methodology and how program participants will contribute to the decision process. Commentors were divided with respect to DOE's position on the Nuclear Waste Act's requirement for the preliminary determination that sites are suitable for development as repositories.

Since the draft Mission Plan was issued in April 1984, the Department issued the nine Draft Environmental Assessments of sites for disposal of high-level radioactive waste. These documents discuss in detail the process by which the recommended sites were selected. With regard to the preliminary determination that sites are suitable for development as repositories, the Department intends to make that determination shortly after the recommendation of three sites for the first repository.

6. Need for Second Exploratory Shaft

Many comments were offered concerning the need for a second shaft at each characterized site. The NRC wanted additional information which justifies the large diameter of the second repository shaft. Many commentors, particularly State representatives, stated that the decision should be based on exploration or safety concerns and not on construction schedule savings.

The Department is planning to sink two exploratory shafts at each candidate site (i.e., tuff, basalt and salt). The second shaft will be sized to support the safe operation of the underground testing program and will provide flexibility in the scope and duration of in-situ testing.

7. Second Repository

Many commentors suggested that the Mission Plan provide more detail and schedule analysis for the second repository. Some suggested that the first and second repository schedules should be integrated and that the site nominations for the second repository should not occur before site selection for the first repository.

Revised schedules for both the first and second repositories will be included in the Mission Plan. The schedules will be adjusted to make maximum benefit in the second repository program of key information and results from the first. Current plans call for the Department to recommend the first site for repository development before the sites for the second repository are nominated for characterization.

8. Monitored Retrievable Storage

DOE was requested to be more explicit about the criteria to determine whether Monitored Retrievable Storage (MRS) is needed. The utilities asked that the Monitored Retrievable Storage facility siting and licensing processes be established and initiated as soon as possible.

The role that the Monitored Retrievable Storage facilities will play in the integrated waste management system is evolving rapidly as a number of studies are nearing completion. In the draft Mission Plan, the MRS was described as a backup to the repository in the event of major delays. The Department continues to believe that

this is an appropriate role, but recent results have also shown that this may not be the only appropriate role. Other integrated system functions are being evaluated, such as packaging, handling and lag storage, that can or should take place away from a repository, possibly at the MRS. The Mission Plan will describe the Department's current position when it is issued.

9. Transportation

Several commenters, primarily State representatives, criticized the general treatment of transportation complexities and importance as inadequate. Some portrayed the resolution of transportation issues as the most significant obstacle to siting and operating a repository. Among the issues most frequently raised were: prenotification to States and communities of waste shipments; emergency response capabilities; safety and security of transportation casks; and resolution of legal and regulatory conflicts.

As indicated above, the purpose of the Mission Plan is to provide an overview of program goals and an outline of current program policies and plans. The final Mission Plan will incorporate a more detailed account of transportation issues than was contained in the draft Mission Plan. However, an in-depth discussion of the above issues is reserved for two supplementary documents: the Transportation Business Plan and the Transportation Institutional Plan scheduled for release in draft form later this year.

10. Need for Strong Management and Quality Assurance

Many reviewers advised that strong, centralized management is needed for program elements such as policy formulation, program planning, program implementation, funds control, legal affairs and coordination with other interested parties. Most of the concerns centered around the decision to execute the program through a network of decentralized operations offices. Many commenters, especially the NRC, felt the description of DOE's quality assurance program contained in the Mission Plan was inadequate.

The Department agrees that strong centralized management is necessary and is rewriting the Program Management Chapter to provide a more complete description of the system being implemented by the Office of Civilian Radioactive Waste Management. The final Mission Plan will attempt to clarify that while execution of the program by DOE operations offices and contractors is decentralized, overall policy formulation, program planning, management and control is centralized at Headquarters in Washington, D.C. A major, new section on Quality Assurance is being added to the Program Management Chapter to provide a more detailed discussion of the Quality Assurance activities.

DEPARTMENT RESPONSES TO COMMENTS

As indicated above, the Act requires Federal Government agencies to "specify with precision any objections that they may have." The Nuclear Regulatory Commission was the only Federal agency to specifically identify objections to the draft Mission Plan. In addition, the Act required the Secretary of Energy to fully consider Federal Government agency objections and revise the Mission Plan if appropriate, or to publish in the Federal Register a detailed statement if the Mission plan was not revised to meet objections.

In order to be responsive to everyone's concerns regarding the Mission Plan, and not just those of Federal Government agencies, and to assure that all comments have been thoroughly considered the Department has adopted the policy that responses will be prepared to address all comments and major areas of concern. These responses will be documented in a separate Comment Response Document to be published as a companion to the Mission Plan. Further, the Department is revising the Mission Plan to incorporate comments as appropriate and is expanding the discussion on several topics and issues in the mission plan as requested.

FUTURE REVISIONS OF THE MISSION PLAN

In conclusion, it should be emphasized that the Mission Plan defines the Department's best estimate at the present time of the objectives, strategy, activities, management approach and information needs to implement the civilian radioactive waste management program. It is not intended to provide detailed system description or project plans nor is it a contract stating precisely how the program will be conducted. The Mission Plan should be viewed as a statement of current expectations of how the program will be carried out and of the Department's commitment to meet the mandates of the Nuclear Waste Policy Act. Because of the extended time period involved, and the large amount of work to be done to precisely define the program, the Mission Plan is subject to change.

The Department's policy, therefore, is to revise the Mission Plan on an as-needed basis. The Department intends to follow the same procedures specified in the Act and submit major, future revisions to the States, affected Indian tribes, the Commission and other Government agencies, and the public as appropriate for their comments.