



POLICY ISSUE

(Information)

February 22, 1984

SECY-84-87

For: The Commissioners

From: William J. Dircks
Executive Director for Operations

Subject: NRC REVIEW AND COMMENT ON THE DOE CIVILIAN RADIOACTIVE
WASTE MANAGEMENT PROGRAM MISSION PLAN

Purpose: To inform the Commission of the staff's comments on the
working draft of Volume I of the Department of Energy's
(DOE) Mission Plan, and the schedule anticipated for the
formal review provided for under Section 301(b) of the
Nuclear Waste Policy Act of 1982 (NWPA).

Discussion: On January 17, 1984 we informed you that we were in the
process of commenting on a working draft of DOE's Mission
Plan (SECY-84-17). We have completed that review and forwarded
our comments to DOE on February 8, 1984. A copy is attached
for your information.

The NWPA requires that DOE submit a draft Mission Plan to
the States, affected Indian tribes, the Commission, and
other appropriate government agencies no later than April 7,
1984. In preparing any comments on the draft, we are
required to "... specify with precision any objections..."
that we may have. If the Secretary does not revise the
Mission Plan to meet objections specified in such comments,
he must publish a detailed statement in the Federal Register

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for not so revising the Mission Plan. Following our review of this next draft, formal NRC staff comments will be forwarded in a Negative Consent Paper to the Commission for its consideration.

A handwritten signature in dark ink, appearing to read 'William J. Dircks', is positioned above the printed name.

William J. Dircks
Executive Director for Operations

Enclosure:

Letter from John G. Davis, NRC
to Michael J. Lawrence, DOE
Dated: February 8, 1984



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 08 1984

Mr. Michael J. Lawrence, Acting Director
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Washington, D.C. 20585

Dear Mr. Lawrence:

In response to Mr. Robert Morgan's request of December 20, 1983, I am pleased to provide comments on the working draft of the Department of Energy's (DOE) "Civilian Radioactive Waste Management Program Mission Plan, Volume I, Overview And Current Program Plans," dated December 20, 1983. We understand that Volume II, which is not yet available, will include more detailed information to address the eleven items specifically required by Section 301 of the Nuclear Waste Policy Act of 1982 (the Act), which would include a description of DOE's research, development, and technology demonstration program.

In my speech before the Civilian Radioactive Waste Management Information Meeting on December 13, 1983, I described the process by which the Commission will decide whether to authorize construction of a repository at a particular site. One of the distinctions I drew in that presentation was between the licensing staff, who make recommendations on whether and under what conditions a license should be issued; and the five Commissioners who have the ultimate authority to approve or disapprove DOE's license application for the waste repository. The enclosed comments on the working draft of Volume I of the Mission Plan are the views of the NRC licensing staff. The NRC's comments on the formal draft called for under Section 301(b) of the Act will receive Commission review.

I would like to highlight several observations that we've made on the draft Mission Plan's consideration of the licensing process and the need to develop sufficient data and analyses to support licensing findings in the adjudicatory evidentiary hearing process prescribed by 10 CFR Parts 2 and 60.

1. The draft Mission Plan adopts a development strategy which depends on receiving a limited work authorization to allow repository construction to start six months after the submission of the license application (pages 3-A-26, 27, 38 and 43). The Commission regulations do not provide for a limited work authorization for a geologic repository. In developing its regulations, the Commission explicitly considered the types of activities that would be permitted prior to the initial licensing decision and decided that construction should not be allowed to proceed without a comprehensive review of the license application.

2. On page 3-A-38, it is stated that the time for in-situ testing in salt and tuff to provide data for the selection of the first repository ranges from 8 to 27 months. It goes on to say, however, that some estimates from outside the Department indicate that 4 years or more will be needed for at-depth testing (3-A-42). While the plan recognizes that there may be other views and states that DOE will continue working with other groups on in-situ testing requirements, we believe that the estimates reported in the final Mission Plan should better reflect the uncertainty in the scale and duration of required testing and the need to provide sufficient information to support the licensing findings. There is particular uncertainty with respect to the testing that may be required to address thermal effects of waste emplacement on the host rock and groundwater. Over the past several years, the NRC staff has pointed out the need for DOE to address this issue as it has potential for large impacts on schedule. As you know, the USGS has estimated that underground testing to address such long term isolation issues may take 5 to 10 years to complete at the Hanford site. Resolution of this question is largely dependent on DOE's establishing site specific design performance requirements as discussed in item 5 below. DOE can reduce or eliminate uncertainties about testing needs by design measures such as limiting thermal loading. The Commission staff stands ready to consult with DOE on plans for design and to reduce uncertainties on testing needs. DOE should be aware that the quality of this testing and its documentation, we believe, is key to the selection process. It is in this area where we see the opportunity for issues to arise which will be particularly challenging for resolution.

3. On page 3-A-44 it is stated that because of the extensive, prelicensing interaction with the NRC, a 3-year licensing period has been assumed as specified in the Act. What's not mentioned is that the Commission's position before Congress on meeting this licensing schedule was conditioned on DOE submitting a high quality and complete license application for NRC review. The prelicensing interaction is intended to assist DOE in providing such an application by NRC informing DOE on a timely basis of areas the NRC believes need attention or a modified or increased examination by DOE.

The Commission believes that in order to assure that sufficient information is being gathered, a free and open exchange prior to the beginning of formal licensing is essential. As indicated by the completion of the DOE/NRC procedural agreement on repository programs, progress has been made in establishing effective and publicly accessible mechanisms for early identification and resolution of technical issues by DOE and NRC. The Mission Plan should recognize, however, that any of the issues being addressed in the prelicensing consultation process can be the subject of challenge before the hearing boards, even if the express concerns of the NRC staff had been accommodated. The plan should reflect the uncertainty about the duration of the hearing process that may result

if the data presented in the license application is subject to legitimate dispute. In this connection, we also recommend that the repository program strategy include an active seeking by DOE of views of a wide cross-section of the technical community during the prelicensing consultation phase, to supplement the consultation and cooperation process prescribed by law.

4. The sequence for developing repository design information and supporting data does not appear to be consistent with what will be required to make findings under 10 CFR Part 60. Figure 3-A-5 shows that a Title I design will be completed prior to license application; however, Section 6(a) states that repository design will be completed after a license application is submitted and that "preliminary designs" for the repository and waste package will be initiated near the end of in-situ testing and provided with the license application. We recognize that greater levels of design detail will continue to be developed as the program progresses. However, detailed design information, along with data on engineered system components performance, will be required to demonstrate compliance with 10 CFR Part 60 performance objectives and requirements at the time of the submittal of a license application. "Preliminary information" on design will clearly not be sufficient to support licensing findings and a construction authorization by the Commission. The current ambiguity in the Plan on design development needs to be cleared up in the next draft. It is essential that the Mission Plan clearly reflects the requirements of 10 CFR Part 60.

5. Over the past year the NRC staff has informed DOE of the need to establish, as soon as possible, the intended performance requirements for repository system components on a site specific basis. 10 CFR Part 60 gives DOE flexibility, on a site-by-site basis, to propose tradeoffs among system components (natural and engineered). We believe that it is essential that decisions be made promptly by DOE for these intended component performance requirements. These decisions are essential to provide focus to the repository investigation programs. Without this focus, the programs may not provide an adequate or timely basis for DOE decisions or for NRC reviews. Also, NRC's ability to give timely guidance to DOE on licensing information needs may be hindered and in some cases made impossible. Section 5(b)(1) suggests that "top-level design basis, functional requirements, performance measures and performance criteria" are being developed. There is no specific statement, however, of when this will be done.

6. The discussions regarding construction of the underground portions of a collocated Test and Evaluation Facility (TEF) once site designation is effective (pages 3-A-25) appear inconsistent with the NWPA. In our opinion, the legislative history of the TEF provisions of the Act supports the conclusion that no construction, surface or subsurface, can

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begin until after the Commission has authorized repository construction at the site.

7. As a final observation, the draft Mission Plan does not address a quality assurance program for either DOE's internal needs or the requirements in support of the adjudicatory hearings at the time of license application or waste emplacement. NRC regulations (10 CFR Part 60) require that data obtained/developed in support of the license application must be collected under a formal quality assurance program. DOE is expected to have a formal, documented QA program that can establish the accuracy, authenticity, and replicability of DOE's measurement data and related studies and its performance assessment models and computer codes. As noted in comment 2 above, we consider the demonstrable quality of DOE's program to be a key to its success.

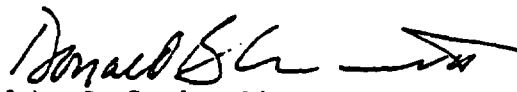
Further comments on several of these points and additional observations on this working draft are enclosed.

Overall, I believe the National Waste Program would benefit greatly from the establishment of a schedule that better reflects the Commission's licensing process, and the time required to gain public acceptance of critical decisions which experience to date has shown to require more time than any of us have estimated.

As you are aware, the Commission has defined a procedure for considering whether to grant or withhold concurrence in the repository siting guidelines. As you probably recall from the January 11, 1984, public meeting on the guidelines, Chairman Palladino stated that their schedule was to have a preliminary Commission decision available by the end of February and a final Commission decision by the end of April. Since that time there have been requests by the states for more time to comment on the Commission's preliminary decision. At the meeting it was also stated by some Commissioners that changes would have to be made before the Commission could concur. Since we will be seeing the formal draft Mission Plan by early April for our review, I suggest that the schedules in that draft reflect these schedules for guideline concurrence and the narrative clearly describe any impacts to your program that result from both the change to your assumption on when concurrence would be made, and the potential need to revise the guidelines before Commission concurrence.

We appreciate the opportunity to provide these staff comments on your working draft. Since this Mission Plan and the Project Decision Schedule are very important to NRC as well as DOE planning, we urge continuing staff interaction to ensure timely preparation of these plans and schedules.

Sincerely,


for John G. Davis, Director
Office of Nuclear Material
Safety and Safeguards

Enclosure: As Stated

NRC COMMENTS

ON THE

CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

MISSION PLAN

VOLUME I

OVERVIEW AND CURRENT PROGRAM PLAN

DECEMBER 20, 1983

Comment #1 DOE interprets Section 114(f) of the NWPA as not requiring that three sites be designated as suitable for development as a high-level waste repository.

The statement that at least one site will have been shown to be suitable for development as a repository at the conclusion of site characterization (page 2-9) may be in conflict with the need for the Secretary to make a preliminary determination that the three sites considered in DOE's Environmental Impact Statement are suitable for development as repositories consistent with the guidelines promulgated under Section 112(a). The NRC staff is of the view that the preliminary determination must be made at a point where there is adequate data available from site characterization so that the guidelines can be applied in a meaningful way. It would be appropriate for the final Mission Plan to include an explicit discussion of when the preliminary determination under Section 114(f) will be made and what data will be necessary to support this determination.

Furthermore, DOE should address the NEPA implications of proceeding with a site recommendation when one or more of the three candidate sites has been found unsuitable. Specifically, the Department should explain how it intends to satisfy its NEPA responsibilities on the consideration of alternative sites in this event. The DOE approach to this NEPA issue may affect the ability of the Commission to adopt the DOE EIS.

Comment #2 We disagree with the DOE interpretation of Section 305 of the NWPA and with the assumption in the Draft Mission Plan (page 2-12) that subsurface construction of a Test and Evaluation Facility (TEF) collocated at a repository site can begin before the Commission has authorized construction for a repository at that site.

The discussions regarding construction of the underground portions of a collocated Test and Evaluation Facility (TEF) once site designation is effective (pages 3-A-25) appear inconsistent with both the NWPA and with 10 CFR Part 60. In our opinion, the legislative history of the TEF provisions of the Act supports the conclusion that no construction, surface or subsurface can begin until after the Commission has authorized construction at this site. Also, since construction of the collocated TEF could affect the licenseability of the site, it would be imprudent to initiate construction prior to Commission authorization of construction. The Department should address the possibility that the Commission may find that a repository cannot be constructed at the site without undue risk to public health and safety, and to explain what impact such a finding might have upon the collection of the data which the TEF was designed to provide.

A further discussion on Section 305 of the NWPA and its legislative history is presented in Appendix 1.

Comment #3 The DOE schedules for repository development are based on NRC granting a Limited Work Authorization (LWA)

The plan adopts a development strategy which depends on receiving a limited work authorization to allow construction to start six months after the submission of the application for construction authorization (pages 3-A-26, 27, 38 and 43). The Commission regulations do not provide for a limited work authorization for a geologic repository. In developing its regulations, the Commission explicitly considered the types of activities that would be permitted prior to the initial licensing decision and decided that construction should not be allowed to proceed without Commission review. While DOE may be considering that it request the Commission to amend this provision, it should be aware that some Commissioners have previously stated that an LWA would be inappropriate for this first of a kind undertaking. Finally, it appears unlikely that the necessary actions could be completed in the six month period assumed by DOE.

A further discussion on this comment is provided in Appendix 2.

Comment #4 The leadtime cited in the Mission Plan for in-situ site characterization should better reflect the uncertainty in the duration of testing which may be required to support licensing findings.

On page 3-A-38, it is stated that the time for in-situ testing in salt and tuff to provide data for the selection of the first repository ranges from 8 to 27 months. It goes on to say, however, that some estimates from outside the Department indicated that 4 years or more will be needed for at-depth testing (3-A-42). While the plan recognizes that there may be other views and states that DOE will continue working with other groups on in-situ testing requirements, we believe that the estimates reported in the final Mission Plan should better reflect the uncertainty on the scale and duration of required testing and the need to provide sufficient information to support the licensing findings. There is particular uncertainty with respect to the testing required to address thermal effects of waste emplacement on the host rock and groundwater. Over the past several years, the NRC staff has pointed out the need for DOE to address this issue as it has potential for large impacts on schedule. As you know, the USGS has estimated that underground testing to address such long term isolation issues may take 5 to 10 years to complete. DOE should be aware that the quality of this testing and its documentation, we believe, is key to the selection process. It is in this area that we see the opportunity for issues to arise which will be particularly challenging for resolution.

These views have been discussed in NRC/DOE working meetings and workshops.

U.S Geological Survey, letter to Mr. R.L. Morgan, DOE from Doyle G. Fredrick, USGS, subject: USGS Comments on the Basalt Waste Isolation Project, (page 9) dated August 25, 1983.

Lawrence Berkely Laboratory, Experiments, Conceptual Design, Preliminary Cost Estimates and Schedules for an Underground Research Facility, (LBL-13190), G. Korbin et al, September, 1981.

Comment #5 The repository design process described in the Draft Mission Plan does not provide assurance that the required level of detail will be available to support each stage of the repository development and licensing process.

A. The sequence for developing repository design information and supporting data does not appear to be consistent with what will be required to make findings under 10 CFR Part 60. Figure 3-A-5 shows that a Title I design will be completed prior to license application; however, Section 6(a) [beginning on page 3-A-24] states that repository design will be completed after a license application is submitted and that "preliminary designs" for the repository and waste package will be initiated near the end of in-situ testing and provided with the license application. We recognize that greater levels of design detail will continue to be developed as the program progresses. However, detailed design information, along with data on engineered system components performance, will be required to demonstrate compliance with 10 CFR Part 60 performance objectives and requirements at the time of the submittal of a license application. "Preliminary information" on design will clearly not be sufficient to support licensing findings and a construction authorization by the Commission. The current ambiguity in the Plan on design development needs to be cleared up in the next draft. It is essential that the Mission Plan clearly reflects the requirements of 10 CFR Part 60.

It is important that the Mission Plan clearly reflects the need to make all the findings specified in 10 CFR Part 60.31 including those related to both siting and design because the NRC staff has encountered a number of instances where DOE staff and contractors have indicated a belief that only general information on design and engineered components will be necessary for construction authorization. Failure to recognize and plan for what is required will almost certainly result in delays later in the program. These could conceivably be serious, as the lead times for completion of designs and some of the supporting testing can be quite long.

B. The requirements of NWSA (Section 113(b)(1)(C)) and 10 CFR Part 60 to complete a conceptual design and to provide site characterization plans is not clearly stated in the Mission Plan. It appears from the discussion in Section 6(a) [beginning on Page 3-A-24] that this will be developed during the site characterization rather than before it as necessary to provide a basis upon which to develop data gathering plans.

In connection with the need for early conceptual designs, the design process also must support the timely establishment of site specific system component performance requirements. Over the past year the NRC staff has pointed out the need for DOE to establish, as soon as possible, the intended performance requirements for repository system components on a site specific basis. They are needed to determine what information and testing will be necessary for licensing and thus to determine the adequacy of the specific technical programs being conducted at each of the DOE projects.

10 CFR Part 60 gives DOE flexibility, on a site-by-site basis, to propose tradeoffs among system components (natural and engineered). Until at least tentative decisions have been made about intended component performance requirements by DOE, the repository investigation programs may be misdirected and adequate information may not be in hand in time for licensing. NRC's ability to give timely guidance to DOE on licensing information needs may be hindered and in some cases made impossible. Section 5(b)(1) suggests that "top-level design basis, functional requirements, performance measures and performance criteria" are being developed. There is no specific statement, however, of when this will be done.

An iterative design process that contains what the staff consider to be the necessary components is described in detail in Chapter 9 of the BWIP SCA and is illustrated in the attached figure. DOE should also consider the discussion entitled, "g. Conditions of Construction Authorization" in the Supplementary Information for the final licensing procedures (46 FR 13976).

C. The discussion concerning the "all purpose" waste canisters, site specific waste packages, dual-purpose and multi-purpose casks does not adequately explain how the selection and use of such containers would be integrated into the DOE program (pages 2-16, 3-A-19 and 3-E-1 through 5). It appears that site characterization will be planned and conducted using site specific designs that may later be changed as the result of the studies of the "all purpose" canister. No site characterization studies are shown related to the "all purpose" canister. As a result, it appears that no information on performance of "all purpose" canister under actual site conditions will be available to compare the two canister designs on a consistent basis. This should be remedied.

It is essential that "all purpose" canisters be designed to account for site specific conditions (e.g., geochemistry, temperature, pressure, etc.) and so that compliance with the requirements 10 CFR 60 for long-term waste containment and isolation can be demonstrated.

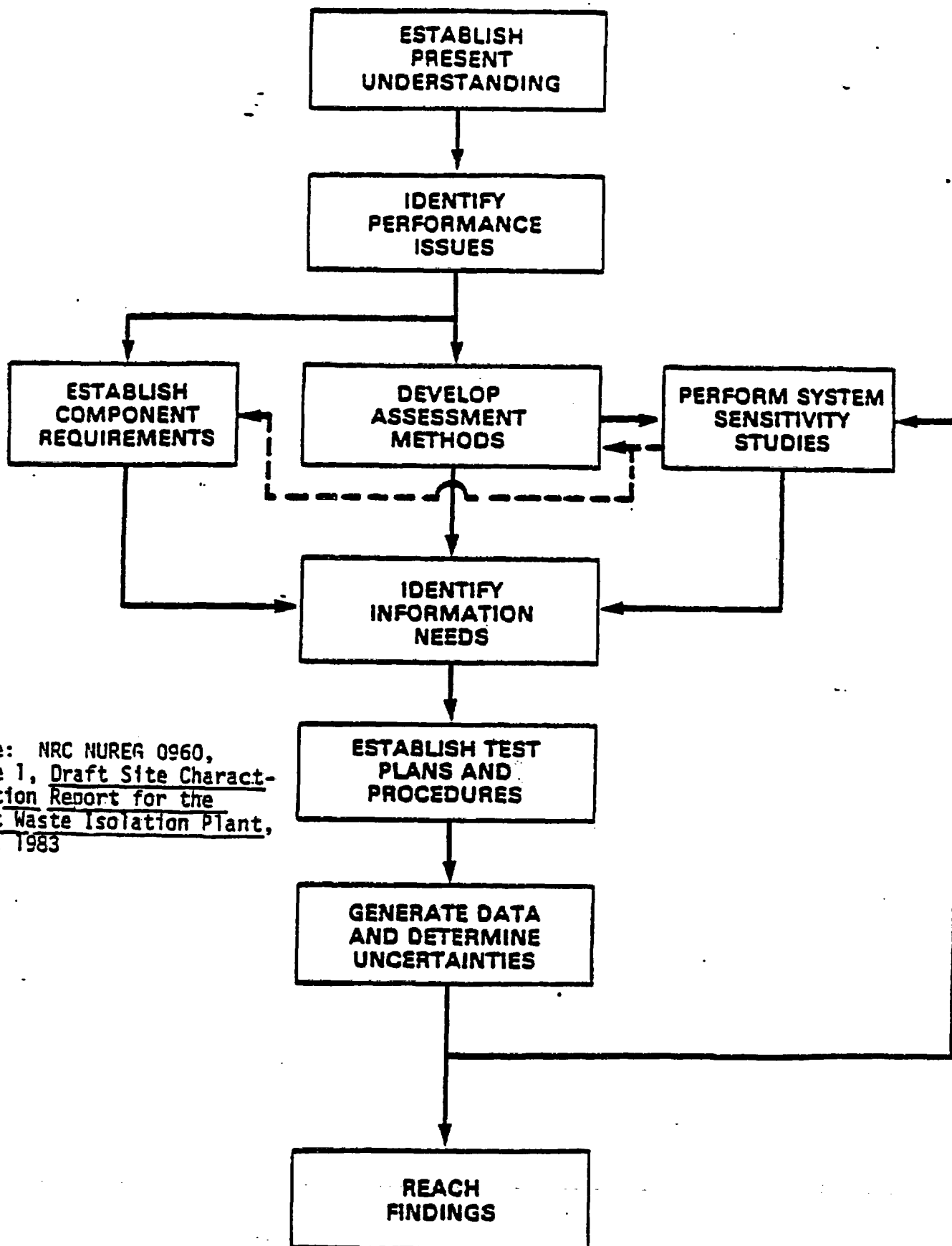


Figure 1. Site characterization - program logic

Comment #6Monitored Retrievable Storage

The draft Mission Plan states that the Department will recommend that Congress authorize a process of siting and licensing for a monitored retrievable storage facility (MRS) (page 2-12). Section 141(b) of the Act (42 U.S.C. §10161) requires the Department to submit to the Congress a proposal for the construction of one or more MRS facilities which must include a program for the siting, development, construction and operation of an MRS facility. (The Act has already established a process for MRS siting, as well as for the licensing of the facility by the Commission.) DOE recognizes and correctly states these requirements in Section 8, Monitored Retrievable Storage (page 3-B-1, line 2). The statement on page 2-12 should be clarified to accurately reflect the existing statutory framework.

The draft Mission Plan indicates that if it becomes apparent that the first repository will not be ready for operation by January 31, 1998, DOE will seek authorization for construction of an MRS facility (page 2-7). No mention is made of the possibility of early "lag storage" at the repository site, as discussed by Mr. Robert Morgan at the Civilian Radioactive Waste Management Information Meeting on December 13, 1983. Mr. Morgan indicated the potential for two-years storage at the site if repository operation should be delayed. We believe it would be useful for the Department to outline its plans, options, or alternatives for such "lag storage" particularly as it may affect the program with respect to an MRS facility.

In the draft Mission Plan's description of the plan for development of the proposal for one or more monitored retrievable storage (MRS) facilities, it is apparent that design efforts on selected storage concepts are to be based primarily, if not entirely, on generic sites. The Act specifies "site-specific" designs for the MRS proposal [Section 141(b)(4)]. The Act also specifies that the proposal shall include "the establishment of a Federal program for the siting...." of such facilities [Section 141(b)(2)(A)]. We suggest further clarification of this issue in the description of the siting approach beginning on page 3-B-9. The selected storage concepts may well be relatively site independent from the engineering standpoint. Nevertheless, we believe that the Mission Plan should clearly indicate whether or not the MRS proposal will include proposed actual locations for an MRS facility should it be authorized by Congress.

The plan for development of the proposal for one or more MRS facilities clearly indicates that the preferred storage concept will be developed to a Title I design level of detail. From the NRC staff standpoint, the planned licensing framework for an MRS facility would be a one-stage process as opposed to the two-stage process for construction and operation of the repository. Thus, we agree with the recognition given on page 3-B-12 under "Final Design and Construction" that detailed design information available from Title II design activities must support the safety analysis report that accompanies any application for licensing of

MRS. Under "Licensing" on page 3-B-12, it is estimated that the NRC would require two and one-half years to review a licensing application for MRS. While the two and one half years represents the time for the staff to review a complete, high quality application, it does not provide time to resolve any remaining technical issues, or complete a hearing if one is requested. The review time, of course, is also highly dependent upon the complexity of the selected storage design and its siting aspects. For planning purposes we suggest that the schedules should give recognition to these factors, which could significantly affect the time for licensing.

Comment #7 Interim Storage

We have no comments related to interim storage of spent fuel except to note an error on page 3-D-5, first paragraph. It is our understanding that the rod consolidation demonstration at TVA's Browns Ferry reactor site was delayed and has not been completed as stated.

Comment #8 Transportation Issues

At this stage, substantive transportation planning clearly lags other areas of DOE responsibilities. Questions related to design, use capabilities, certification, ownership and operation of the necessary cask fleet as well as consideration of the appropriate transport modes and mix must be resolved early to permit DOE to establish the level of effort and funding that will be required. This information is also needed to permit NRC to perform its planning, to ensure that we are prepared to give a timely turnaround to what appears to be a heavy workload sometime in the future. We note, for example, that the timeliness of Table III-C-2 would have to be accelerated for early operation of an MRS facility, if Congress should so dictate.

In the draft Mission Plan the Department states (page 3-C-1) that the Act requires transportation activities to "...be performed by private industry to the fullest extent possible and, for transportation activities done as part of the Federal Interim Storage Program, be subject to regulation by the Federal Government" (emphasis added). This statement is misleading in that it gives the impression that the transportation of high-level waste to the repository, as opposed to the Federal Interim Storage facility, will not be subject to regulation by the Federal Government. On the contrary, transportation activities under the Act will be subject to the Department of Transportation regulations contained in 49 CFR Parts 171-177.

We suggest that Table 3-C-1, "Existing Cask Fleet Capacity," on page 3-C-7, be presented in two tables. The first table would show fleet capacity actually available for use (approximately 356 MTU/year), and the second table to show what additional capacity might be available with the NAC/NFS, FSV and NLI-10/24 casks (about 255 MTU/year), subject to possible modifications and licensing.

It would be more proper to refer to a "Procedural Agreement" between NRC and DOE than a Memorandum of Understanding on page 3-C-12.

II. General Comments

In several places (pages 1-1, 2-5, 3-D-11) the draft Mission Plan states that the Act requires the Department to "... site, license, and operate repositories..." (emphasis added). These statements should be revised to eliminate any suggestion that DOE has the licensing review responsibility for the repository (See Appendix 3).

Throughout the document, the Department refers to a "construction authorization application" (pages 2-9), or a "construction permit" (page 2-10), to characterize the action requested of the Commission on construction authorization for the repository. These references should be revised in order to reflect more precisely the nature of the Commission's licensing action for a high-level waste repository. The process established by 10 CFR Part 60 involves an application for license to receive or possess source, special nuclear, or byproduct material at a geologic repository operations area (10 CFR 60.3(a)). As an initial step in its review of the license application, the Commission may issue a construction authorization for the repository if the requisite standards are met (10 CFR 60.31).

The draft Mission Plan does not address the type, quality, or timing of technical information that will be needed at each stage by DOE to support their license applications and other submittals to the NRC as called for in our regulations and the Nuclear Waste Policy Act. Without detailed descriptions, along with explicit identification of the relevant steps of NRC's licensing process needing the information, we can not advise you on whether we believe the DOE HLW technical program will be sufficient for DOE to accomplish its mission. Also, such information is needed in planning our own research programs. We assume the next draft of the Mission Plan will address these issues appropriately.

Some of the definitions set forth by DOE in the draft Mission Plan (pages 3-A-2 and 3-A-5) are not consistent with those presented in NRC Regulations (10 CFR Part 60, 60.2). In other cases, terms are used without definitions (e.g., conceptual waste package designs - page 3-A-20). DOE staff should coordinate and standardize on the definition and usage of commonly used terms.

In view of the proposed widespread public distribution of the final Mission Plan, we suggest that a Glossary be prepared for abbreviations, definitions and technical terms (e.g., Title I and Title II designs). In addition, citations should be provided for reports and documents referred to in the Mission Plan.

III. Specific Comments

Page 2-5, Second Paragraph

The draft Mission Plan does not address the question of the need for or approach to providing safeguards for spent fuel and high-level waste within the Civilian Radioactive Waste Management Program (e.g., accountability, physical protection, transportation routing, etc).

Page 2-9, Last Paragraph

The Secretary's recommendation of the first repository site to the President must include comments made by the Commission concerning the final EIS submitted by DOE with this recommendation, and preliminary comments of the Commission concerning the extent to which the at-depth site characterization analysis and the waste form proposed 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. (NWPA Sections 114(a)(1)(D) and 114(a)(1)(E). Recognition of and provisions for this interaction must be part of DOE's planning.

Pages 2-12, First Paragraph

It is not clear what the "TEF permanent surface construction" would include. The schedule shows TEF testing occurring before the completion of such construction. The NRC staff need to know what is planned to be able to understand and comment on this approach.

Page 3-A-5, Second Completed Paragraph

We believe that the word "requirements" in the 8th line should read "objectives."

Page 3-A-9, item 4c

Affected Indian tribes are to be consulted and cooperated with on the same level as State and local governments, not instead of them. Consequently, we suggest changing the word "or" to "and" as indicated in Appendix 3.

Page 3-A-9 Paragraph d

Add - "and licensed by the NRC."

Page 3-A-10, Paragraph e

DOE should acknowledge that a conceptual design is necessary at the time of the site characterization plan. This is required by Section 113(b)(1)(C) of the NWPA and by 10 CFR 60.11.

Page 3-A-13, Second Paragraph

There are additional rock properties which need to be considered, such as, seismotectonic stability, hydrodynamic dispersion, matrix diffusion, hydraulic continuity, and hydraulic gradient.

Page 3-A-18, First Paragraph

The plan should clarify the purpose of reporting the preliminary performance assessments in the Environmental Assessments. The performance assessments would appear to be highly speculative due to the absence of geologic data for key parameters affecting performance prior to detailed site characterization.

Page 3-A-18, Second Paragraph

These system requirements are needed now. This has been a key issue in the repository technical program area (See Comment 5).

Page 3-A-19, First Paragraph, Line 11

To our knowledge the conceptual waste package design for salt, basalt, and tuff have not as yet adequately defined the component performance requirements (See Comment 5).

Page 3-A-19, First Paragraph, Line 21

Although numerical performance objectives in 10 CFR Part 60 for the engineered barriers are established only for "anticipated processes and events," the overall system must meet the EPA standard even for unlikely events and processes. Therefore, the final Mission Plan should address the approach that DOE intends to take in considering the contribution of waste package performance toward overall performance of the repository for unanticipated or low probability events and processes, as well as under "expected repository conditions."

Page 3-A-25, First Paragraph, Line 10

DOE should clearly define what it considers to be an adequate iterative process for repository design (See Comment 5).

Page 3-A-35, Figure 3-A-5

The December 1983 date shown for issuance of the final DOE guidelines should be amended.

Page 3-A-37, Last Two Paragraphs

DOE should allow sufficient time between issuance of the SCP and sinking of an exploratory shaft to receive and consider comments on the SCP, unless other means are provided to advance plans and other requisite information on the initial steps of shaft construction and testing to NRC and affected parties before SCP's are issued. In any case, given the long lead times associated with the planning, construction and testing of exploratory shafts, selected information will have to be provided and consultations carried out well in advance of SCP's as outlined in letters to each of the projects from the NRC. (Examples-Letters, on NTS, from Coplan, NRC to Veith, DOE, dated April 14, 1983; on SALT, from Miller, NRC to Neff, DOE, dated July 7, 1983).

Page 3-A-38, First Two Paragraph

The basis for the estimate of 8 to 27 months for in-situ testing is not given or referenced. It is not clear in the paragraph if this includes sinking shafts.

DOE indicates that adequate testing to support a draft EIS on the site to be recommended for development as a repository will be completed in September 1989, and that a site recommendation will be submitted to the President in October 1990. NRC would prefer it if DOE chose to clarify whether it intends to continue site characterization activities after the recommendation has been submitted to the President, describe the extent and nature of such activities, and explain the rationale for these continued activities in light of Sections 114(a) and 114(f) of the NHPA.

Page 3-A-44, Second Paragraph

DOE asserts that Congress had decided that site nominations are not a major Federal action and do not require an Environmental Impact Statement (EIS). Although it is true that the site nominations do not require an EIS under Section 112(e) of the Nuclear Waste Policy Act, the Congress did not make a determination that such an activity does not constitute a "major federal action." In fact, language to that effect was specifically deleted from H.R. 7187, the final House version of the Act, by the adoption of an amendment introduced by Representative Breaux. 128 Cong. Rec. H 8197 (daily ed. September 30, 1982).

Page 3-A-43 and 3-A-44

Some caution is called for in the statement that technical issues can be resolved without delay in the licensing process because of the prelicensing interaction between DOE and NRC. Regardless of efforts to resolve technical issues in the prelicensing stage, these issues will continue to be subject to challenge in a licensing proceeding. In that sense, such issues would not be "resolved" despite the interaction described in the text.

Page 3-C-12, item d

Treaty and other obligations with respect to Indian tribes were omitted from the first paragraph as an area of potential institutional impediments. Indian tribes should be incorporated into the wording as shown on pages 3-C-12 and 3-3C-13 (See Appendix 3).

Page 1-3

We note the important program goal "State, Local Government and Tribal Consultation and Cooperation" is absent from the program goals. We believe that the Department should consider "State, Local Government and Tribal Consultation and Cooperation" as the fifth program goal necessary to achieve its goal to accept commercial high-level radioactive waste for safe management, storage, and permanent disposal on a firm schedule, beginning not later than January 31, 1998.

Appendix 1 Initiation of Construction at a Collocated Test and Evaluation Facility

The interpretation contained in the draft Mission Plan of the TEF provisions of the Nuclear Waste Policy Act of 1982 (the Act) would allow subsurface construction of the TEF to begin after a repository site has been designated under Section 115 of the Act (42 U.S.C. 10135), but before the Commission has issued a construction authorization. According to the draft Mission Plan, only the construction of surface facilities in support of the TEF must wait until after the construction authorization is issued. In our opinion, the legislative history of the TEF provisions of the Act supports the conclusion that no construction, surface or subsurface, can begin until after the Commission has authorized construction at the repository site.

Under Section 305(b)(1)(A) of the Act (42 U.S.C. 10225), a TEF may not be collocated at any repository site or any site that has been recommended for site characterization unless the site selection and development of the facility is undertaken in accordance with the procedures and requirements established in the Act for repository sites. Furthermore, Section 305(b)(1)(B) provides that construction of surface facility for a TEF cannot begin before the Commission issues a construction authorization for a repository at the site involved. Although this paragraph specifically refers to a "surface facility," it must be construed within the context of the legislative intent and history of Section 305 of the Act.

Section 305 originated in the final compromise bill in the House, H.R. 7189 (designated as Section 306 in that bill). The intent of Section 305 was to prevent a TEF from being used to prejudice the repository selection process, i.e., to prevent the TEF from becoming a "back door" repository. Remarks of Rep. Bouquard, (128 Cong. Rec. H 8174) (daily ed. September 30, 1982). In this regard, the construction of the subsurface component of the TEF could prejudice repository site selection to a larger degree than the surface facility would. To avoid the potential for bias, Section 305 would totally prohibit onsite construction - i.e., would even prohibit construction of surface facilities - until a construction authorization for the repository was issued by the Commission. Rep. Bouquard recognized that this was not the ideal approach for an R&D program, but noted that the Secretary of Energy still had the discretion to pursue a TEF that was not collocated at a repository site, and under Section 217(f)(2) of the Act (42 U.S.C. 10197), would not be subject to Commission licensing. (128 Cong. Rec. H 8174) (daily ed. September 30, 1982).

Further evidence of the Congressional intent to prohibit onsite construction of the TEF, both surface and subsurface, until the Commission has issued a construction authorization for the repository site, is provided by the discussion on an amendment introduced by Rep.

Swift to clarify the intent of Section 305(b)(1)(B). (128 Cong. Rec. H 8590) (daily ed. -November 30, 1982). As noted earlier, Section 305(b)(1)(B) prohibits the construction of a surface facility for a TEF prior to the issuance of construction authorization for the repository site. (Emphasis added). Rep. Swift's concern was that excavation for a TEF at a candidate site prior to the issuance of a construction authorization would give the site a greater chance of being selected than another site at which there was not a TEF prior to the issuance of a construction authorization for the repository. The floor managers of the bill persuaded Rep. Swift to withdraw the amendment by assuring him that clarification was unnecessary because the existing language of Section 305 precluded the excavation of a subsurface TEF prior to the issuance of a construction authorization for the repository. Rep. Ottinger, one of the primary architects of Section 305, provided the following explanation:

The language of Section 306(b)^{1/} says quite clearly that if the test and evaluation facility is to be located at any candidate site or repository site - even just a candidate site, it applies - site selection and development of such facilities shall be conducted in accordance with the procedures and requirements established in Title I.

As Chairman Fuqua has indicated, that would clearly require a construction authorization prior to excavation of a facility. The way I look at subsection (b), it is an additional requirement that says one cannot even locate surface facilities at that facility without getting a construction authorization for a repository...

So I think that subparagraph (B) is an additional requirement; quite clearly, if you are going to have a facility there, under Title I which is made to apply, the construction authorization would be required.

128 Cong. Rec. H 8591 (daily ed. November 30, 1982).

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Redesignated as Section 305(b) in the Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425.

Appendix 2 Limited Work Authorization for Site Characterization and Repository Construction Activities

In several instances, the draft Mission Plan refers to the Commission granting the Department a Limited Work Authorization (LWA) for site preparation and repository construction activities before a construction authorization is issued (See pages 3-A-26, 3-A-27, 3-A-38, and 3-A-40). However, in a later reference to a LWA (page 3-A-43) DOE notes that the Commission regulations in 10 CFR Part 60 "provides no specifics as to whether or not the NRC would accept an application for a Limited Work Authorization." The Department then states that an LWA request would be submitted as part of the license application.

The procedures in 10 CFR Part 60 do not provide for an LWA. Specifically, 10 CFR 60.3(b) prohibits DOE from commencing construction until it obtains a construction authorization from the Commission. "Commencement of Construction" is defined in Part 60 as the clearing of land, surface or subsurface excavation or other substantial actions that would adversely affect the environment of the site. However, the definition would allow the Department to pursue certain types of activities, such as activities related to site characterization and other preconstruction monitoring and investigation necessary to establish background information related to the suitability of the site. However, this does not constitute a LWA and our existing regulations do not authorize the consideration or the granting of a LWA.

In the development of the 10 CFR Part 60 rulemaking, the Commission explicitly considered the type of activities that would be permitted prior to the Commission's initial licensing decision, and did not provide for a LWA. Under the Commission's Proposed General Statement of Policy, which outlined the procedures for the licensing of geologic repositories for high-level radioactive wastes, only surface exploration combined with some test borings would have been permitted prior to the Commission's issuance of a construction authorization or a provisional construction authorization (43 FR 53869, November 17, 1978). After further review of this issue, the Commission determined that exploration and in-situ testing at depth should be allowed prior to the issuance of a construction authorization (44 FR 70408, December 6, 1979). In arriving at this position, the Commission noted that the incremental costs for these activities would be small, in the context of overall project costs for a repository, and implied that such increased financial investments

and institutional commitments were warranted only because of the substantial improvement in the quality of available data that could be expected. While the character of activities under an LWA is unclear, there would appear to be no comparable benefit in terms of improved data for licensing.

In addition, in response to a question on the advisability of a LWA provision raised at Congressional hearings on the Nuclear Waste Policy Act, both Commissioner Ahearne and Chairman Palladino stated that they did not support the LWA concept, at least for the first repository. Nuclear Waste Disposal Policy: Hearings on H.R. 1993, H.R. 2881, H.R. 3809, and H.R. 5016 before the Subcommittee on Energy Conservation and Power of the House Comm. on Energy and Commerce, 97th Cong., 2d Sess. 553 (1982). See also H.R. Rep. No. 411 Part 1, 97th Cong., 1st Sess. 58 (1982) ("the Commission does not support interim licensing authority. First, this facility is too critical to waive the hearing. It is the first of its kind. Second, getting state, local, and general public acceptance is the hardest task for this facility. Interim licensing strongly undercuts building the needed acceptance.")

Appendix 3 Suggested Changes

Page 1-1, Second Paragraph

In response to this situation, President Reagan signed Public Law 97-425, the "Nuclear Waste Policy Act of 1982" on January 7, 1983. The Act requires the Department of Energy to site, apply for a license from NRC and operate repositories for spent nuclear fuel and high-level radioactive waste. The program developed by the Department to fulfill the requirements of the Act is described in this Mission Plan.

Page 2-5, Last Paragraph

The Nuclear Waste Policy Act of 1982 also requires the Department to initiate the process of selecting a second geologic repository site through the phase of Presidential recommendation to Congress. After identifying a site, and upon Congressional approval, the Department will proceed to apply for a license from NRC for the site and construct a second repository. The Act does require that a second repository be in operation before the loading.

Page 3-A-9, item 4c

c. Establish and maintain effective mechanisms for the involvement of State and local government and affected Indian tribes in the repository program.

Page 3-C-12, item d

Institutional impediments in nuclear waste transportation will be identified and resolved in four specific areas: Federal regulation; State and local regulation; treaty and other obligations with Indian tribes and public attitudes and perceptions.

Page 3-C-13 Line 3

Commission and perhaps the courts. However, the Department can take the initiative to identify and resolve the concerns of State and local officials and affected Indian tribes which give rise to regulatory inconsistencies.

Page 3-C-13, Last Paragraph

As previously noted, the Department plans to develop material and provide forums for information exchange on nuclear waste transportation. These efforts will consist of information development and dissemination to the general public, State and local officials, affected Indian tribes, the media and other interested parties. Some specific activities envisioned include the development and maintenance of a nuclear transportation data base for access by the public; development of a speakers bureau as a resource for public meetings; and the development of an information network drawing upon the expertise and knowledge of individuals from government, industry and the general public. These efforts will also include the solicitation of public, State/local official, and Indian tribes, comments on the Department's civilian nuclear waste transportation program in order to identify real or perceived program weakness or information gaps that need to be addressed.

Page 3-D-11, Line 4

...filings of such a request, however an examination of the request by the Department must find the applicant's case convincing before funds will be expended in advance of contract signing. The schedule calls for completion of design, application for licensing (where applicable) and construction.