Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
P.O. Box 98608
Las Vegas, NV 89193-8608

QA: N/A

AUG 0 4 1994

Dear Stakeholder:

AUGUST 27, 1994 AND AUGUST 30, 1994 STAKEHOLDERS' MEETING
(SCPB: N/A)

We are pleased to invite you to attend a meeting in Las Vegas, Nevada, on Saturday, August 27, 1994, or in Washington, D.C., on Tuesday, August 30, 1994, to continue your involvement in the Civilian Radioactive Waste Management program. The Las Vegas meeting will start at 9:00 a.m. at the Stardust Hotel, which is located at 3000 Las Vegas Boulevard South. The Washington, D.C. meetings will start at 9:00 a.m. at the Renaissance Hotel, which is located at 999 Ninth Street NW.

The U.S. Department of Energy (DOE) is developing a process for evaluating the suitability of the Yucca Mountain Site as a repository for high-level radioactive waste and spent fuel. This meeting is intended to provide an opportunity for representatives from the DOE to explain the draft description of the proposed process for evaluating suitability (proposed process), solicit the views and comments of the public on the proposed process and, in particular, provide opportunities for public involvement. Written comments on the proposed process are due on or before October 15, 1994. Presentations at both locations will be identical.

To help prepare for the meetings, we have enclosed two agendas (enclosure 1), the proposed process (enclosure 2), and a draft Federal Register notice (enclosure 3) announcing the availability of Summary Reports of the May 21, 1994, National Stakeholders' meeting, the DOE's decision to use the Siting Guidelines (10 CFR Part 960) as they currently exist, the availability of a the proposed process, and these stakeholder meetings. Also, enclosed is a discussion of comments (enclosure 4) received during the public comment period defined in the notice of inquiry published in the Federal Register on April 25, 1994, (59 FR 19680) and at the May 21, 1994, National Stakeholders' meeting held in Las Vegas, Nevada.

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YMP-5

102.8
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NH03

Please complete and return the enclosed registration form (enclosure 5) by August 22, 1994. If you have any questions or comments about the meeting, please contact Jane R. Summerson of the Yucca Mountain Site Characterization Office at (702) 794-5317.

Sincerely,

for Stephan J. Brocoum
Assistant Manager for
Suitability and Licensing

AMSL:SJB-4539

Enclosures:
1. Agendas
2. Draft Description of the Process for Evaluating Suitability
3. Draft Federal Register Notice
4. Discussion of Comments
5. Registration Form

OCRWM STAKEHOLDERS MEETING - SATURDAY, AUGUST 27, 1994
STARDUST HOTEL
3000 LAS VEGAS BOULEVARD SOUTH
LAS VEGAS, NEVADA 89109

Purpose of Meeting:

The Department is developing a process for evaluating the suitability of the Yucca Mountain Site for a repository for high-level radioactive waste and spent fuel. This meeting is intended to provide an opportunity for representatives from the DOE to explain the draft description of the process and to receive the views and comments of the public on the proposed process and, in particular, opportunities for public involvement. Written comments on the draft description of the proposed process are due on or before October 15, 1994.

AGENDA

9:00 - 9:10	Welcome and Introductions	Steve Brocoum DOE/YMSCO
9:10 - 10:00	Overview of the Process for Evaluating Suitability*	Jane Summerson DOE/YMSCO
10:00 - 12:00	Technical Basis for Evaluating Suitability*	Jane Summerson DOE/YMSCO
12:00 - 1:30	Lunch	
1:30 - 3:30	Guideline Assessments*	Jane Summerson DOE/YMSCO
3:30 - 4:15	DOE Decision Steps*	Jane Summerson DOE/YMSCO
4:15 - 4:45	Wrap-up*	Jane Summerson DOE/YMSCO

*** All presentations will be followed by an opportunity for general discussion.**

OCRWM STAKEHOLDERS MEETING - TUESDAY, AUGUST 30, 1994
RENAISSANCE HOTEL
999 9TH STREET NW
WASHINGTON, D.C. 20001

Purpose of Meeting:

The Department is developing a process for evaluating the suitability of the Yucca Mountain Site for a repository for high-level radioactive waste and spent fuel. This meeting is intended to provide an opportunity for representatives from the DOE to explain the draft description of the process and to receive the views and comments of the public on the proposed process and, in particular, opportunities for public involvement. Written comments on the draft description of the proposed process are due on or before October 15, 1994.

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4:15 - 4:45	Wrap-up*	Jane Summerson DOE/YMSCO

*** All presentations will be followed by an opportunity for general discussion.**

PRELIMINARY DRAFT

THE DEPARTMENT OF ENERGY
Office of Civilian Radioactive Waste Management

PROCESS FOR EVALUATING THE SUITABILITY OF THE YUCCA MOUNTAIN SITE FOR DEVELOPMENT AS A REPOSITORY FOR HIGH-LEVEL RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL

SUMMARY

This paper describes a process that the Department of Energy (DOE, the Department) proposes for evaluating the suitability of Yucca Mountain, Nevada as a site for a repository. The proposed process is the result of several years of DOE discussions with external parties about what that process should be and what role external parties should play in it, and this paper is intended to serve as a basis for further discussions.

Under the Nuclear Waste Policy Act of 1982 (P.L. 97-425) (the Act), as amended, the Department of Energy is responsible, among other things, for siting, constructing and operating a geologic repository for the disposal of high-level nuclear waste. The Department must complete four major actions before a repository can be sited and built: 1) determining a suitable site under 10 CFR Part 960, 2) complying with the provisions of the National Environmental Policy Act (NEPA) under 10 CFR Part 1021, 3) with a suitable site, submitting a Site Recommendation Report to the President, and 4) developing a License Application for submittal to the Nuclear Regulatory Commission (NRC) for a construction authorization under 10 CFR Part 60.

The DOE Office of Civilian Radioactive Waste Management (OCRWM, the Program) has proposed a restructured repository program consistent with the recent Fiscal Year 1995 Administration Funding Proposal. The proposed approach was developed to ensure efficient progress toward determining the suitability of the Yucca Mountain site for a permanent repository. OCRWM discussed this proposed approach with stakeholders at the morning session of a May 21, 1994 meeting in Las Vegas, Nevada. If the site is suitable, the program will develop the final Environmental Impact Statement (EIS), site recommendation, and the application for a license to construct a repository. Under the proposed program approach, site characterization and engineering activities will focus initially on the evaluation of the suitability of Yucca Mountain and, if the site is suitable, a recommendation to the President that the site be developed as a geologic repository. Additional tests will be conducted wherever needed to support preparation of the EIS and License Application. Pre-licensing interactions with the NRC will help ensure complete preparation of relevant materials for the licensing process.

The NWPA, as amended, nowhere specifies a decision on Yucca Mountain suitability that is distinct and separate from a decision of the Secretary of Energy to recommend the site. However, because the broad external credibility of the suitability determination is so critical to the success of the program, DOE has decided to make a technical determination of suitability as a separate step and as the result of an incremental and open process that features rigorous, independent external review and focused, effective public involvement. DOE has held extensive discussions with the program's stakeholders about the suitability evaluation process over the past several years, most recently in a May 21, 1994 public meeting held in Las Vegas, Nevada. The proposed process for evaluating suitability reflects and responds to the views and ideas stakeholders have expressed during those discussions.

DOE has considered a range of options for applying the siting guidelines (10 CFR Part 960), from revising them through the rulemaking process to simply continuing to use them in their present form. DOE has decided that it will not amend the guidelines. Therefore, in making suitability decisions that are required at this stage of the siting process, DOE will use the guidelines as they are currently written. Their use, however, will be subject to the programmatic changes and reconfiguration provided in the Nuclear Waste Policy Amendments Act of 1987.

The proposed suitability process calls for the separate and sequential evaluation of individual guideline conditions, or groups of guideline conditions. Evaluations of the site will be conducted as site characterization data and analyses become available and will be based upon an assessment of the site and related design concepts to determine if all guideline conditions are satisfied. The environmental aspects of the evaluation will use data and analyses developed for the NEPA process. For each guideline or group of guidelines, DOE would first develop the technical basis for the evaluation of conformance with guideline conditions and then develop a guideline assessment.

The process also provides for predecisional public involvement at key points in the evaluation sequence. The development of this process itself will be subject to public review through written comments, meetings and workshops and to revision on the basis of that review. DOE proposes to contract with the National Academy of Sciences (NAS) to manage a process of external expert review of the technical basis that includes a determination of the need for formal peer review. If peer review is necessary, the broad external and stakeholder communities will nominate candidates for peer review and will be able to observe and comment on the work of the panels. DOE will seek public comments and hold public workshops on the guideline assessments that follow the technical reports.

The process features three major DOE decision points. The first are decisions on whether to make higher level findings on individual guideline conditions or groups of guideline conditions. The second is a decision on technical site suitability based on data collection and

analysis activities defined in the Act and the Site Characterization Plan. The third DOE decision point is a finding on overall suitability using additional information developed during the NEPA process, including technical information and guideline assessments on Environmental Quality, Transportation, and Socioeconomics. If the site is found to be unsuitable, an alternative plan will be submitted to Congress within six months of the unsuitability declaration.

I. BACKGROUND

The Nuclear Waste Policy Act of 1982 (P.L. 97-425) (the Act) directs the Department of Energy (DOE) to site, construct, and operate geologic repositories for the disposal of high-level radioactive waste and spent nuclear fuel, and requires the DOE to complete a number of actions in carrying out these responsibilities.

As required by the Act, DOE issued final general guidelines for the recommendation of sites for repositories (10 CFR Part 960) on December 6, 1984. DOE used the guidelines in nominating five sites as suitable for characterization and recommending to the President that three of the nominated sites be characterized as candidate sites for the first repository. For each of the five nominated sites, DOE issued a final Environmental Assessment (EA) in 1986 that included an evaluation of the suitability of that particular site under the guidelines. Each EA also contained a separate comparative evaluation of the subject site with the other nominated sites. On May 27, 1986, the President approved each of the three sites recommended for characterization, including the Yucca Mountain site in Nevada. In December 1987, Congress amended the Act and directed DOE to evaluate only the site at Yucca Mountain.

DOE prepared a Site Characterization Plan (SCP) for the Yucca Mountain site, which, among other things, described how DOE proposed to respond to the guidelines in 10 CFR Part 960 that fall within the scope of its planned site characterization program: the postclosure guidelines concerning waste isolation and the preclosure guidelines concerning radiological safety and technical feasibility. The SCP did not deal with the guidelines that generally require non-geologic data gathering (preclosure guidelines related to environmental quality, socioeconomic impacts, and transportation). After an extensive period of external consultation and comment, DOE issued the final SCP in December 1988.

The SCP specified that the siting guidelines under 10 CFR Part 960 would be the primary criteria for determining the suitability of Yucca Mountain. The guidelines provide that, before DOE can find the Yucca Mountain site suitable for repository development, the evidence should be adequate to support "higher level findings" that all the relevant guideline conditions are met and that no new information is likely to change that conclusion. DOE made four such "higher level findings" in the 1986 EA for the Yucca Mountain site.

In a November 1989 report to Congress on re-assessment of the Civilian Radioactive Waste Management program, the Secretary of Energy redirected the repository program to focus on the early evaluation of the suitability of the Yucca Mountain site. In December 1990, DOE directed a contractor to perform an early evaluation of the Yucca Mountain site under the general guidelines of 10 CFR Part 960. A contractor-managed team of scientists and engineers participating in the Yucca Mountain site characterization program conducted these evaluations

and, in January 1992, issued an Early Site Suitability Evaluation (ESSE) report presenting the results of their work. The ESSE report was subjected to an external peer review managed by the contractor organization.

Both before and since the 1991 ESSE report, DOE has held extensive discussions and interactions with the broad range of stakeholders about DOE's policy, plans and process for determining the suitability of Yucca Mountain as a repository site. Those discussions and interactions have included:

- A series of two-day Strategic Principles Workshops in December 1990, January 1991, April 1991, and October 1991.
- A two-day stakeholder Forum held by the Director of OCRWM in Chicago on May 8-9, 1992 that focused specifically in the ESSE report and on the broad range of options for evaluating suitability.
- Meetings with the Affected Units of Government (AUG) in October and December 1993 and February and March 1994, during which DOE discussed and solicited views on its plans for evaluating suitability.
- An April 25, 1994 Federal Register notice of Inquiry requesting the views of members of the general public on the process for evaluating suitability.
- A public workshop on May 21, 1994 in Las Vegas, Nevada that sought stakeholder ideas and views on the suitability evaluation process.

On the basis of this extensive external consultation and program experience, the Department has developed a proposed process for making a site suitability determination. This process is explained in Section III of this paper. (See Appendix A for a more detailed description of this background material.)

II. SITING GUIDELINES

Issued in 1984, DOE's 10 CFR Part 960 siting guidelines covered all phases of the siting process, including the screening and comparison of several sites in order to select three for detailed characterization as potential repository sites. Because the 1987 Amendments (P.L. 100-203) specified Yucca Mountain as the only site to be characterized as a repository, DOE stated, in its 1988 Site Characterization Plan (SCP), that the comparative provisions of Part 960 did not apply to Yucca Mountain (p. 8.3.5.18-1 and p. 8.3.5.7-1) and that the screening provisions had already been met in the Environmental Assessment on Yucca Mountain.

DOE has considered a range of options on applying the guidelines, from revising them through the rulemaking process to simply continuing to use them in their present form. The Department has found that the guidelines do apply to the site suitability process and do not require amendment. Therefore, in making suitability decisions that are required at this stage of the siting process, DOE will use the guidelines as they are currently written. Their use, however, will be subject to the programmatic changes and reconfiguration provided in the Nuclear Waste Policy Amendments Act of 1987. The Amendments Act eliminated all of the pre-characterization stages by requiring the Secretary to proceed with site characterization at Yucca Mountain and to cease investigation of all other potential sites for the first repository. Thus, those parts of the guidelines that apply to comparative evaluation are no longer relevant. Accordingly, the Program will not use the comparative portions of the guidelines for purposes of the suitability assessment of the Yucca Mountain site. This means that the Program will not make specific evaluations of the favorable and potentially adverse conditions, since these tests are designed primarily for use in comparing sites early in the screening process.

The guidelines fall into two basic categories: 1) postclosure guidelines, which concern the repository safety after it is closed; and 2) preclosure guidelines, which concern repository safety before it is closed; environmental, socioeconomic, and transportation impacts; and technical feasibility of repository siting, construction, operation, and closure. Postclosure and preclosure guidelines include both system and technical guidelines. System guidelines deal with the overall performance of the repository system; technical guidelines deal with specific features of the site that could affect overall performance.

The technical guidelines contain qualifying and disqualifying conditions. The guidelines call for two levels of suitability findings on these conditions: lower level and higher level. Lower-level findings, by their nature, are intended to accommodate the uncertainty that exists early in the siting process, before detailed site characterization has begun. Before a DOE decision is made that the Yucca Mountain site is suitable and can be recommended for development as a repository, the evidence should be adequate to support findings by the DOE

that none of the disqualifying conditions are likely to be present, that all qualifying conditions are likely to be met, and that the conclusions are not likely to change. These findings are referred to as higher-level findings.

The guidelines contain a total of 17 disqualifying and 32 qualifying conditions. All of the postclosure qualifying conditions require a finding that the site permits compliance with relevant NRC regulations.

To find Yucca Mountain suitable for repository development, DOE must make higher level findings that the site meets all qualifying conditions and contains no disqualifying conditions. DOE must declare the site unsuitable whenever it makes a higher level finding that any disqualifying condition exists, or whenever it cannot make higher level findings that the site meets all qualifying conditions. The guidelines do not preclude higher level findings before the end of site characterization. This precedent was set in the Environmental Assessment for Yucca Mountain, which contains four higher level findings.

In some cases, DOE will need similar technical information to make its evaluations of more than one guideline. In those cases, DOE will combine the guidelines into groups and develop technical reports and guideline assessments for each group of guidelines, rather than for each individual guideline. The data needed in some technical areas will require less time and testing to acquire than in other technical areas. For that reason, DOE will issue its reports and assessments in a sequence that is based on the availability of data.

III. PROPOSED PROCESS

A. OVERVIEW

OCRWM has proposed a restructured program consistent with the recent Administration Funding Proposal submitted to Congress for the 1995 fiscal year. The proposed approach was discussed with stakeholders at the morning session of the May 21, 1994 Las Vegas meeting. The new approach is designed to ensure that DOE makes efficient and measurable progress toward a decision about the suitability of Yucca Mountain as a repository site and, if the site is suitable, that the program is able to proceed with remaining steps toward development of a repository. The approach calls for evaluations of the Yucca Mountain site against the DOE's siting guidelines as the relevant data become available. These evaluations would lead to a DOE decision on technical site suitability in 1998. This decision would be based on an evaluation of the site and related design concepts to determine if all the relevant postclosure guidelines and the relevant preclosure guidelines covering radiological safety and technical feasibility are satisfied. These are the guidelines that were covered in the SCP for the Yucca Mountain site. In general, the environmental, socioeconomic, and transportation aspects of the evaluation that are necessary for a DOE decision on the overall suitability of the site would be addressed separately, based on information developed for the NEPA process and used in the development of the draft EIS. A final decision by the Secretary of Energy to recommend the site is expected in 2000 and would be based on the technical site suitability evaluation, the final EIS, and input from the NRC and stakeholders, as required by Section 114(a) of the Act, as amended. If, at any of these decision points, the site is found to be unsuitable, the DOE will provide Congress with its recommendations for further action to ensure the safe, permanent disposal of the nation's spent nuclear fuel and high-level radioactive waste.

As part of the restructured program, DOE is proposing an open and sequential process for evaluating Yucca Mountain suitability that will document the evidence and the rationale for DOE decisions. The proposed process calls for the separate evaluation of individual guideline conditions, or groups of guideline conditions. Evaluations will be made as the relevant site characterization data, analyses, and facility designs become available. The suitability process has three main elements:

1. Development and review of the technical basis for DOE decision-making,

2. Development and review of assessments of conformance with the siting guidelines, and

3. DOE decisions on higher level findings, technical suitability, and overall suitability.

Three major DOE decision points are specified in the proposed process for evaluating site suitability. The first are decisions on whether to make higher level findings on individual guideline conditions or groups of guideline conditions. The second is a decision on technical site suitability based on data collection and analysis activities defined in the Act and the Site Characterization Plan. The third DOE decision point is a finding on overall suitability using additional information developed during the NEPA process, including technical information and guideline assessments on Environmental Quality, Transportation, and Socioeconomics. If the site is found to be unsuitable, an alternative plan will be submitted to Congress within six months of the unsuitability declaration. The same extensive level of technical and regulatory documentation required to justify a decision that the site is suitable will be required to justify a decision to disqualify the site. In particular, the utilities and Congress will have to be satisfied that compliance cannot be demonstrated for the Yucca Mountain site.

The process provides for an active predecisional role for interested parties, affected governments and the public before any formal DOE findings on the guidelines. Development of this process itself will be subject to public review through written comments, meetings and workshops and to revision on the basis of that review. External expert review of technical basis documentation will be managed independently of DOE. The broad external and stakeholder communities will nominate candidates for peer review and will be able to observe and comment on the work of the panels. DOE will seek public comments and hold public workshops on the guideline assessments that follow the technical reports.

B. TECHNICAL BASIS

The first main element of the proposed process for evaluating suitability is the development and review of the technical basis for DOE decision-making. This element consists of data acquisition and analysis, development of the technical basis documentation, and external review of that documentation.

Data Acquisition/Analysis

Under Section 113 of the NWPA, as amended, DOE must characterize the Yucca Mountain site to evaluate its suitability for recommendation for development as a repository. The site characterization phase of the program includes the acquisition and analysis of site data and design information, and the iterative performance assessments or other analyses that are necessary to support the process for the evaluation of site suitability.

The data that are collected and analyzed, and the performance assessments that are conducted, will provide one basis for evaluations of the site against the guidelines (qualifying and disqualifying conditions) of 10 CFR Part 960. The timing and scope of these evaluations will be linked to testing and analysis milestones. Site testing and analyses are designed to improve

our understanding of how the inherent features and processes of the site will affect waste isolation either directly or through their effects on the engineered components of the repository. On the basis of what it learns as it conducts these evaluations, DOE will continuously review, and revise as needed, its data acquisition plans and its priorities for site studies and analyses. Through such an iterative process, DOE can continuously take advantage of new data, improve its understanding of site conditions and processes, and ensure that its testing remains firmly focused on those aspects of the site that are important to determining its suitability and safety.

Technical Basis Documentation

The basis for each decision on a guideline condition will be documented in reports covering defined technical areas. These reports will provide the primary technical basis for development of assessments on each relevant guideline, and a DOE guideline finding. Technical reports will discuss the available data and analyses and present a current understanding of the subject area, including an evaluation of uncertainty, alternative models/hypotheses permitted by the data, and bounds on conditions and processes consistent with the current understanding. Each technical report will be accompanied by an Executive Summary that will be written for the layperson. Draft technical reports will undergo internal DOE review to determine whether the technical basis is sound, and has been adequately documented. On the basis of this review, DOE will make a decision whether to move forward with external review of the report.

Technical information concerning the guidelines on Environmental Quality, Transportation, and Socioeconomics will be acquired and evaluated during the NEPA process.

External Expert Review

Upon completion of the draft technical basis for a particular subject area, the technical report will undergo external expert review. One approach to building technical consensus for controversial technical topics is an independent review. DOE is proposing to contract with the National Academy of Sciences (NAS) to independently manage the external expert review process. A review selection process managed by a qualified independent organization and an external review that is not managed by DOE should enhance confidence that 1) reviewers are independent of the work, 2) qualified reviewers have been selected and 3) DOE's technical work is sound.

DOE will request that the NAS evaluate the need for a peer review based on the subject matter and the complexity of technical issues involved. If a peer review is necessary, NAS will select a peer review panel. Peer review panels are expected to have 3 to 6 members depending on the subject matter and the complexity of the technical issues involved. Panels

are expected to have multiple members with relatively similar expertise, thus bringing different technical viewpoints to and ensuring a more comprehensive review.

The NAS will be asked to use a nomination process for peer reviewers that is open to the public, and to serve as the screening body for empaneling these reviewers. Nominations will be solicited from interested parties, affected governments and the public. Anyone may nominate a peer reviewer, including the DOE, the State, the NAS, or a member of the public, and anyone may be nominated as a peer reviewer. The NAS will select reviewers based on the quality of their credentials, and their relevant experience and expertise.

The external review wili be conducted in an open manner. Interactions between the technical authors and peer reviewers will be open for public observation. DOE will also request that the review panel solicit the public for information they think is relevant to the technical basis under review. Thus, the public can be assured throughout the process that the peer reviewers are aware of all important technical information, and that meetings between technical authors and peer reviewers do not represent opportunities for biasing the review.

Peer reviewers will be asked to answer standard questions appropriate to external review. Such questions include: Have the data supporting the technical interpretations been collected in an appropriate manner? Are the technical interpretations and conclusions adequately supported by the data provided, given their uncertainty? Are alternative technical interpretations possible, given the data set provided and associated uncertainty? Peer reviewers will also be asked to justify any suggestions for additional testing by explaining the uncertainty the testing would reduce. Answers to these questions will help DOE decide whether the technical basis is adequate for a decision, and whether additional or different testing has any technical merit.

C. GUIDELINE ASSESSMENT

The second element of the proposed process is the development and review of assessments of conformance with the siting guidelines. The development of the guideline assessment differs from the development of the technical basis in that no new site characterization data will be collected in support of the guideline assessment, and the external review will be open to all parties who wish to participate.

Development of the Guideline Assessment

The DOE will develop a guideline assessment to evaluate the available information, including the technical basis and the external review of the technical basis, to determine whether the evidence appears to be sufficient to support a higher-level finding on a particular guideline

condition. The guideline assessment will weigh whether a specific aspect or feature of the site is consistent with the ability of a repository to safely isolate waste and meet the regulations. The guideline assessments are not DOE decision documents, but rather DOE staff analyses of the available information relevant to a particular guideline condition. They are a part of the basis required for a decision by the Director of OCRWM. After consideration of both the technical basis and the results of the external review of the technical basis, if the technical basis appears to be sufficient and all the necessary information is available, the DOE will develop draft guideline assessments that will be subject to external review and comment.

External Review of the Guideline Assessment

DOE will publish a Federal Register Notice of the availability of the draft guideline assessment for public review and comment. Because the guideline assessments will contain the logic as to whether or not the technical basis meets the guideline condition, it is important that wide public review take place. The DOE also intends on holding public workshops on the guideline assessments during the public comment period. These workshops will provide an open forum to explain the technical basis and examine and discuss the logic arguments contained in the draft guideline assessments. Such workshops provide for active predecisional public participation, the ability to ask questions of the data collectors, and the assessment analysts and to probe the strength of the comparison logic. A workshop summary will be developed as part of the decision record, and responses will be provided to comments and questions provided for the record. Any subsequent decision by the Director to make a higher-level finding will be based in part on the public record developed during external review of the guideline assessment. If all substantive comments can be resolved so that the guideline assessment logic is deemed satisfactory to the DOE management, the draft guideline assessment will be revised and issued in final form.

D. DOE Decision Steps

The third element in the proposed process for evaluating suitability is the sequence of DOE decisions on higher level findings, technical suitability, and overall suitability.

Higher Level Findings

The Director will make a higher level finding based primarily on the record developed in the suitability process. This record will include a final technical basis report, peer review comments, if any, on the technical basis report, the relevant final guideline assessment, comments from the public, interested parties and affected governments, and any DOE response to these comments. Before making any finding, the Director will have the opportunity to examine the evolution of the technical basis report as a result of external

review, and the evolution of the final guideline assessment as a result of public comment, in determining the strength of the technical basis and the soundness of the arguments in the guideline assessment. The Director may also consider any other information he or she deems relevant in the process of making a decision. Notice of the Director's decision to make a higher level finding will be published in the Federal Register.

In making a positive higher level finding, DOE will be deciding that the evidence supports a finding either that the site is not disqualified and not likely to be disqualified, or that the site meets the qualifying condition and is likely to continue to do so. DOE fully recognizes the uncertainties inherent in predicting the future. For that reason, we will base our findings, to the extent possible, on conservative and robust bounding calculations and arguments. A favorable higher level finding requires a judgment that no new data is likely to change the conclusion. However, we also recognize that, after a DOE decision, DOE or someone else could find new data that could require a reassessment of the body of evidence used to support a DOE decision on a higher level finding. Such data should be brought to the attention of the Director as soon as possible so that DOE can evaluate the need to take appropriate steps.

DOE Decision on Technical Site Suitability

DOE will make a finding of technical site suitability under its siting guidelines in 10 CFR Part 960 as early as practicable, but only when positive higher-level findings have been made for the disqualifying conditions and the qualifying conditions for the postclosure guidelines related to radiological safety technical feasibility. The basis for this finding will be documented and may be used to support preparation of the EIS. If the site is found to be unsuitable, an alternative plan will be submitted to Congress within six months of the unsuitability declaration.

DOE Decision on Overall Suitability

If DOE makes positive higher level findings on all relevant conditions within the guidelines, including those on Environmental Quality, Socioeconomics, and Transportation, DOE may then make a finding of overall suitability. This finding and its basis will be documented in support of the decision by the Secretary of Energy to recommend the site for development of a repository based on the information required by Section 114 of the Act, as amended. If the site is found to be unsuitable, an alternative plan will be submitted to Congress within six months of the unsuitability declaration.

APPENDIX A

Background on a Proposed DOE Process for Evaluating the Suitability of Yucca Mountain for Development as a Repository for High-Level Radioactive Waste and Spent Nuclear Fuel

The Nuclear Waste Policy Act of 1982 (P.L. 97-425) (the Act) directs the Department of Energy (DOE) to site, construct, and operate geologic repositories for the disposal of high-level radioactive waste and spent nuclear fuel, and requires the DOE to complete a number ot actions in carrying out these responsibilities. In accordance with Section 112(a) of the Act, the DOE issued general guidelines for the recommendation of sites for repositories. These guidelines were developed following the consultation process required by the Act and promulgated as 10 CFR Part 960 on December 6, 1984. The guidelines were used by the DOE, as required by Section 112(b) of the Act, in the nomination of five sites as suitable for characterization and the recommendation to the President of three of the nominated sites for characterization as candidate sites for the first repository (DOE/S-0048). Prior to nominating the five sites, public hearings were held in the vicinity of the nine sites initially identified as potentially acceptable in 1983 and draft environmental assessments (EAs) were prepared for each of these sites and made available for public comment in December 1984. Each of the five site nominations was accompanied by a final EA (DOE/RW-0069 to 0073, May 1986) that included an evaluation of the suitability of that particular site under the guidelines, based on the information available at the time. Each EA also contained a separate comparative evaluation of the subject site with the other nominated sites. On May 27, 1986, the President approved each of the three sites recommended for characterization, including the Yucca Mountain site in Nevada. In December 1987, the Act was amended (P.L. 100-203). Among other provisions, these amendments limit the site characterization activities conducted by the DOE under Section 113 of the Act to only the Yucca Mountain site.

Pursuant to Section 113(b) of the Act, as amended, the DOE prepared a Site Characterization Plan (SCP) for the Yucca Mountain site, which, among other things, described how the DOE proposed to respond to the guidelines in 10 CFR Part 960 that fall within the scope of its planned site characterization program: the postclosure guidelines related to waste isolation and the preclosure guidelines related to radiological safety and technical feasibility. The guidelines that generally require non-geologic data gathering (the preclosure guidelines related to environmental quality, socioeconomic impacts, and transportation) were not covered in the SCP. A Consultation Draft of the SCP was issued for comment in January 1988 and, in December 1988, the DOE submitted the final SCP for the Yucca Mountain site (DOE/RW-0199, December 1988) to the Nuclear Regulatory Commission (NRC) and to the State of Nevada for their review and comment. Hearings on the SCP were held at three locations in

Nevada in March 1989 to receive comments from the public on the DOE's plans for site characterization.

The siting guidelines developed by the DOE pursuant to Section 112(a) of the Act and promulgated as 10 CFR Part 960 were identified in the SCP (p. I-9) as the primary criteria required for use in determining the suitability of the site. As noted in the SCP, the implementation guidelines in 10 CFR Part 960 provide that the qualifying conditions of the pre- and postclosure system guidelines, and the qualifying and disqualifying conditions of the pre- and postclosure technical guidelines, be evaluated and that specific findings be made by the DOE for each condition at principal decision points, as specified in 10 CFR Part 960, Appendix III. Before a DOE decision is made that the Yucca Mountain site is suitable and can be recommended for development as a repository, the evidence should be adequate to support findings by the DOE that none of the disqualifying conditions are likely to be present and that all qualifying conditions are likely to be met. These findings are generally referred to as "higher-level" findings because the technical basis should also be adequate to support a determination by the DOE that the conclusions are not likely to change. Four higher-level findings were made in the EA for the Yucca Mountain site (DOE/RW-0073, May 1986).

In a November 1989 report to Congress on re-assessment of the Civilian Radioactive Waste Management program, the Secretary of Energy committed to a focus on the evaluation of the suitability of the Yucca Mountain site as a cornerstone of the repository program. In December 1990, as a step in the implementation of the Secretary's commitment, the DOE directed a contractor to perform an evaluation of the Yucca Mountain site under the general guidelines of 10 CFR Part 960, based on available information, including new information developed since 1988, and to recommend where this technical basis appeared adequate to support findings by the DOE with respect to the guidelines. A contractor-managed team of scientists and engineers participating in the Yucca Mountain site characterization program conducted these evaluations and prepared a report presenting the results this Early Site Suitability Evaluation (ESSE) (SAIC-91/8000, January 1992), including recommendations where higher-level findings appeared to be supported by the existing information. The ESSE report was subjected to an external peer review managed by the contractor organization. The peer reviewers were asked to conduct a critical review of the data evaluated and cited in the ESSE report, the methods used to evaluate the data, and the conclusions and recommendations offered in the report. The reviewers were asked to evaluate whether this documentation represented an objective and technically defensible view of the suitability of the site with respect to each of the guideline conditions considered. Some reviewers expressed discomfort with the regulatory nature of the conclusions they were asked to make with respect to the adequacy of the technical basis to support the recommended findings on guideline conditions. The DOE has not endorsed the higher-level findings recommended in the ESSE report.

The Director of the DOE's Office of Civilian Radioactive Waste Management (OCRWM),

held a Director's Forum in Chicago on May 8, 1992 to solicit comments from stakeholders on the DOE's policy and plans for the evaluation of site suitability. Specific comments were received on the ESSE as a model and a starting point for future iterations of the process, including questions and concerns that pertained to how peer review members were selected, how the peer review was managed, how reviewer qualifications were assessed, how peer reviewer independence was ensured, and what guidance was provided to the peer reviewers to ensure that appropriate criteria were used and consistent judgements were made. Involvement of affected governments and interested parties in the selection of peer reviewers was recommended by some participants. There seemed to be agreement that site evaluations should be done when the necessary data are available rather than on a calendar basis. There was also a general feeling that the data and evaluations for areas of investigation where confidence is deemed to be adequate should be published so that external parties get chance to review the available information and gain confidence in the basis for DOE conclusions on the need for testing or DOE decisions related to the guidelines. Some participants expressed the view that the DOE should not make formal findings for each guideline condition; other participants recommended that issues be "closed," although there was disagreement on the interpretation of closure. It was generally agreed that there should be a mechanism to allow issues for which testing has been stopped to be re-evaluated if information warrants. Written comments on the ESSE were also received. New concerns included, various disagreements with the underlying assumptions for, or the adequacy of, the technical basis for supporting the recommended findings. In particular, there was a criticism that the data considered in the report was not representative since various analyses conducted by the State of Nevada or affected local governments were not referenced. There were also extensive comments critical of the evaluations performed with respect to the issues identified in the guidelines covering environmental quality, socioeconomic impacts, and transportation. The structure of the evaluation was criticized for allowing only one of two conclusions, i.e. suitable or unsuitable with respect to each guideline condition. DOE provided a response to all written comments on ESSE in a June 4, 1993 letter to comment originators.

In October 1993, the DOE briefed the Affected Units of Government (AUG), comprising representatives of the affected counties and the State of Nevada, on its plans for activities related to site suitability evaluation during fiscal year 1994. These plans included activities intended to implement the DOE's commitment to conduct interim evaluations of the suitability of the Yucca Mountain site during the course of site characterization. Additional discussions related to the DOE's plans were held at AUG meetings in December 1993, and in February and March 1994. A number of comments were received by the DOE, either in these meetings or in written comments on the DOE's proposed plans for site suitability activities. Several comments recommended that since the siting of repositories is an issue of national interest, the discussion of options for the process to be used in evaluating the suitability of the Yucca Mountain site should involve a broader representation of affected and interested parties and the public than is reflected in the AUG.

Acting on the comments received from the AUG regarding the need for broader representation in the discussion of issues related to repository siting, the DOE published a notice of inquiry in the Federal Register on April 25, 1994 (59 FR 19680), eliciting the views of members of the general public on the process of evaluation of the suitability of the Yucca Mountain site in Nevada for development as a permanent repository for disposal of spent nuclear fuel and high-level radioactive waste. The notice of inquiry indicated that, among other considerations, the DOE was seeking comments regarding the mechanisms and timing of public involvement in the process of evaluating site suitability, and on the use of peer reviews as part of this process, including the role of stakeholders and existing expert groups in these reviews. The DOE provided the opportunity for written comment through June 24, 1994. The DOE also conducted a public workshop on May 21, 1994, in Las Vegas, Nevada, for the purpose of providing stakeholders with the opportunity to present their views on these and other issues. A draft summary of the discussion at the meeting is now available to the public (59 FR _____).

DOE received numerous comments at the May 21, 1994, meeting that are relevant to the development of the process for the evaluation of site suitability and the role of the public in that process. Some attenders said that the DOE needs to commit to truly interactive communication with stakeholders to involve the public in decision-making; feedback is necessary so that the public can understand how their comments have been considered, at least in general terms, whether or not their advice was taken. Some attenders suggested that, to provide a basis for informed discussion, technical reports should be written and structured so that they are understandable to the educated, interested public; these technical reports need to place scientific information into the context of the overall program. Another participant stated that special allowances to make a technical report understandable are not really necessary so long as technical reports contain an executive summary that is understandable to the public. Participants generally liked the use of the workshop format for meetings, stating that it provides a useful means for discussion and exchange of information and ideas; additional workshops on the site suitability evaluation process were requested. Several participants expressed interest in developing a list of technical issues related to the site suitability evaluation as a basis for seeking stakeholder input. One participant said that the process through which the DOE makes a decision requires listening and responding, but that the decision is finally the DOE's to make, and that this distinction needs to be made clear.

Numerous comments were also received with respect to the use of peer reviews during the evaluation of site suitability. One participant noted that not all topics require peer review and the DOE should not use peer review as a means for abdicating its own decision-making responsibility. One discussion group suggested that it may not be necessary to organize separate peer reviews for the site suitability evaluation process since the Nuclear Waste Technical Review Board and the State of Nevada perform peer reviews, when appropriate, as part of their statutory responsibilities; the NRC provides the ultimate review in their role as

the agency responsible for deciding whether to license the repository. If peer reviews are a part of the site suitability evaluation process, then they should be open to the public and involve neutral, independent, qualified reviewers; nominations for qualified reviewers should be solicited from stakeholders. Many participants saw value in having more that one reviewer for each relevant technical discipline to promote discussion from different points of view. There was some support for a blind peer reviewer selection process that was independent of the DOE and managed by an outside agency such as the National Academy of Sciences. Some participants noted that the objective of achieving diversity and independence in reviewers could lead to the selection of people who might not necessarily be the most knowledgeable. Other participants debated the value of peer review given that some groups may not accept the conclusions even of independent, highly qualified reviewers.

[6450-01-P]

DEPARTMENT OF ENERGY

Office of Civilian Radioactive Waste Management

Process for Evaluating the Suitability of the Yucca Mountain Site for Development as a Repository for High-Level Radioactive Waste and Spent Nuclear Fuel

AGENCY: Office of Civilian Radioactive Waste Management, Department of Energy

ACTION: Notice

SUMMARY: Through this Notice, the Department of Energy makes four announcements regarding the process for evaluating the suitability of the Yucca Mountain site for development as a repository for high-level radioactive waste and spent nuclear fuel. 1) The Department announces the availability of Summary Reports of the May 21, 1994 stakeholder meeting held in Las Vegas, Nevada. 2) The Department announces its decision to use the Siting Guidelines (10 CFR Part 960) as they currently exist. 3) The Department announces the availability of a draft description of the process for evaluating the suitability of the Yucca Mountain site for public comment. 4) The Department announces stakeholder meetings to elicit the views of the general public on the proposed process and particularly the proposed opportunities for external involvement. The Department invites interested parties to provide written comments during the term specified in this Notice.

DATES: Written comments on the Draft Summary Reports of the May 21, 1994 stakeholder meeting and the draft description of the proposed process are due on or before [insert sixty days from publication]. The meetings will be held on August 27, 1994 from 9:00am to

5:00pm (PDT) at the Stardust Hotel in Las Vegas, Nevada, and on August 30, 1994 from 9:00am to 5:00pm (EDT) at the Renaissance Hotel, in Washington DC.

ADDRESSES: Written comments should be submitted to:

Dr. Jane R. Summerson
U.S. Department of Energy
Yucca Mountain Site Characterization Office
101 Convention Center Drive
Las Vegas, NV 89109
(702) 794-5317 (Phone)
(702) 794-7907 (Fax)

FOR FURTHER INFORMATION AND COPY OF DRAFT PROCESS CONTACT:

Dr. Jane R. Summerson
U.S. Department of Energy
Yucca Mountain Site Characterization Office
101 Convention Center Drive
Las Vegas, NV 89109
(702) 794-5317 (Phone)
(702) 794-7907 (Fax)

SUPPLEMENTARY INFORMATION:

I. Summary Reports

The Department of Energy (Department) held a public meeting on May 21, 1994, in Las Vegas, Nevada (59FR19680). The purposes of the meeting were to follow-up on a previous stakeholder meeting held in August 1993; to update stakeholders on Yucca Mountain site characterization activities; and to provide an opportunity to discuss the development of a process to evaluate the suitability of the Yucca Mountain site for development as a repository.

Through this Notice, the Department announces that the Summary Reports of the meeting are available upon request.

II. Decision on the Use of 10 CFR Part 960

Issued in 1984, DOE's 10 CFR Part 960 siting guidelines cover all phases of the siting process including the screening and comparison of several sites in order to select three for detailed characterization as potential repository sites. The Department has considered a range of options concerning the application of the guidelines, from revising them through the rulemaking process to simply continuing to use them in their present form and has found that the guidelines are applicable to the site suitability process. The Department has decided that it will not amend the siting guidelines. Therefore, in making suitability decisions that are required at this stage of the siting process, the Department will use the guidelines as they are currently written. Their use, however, will be subject to the programmatic changes and reconfiguration provided in the Nuclear Waste Policy Amendments Act of 1987. Because the Amendments Act eliminated all of the pre-characterization stages by requiring the Secretary to proceed with site characterization at Yucca Mountain and to cease investigation of all other potential sites for the first repository, comparative evaluation is no longer relevant. Accordingly, the Program will not utilize the comparative portions of the guidelines for purposes of the suitability assessment of the Yucca Mountain site. This means that the Program will not make specific evaluations of the favorable and potentially adverse conditions since these tests are primarily for use in comparing sites.

III. Availability of the draft description of the process for evaluating the suitability of the Yucca Mountain site

The Department is developing a process for evaluating the suitability of the Yucca Mountain Site for a repository for high-level radioactive waste and spent fuel. Through this Notice, the Department announces that a draft description of the proposed process is available for public comment. Written comments on the draft description of the proposed process are due as set forth near the beginning of this notice.

IV. Stakeholder Meetings

As part of the comment process discussed above, two day-long public meetings have been scheduled as set forth near the beginning of this notice. The meeting will provide an opportunity for representatives from the DOE to explain the draft description of the process and to receive the views and comments of the public on the proposed process and, in particular, opportunities for public involvement.

Issued in Washington, DC on _____,1994

Daniel A. Dreyfus, Director
Office of Civilian Radioactive
Waste Management

PRELIMINARY DRAFT

DISCUSSION OF COMMENTS RECEIVED ON THE USE OF 10 CFR PART 960

Section 112(a) of the Act, as amended, contemplates that the DOE may revise its siting guidelines from time to time. In October 1993, the DOE briefed the Affected Units of Government (AUG), comprising representatives of the affected counties and the State of Nevada, on its plans for activities related to site suitability evaluation during fiscal year 1994. Prior to beginning such evaluations, the DOE elected to conduct another review of its siting guidelines and solicited input regarding options for the use of the guidelines in 10 CFR Part 960 in these evaluations. Five options were identified for discussion, several of which are similar to options proposed for discussion at the strategic principles workshops in 1990 and 1991 (DOE/RW-0318, September 1991):

(1) Continue to use the existing guidelines without revision.
(2) Issue a Federal Register notice providing the DOE's interpretation of the guidelines consistent with current legislative direction to characterize a single site.
(3) Amend the guidelines.
(4) Develop new site-specific guidelines.
(5) Adopt the NRC's siting criteria from 10 CFR Part 60 (§ 60.122).

Additional discussions related to the DOE's plans and its review of the guidelines were held at AUG meetings in December 1993, and in February and March 1994. A number of comments related to options for the use of the guidelines were received by the DOE, either in these meetings or in written comments on the DOE's proposed plans for site suitability activities. Some comments stated that the guidelines should be amended to reflect the current legislative framework, taking into account the need to apply the guidelines to the evaluation of Yucca Mountain as a single site. Another comment stated that the guidelines should be revised to incorporate the applicable provisions of 10 CFR Part 60, to the maximum extent possible. Other comments reflected the view that there is no obvious need to consider changes in the guidelines and that no criteria were provided by the DOE against which the need for such changes could be evaluated. Site-specific guidelines were opposed by one commenter since such a change could be viewed as changing the rules to fit the site and since general guidelines may still be needed for siting other repositories. A number of comments proposed that since the siting of repositories is an issue of national interest and the guidelines were promulgated under public notice and comment procedures, the discussion of options for the use of the guidelines should involve a broader representation of affected and interested parties and the public than is reflected in the AUG.

Acting on the comments received from the AUG regarding the need for broader representation in the discussion of issues related to the siting guidelines, the DOE published a notice of inquiry in the Federal Register on April 25, 1994 (59 FR 19680), eliciting the views of members of the general public on the process of evaluation of the suitability of the Yucca Mountain site in Nevada for development as a permanent repository for disposal of spent

nuclear fuel and high-level radioactive waste. The notice of inquiry indicated that, among other considerations and as part of a periodic review, the DOE was seeking the views of interested parties regarding the use of the guidelines in 10 CFR Part 960 and their role in the evaluation of site suitability. The DOE provided the opportunity for written comment through June 24, 1994, and also conducted a public workshop on May 21, 1994, in Las Vegas, Nevada, for the purpose of providing stakeholders with the opportunity to present their views. A number of comments were received that dealt with the application of 10 CFR Part 960 in the evaluation of site suitability. These comments were generally consistent with comments received as a result of previous public interactions, there being no consensus of opinion and generally opponents and proponents for each option discussed.

A number of comments questioned the continued application of all or parts of the guidelines given the provisions of the 1987 amendments to the Act and the Energy Policy Act of 1992. Some comments were based on the assumption that the DOE's guidelines are intended to be used only in comparing sites and, therefore, are no longer a meaningful basis for the evaluation of the single site designated in the Act, as amended. Other comments, while acknowledging the applicability of certain provisions of the guidelines to the evaluation of a single site, questioned the continued existence of those provisions that call for comparative evaluations and suggested that the guidelines should be revised to make clear which provisions apply to the evaluation of Yucca Mountain. Some comments raised questions regarding the guideline conditions for which findings must be made in evaluating whether a site is suitable for development as a repository. Other comments reflect the lack of a clear distinction between a decision by the DOE that a site is suitable under the guidelines and a decision by the DOE (the Secretary) to recommend a site for development as a repository in accordance with the requirements of Section 114(a) of the Act, as amended. Site-specific guidelines were opposed by many since such a change could be viewed as changing the rules to fit the site and since general guidelines may still be needed for siting other repositories.

Opposing views were expressed regarding the need to incorporate the applicable provisions of the NRC technical criteria (10 CFR Part 60, Subpart E) into the guidelines. In one view, the guidelines should be revised to incorporate the applicable provisions of 10 CFR Part 60 to the maximum extent possible, to avoid duplication and to reduce the possibility for confusion over appropriate requirements. The other view is that the guidelines should not be amended to adopt the NRC criteria from 10 CFR Part 60 since this would mask the fundamental distinction between site suitability and licensing, with the suitability decision focusing on the geologic capability of the site to isolate waste.

A number of comments expressed the opinion that, in the absence of criteria and sufficient background information against which the need for changes could be considered, the DOE has provided no justification for consideration of substantive revisions to the siting guidelines. Other comments stated that while it is useful to seek pre-decisional input, it is not incumbent on the affected and interested parties to recommend, in the first instance, whether or how to

change or interpret the law or the guidelines in order to facilitate the DOE's ability to carry out its own program; any decision in this regard is the DOE's.

Issued in 1984, DOE's siting guidelines cover all phases of the repository siting process, from the screening and comparison of multiple sites in order to select and recommend sites for detailed characterization, to the evaluation of characterized sites to determine if they are suitable for recommendation, to the comparison of multiple sites in order to select a site for recommendation for development as a repository. The DOE has considered a range of options concerning the application of the guidelines, from revising them through the rulemaking process, to continuing to use them in their present form. The DOE has found that the guidelines remain applicable to the evaluation of the suitability of a single site at this stage of the siting process and has decided that it will not amend the guidelines. In making the suitability decisions that are required to support a decision on site recommendation, the DOE will continue to use the guidelines as they are currently written, subject to the programmatic changes and reconfiguration provided in the Nuclear Waste Policy Amendments Act of 1987, and consistent with the approach discussed in the Site Characterization Plan (SCP) (DOE/RW-0199, December 1988). Accordingly, the DOE will not utilize the comparative portions of the guidelines for purposes of the suitability assessment of the Yucca Mountain site. The implementation guidelines provide that the qualifying conditions of the pre- and postclosure system guidelines, and the qualifying and disqualifying conditions of the pre- and postclosure technical guidelines, be evaluated and that specific findings be made for each condition at principal decision points, as specified in 10 CFR Part 960, Appendix III. Before a DOE decision is made that a site is suitable and can be recommended for development as a repository, the evidence should support findings by the DOE that none of the disqualifying conditions are likely to be present and that all qualifying conditions are likely to be met. There is no provision in the guidelines for similar findings for the favorable or potentially adverse conditions of the technical guidelines. Specific evaluations of the favorable and potentially adverse conditions will not be made.

DISCUSSION OF COMMENTS RECEIVED ON POTENTIAL OPTIONS FOR PROCESS FOR EVALUATING SUITABILITY

The first national elicitation from program oversight groups, affected units of local government in Nevada, and the public, for input to develop a site suitability evaluation process was conducted during a public meeting held in Las Vegas, Nevada, on May 21, 1994. This meeting was held in the middle of a written comment period announced in a Federal Register Notice of Inquiry published on April 25, 1994. One month prior to the meeting, the Department undertook a large mailing to provide background material for those who had attended prior meetings.

The Department will be required to develop both technical analyses and guideline assessments for a complete and documented evaluation of the suitability of the Yucca Mountain site for development as a repository. Pre-meeting materials for May 21, 1994 asked for specific input on, 1) how the process can be kept open and understandable to external parties, 2) how external parties can be effectively involved in the review of the technical basis for suitability findings; for example, how a peer review team may be empaneled and how visibility can be maintained in their deliberations, and 3) how external parties could be involved in review of suitability assessments used to assist the Department's decision-making.

CONCERNS EXPRESSED DURING MAY 21, 1994 PUBLIC MEETING

Department representatives grouped attendees into three small groups to aid in communication and solicit their input. For these comments and concerns (C), common themes were identified and responses (R) are provided.

Input on Achieving an Open and Understandable Process

The following concerns were expressed with respect to maintaining an open and understandable process.

(C1) Attendees stated that the Department needs to do a thorough job of defining the goals of any public involvement activity before inviting people to participate, and that there is confusion over the definition of such terms as "stakeholder" and "affected party".

(R1) Soliciting input to formulate a process that had yet to be defined is bound to be perceived as poorly focused because a process did not exist at the time of the May 21, 1994 meeting. The Department finds this criticism to be unavoidable. To move away from a practice of decide-announce-defend, however, Department representatives need to hear what the public is thinking and how they would like to see policy set while the selection of options is in a formative stage. The CRWM program has a public involvement policy and an amendment to define stakeholder is being prepared.

(C2) Some attendees believed that too little time was allocated for the meeting, that it was important to avoid distractions from groups or individuals with agendas, that quality should be emphasized over quantity of stakeholder input, and that public involvement has its limits. Some stated that workshops on technical issues were not very useful and that involving scientists and principal investigators on the program in these meetings was not the best use of their time.

(R2) These concerns stem from the need to identify ways to optimize public input at pre-decisional stages, as well as the best way to provide feedback to the Department. The Department agrees that the format and length of time allowed for the May 21, 1994, was too short and that the format could be improved. The Department is working on these improvements for the next meeting. In a public meeting there is no way to preclude meeting distractions. How these meetings are facilitated can help to reduce the potential for distraction. The Department will seek to improve these meetings in the planning for future public meetings.

(C3) Attendees generally liked the idea of workshops and smaller group sessions, and expressed the desire for more interactions of this type with respect to developing the site suitability evaluation process and the evaluations themselves. Some attendees expressed favor with the small-group sessions as a means to provide input because it provided an opportunity for more discussion in a less controlled setting. In a written comment, White Pine County, Nevada, favored a public meeting when a draft site suitability evaluation process is available, so that additional explanation can be provided and verbal or written comments made.

(R3) The draft process for evaluating suitability (see paper) provides the opportunity for public interaction at several points in the evaluation process. The process itself is not yet finalized, and the public meetings scheduled in August 1994 are the public interactions that White Pine County desired for predecisional input to help define this process.

(C4) Some attendees believed that the Department was not committed to interactive involvement in decision-making; that it is difficult to see how public input manifests itself in final decisions; that the Department tends to transmit information to the public rather than truly involve the public in decision- making. An attendee stated that the process through which DOE makes a decision requires listening and responding, but that the decision is finally the Department's to make. The attendee suggested the following process, the Department completes a study, has the option to hold a peer review, holds a public meeting and written comment period, and then the Department makes a decision.

(R4) The Department is using the Federal Register to conduct a dialog on developing a site suitability evaluation process. The Federal Register remains the best means by which to reach national constituencies. Through notices of availability, such as the Federal Register Notice announcing the availability of a draft process for review and comment, the Department is

responding to the input received on the Notice of Inquiry published on April 25, 1994. From the perspective of the individual citizen, having a means by which members of the public can offer viewpoints that could impact decisions while events are in a formative state is a form of public involvement.

The public can determine the extent to which their input has been acted upon when decisions are eventually made. The Department cannot abdicate responsibility for making suitability findings under current law. The draft site suitability evaluation process that is now available for review and comment follows similar logic advocated by attendees at the public meeting.

(C5) Some attendees suggested that technical reports should be written and structured so that they are understandable to the educated, interested public, and that these technical reports need to place scientific information into the context of the overall program. One participant stated that special allowances to make a technical report understandable are not really necessary so long as technical reports contain an executive summary that is understandable to the public.

(R5) Communicating technical information to the public so that he or she can understand the essence of a technical argument is a difficult task. In the draft suitability evaluation process, the Department is providing for the preparation of an Executive Summary for the technical basis documents to be prepared for each finding decision. These brief summaries are to be written for the layperson.

(C6) A participant desired that deficiency reports from the Department's quality assurance (QA) program be available for public review during the evaluation process.

(R6) The Department does not expect that all data used as the basis for site suitability findings has been acquired under the aegis of a fully-qualified QA program. The QA program is required for a licensing action by the NRC, but not for suitability findings by the Department. Deficiency reports for QA audits are available to all audit participants and observers. Making such reports available to representatives of the State of Nevada, the NRC, and affected units of government in Nevada is, in fact, making the reports public through their duly appointed and elected representatives.

Input On Technical Review and Peer Review

The following concerns were expressed with respect to how external groups could be effectively involved in review of the technical basis for site suitability findings, and the role of peer reviews in the process.

(C7) Some attendees stated that the existing oversight bodies for the civilian high-level radioactive waste repository program, i.e. the Nuclear Waste Technical Review Board, the State of Nevada, and the NRC could function in peer review roles for the suitability evaluation process. Another attendee stated that the State of Nevada is institutionally opposed to the site characterization program at Yucca Mountain and so has, in effect, disqualified itself from objectivity.

(R7) The Nuclear Waste Technical Review Board has recused itself from any sort of a peer review role for the Department's suitability finding process. The NRC is the regulator of the high-level waste program and is not an appropriate body to conduct or manage a peer review. The existing oversight and regulatory groups have roles in the program that are defined by the Act, as amended, thus making their participation in an internal Departmental decision-making process inappropriate.

(C8) Some attendees advocated that a neutral, independent board, such as that comprised of academicians, should undertake peer reviews. In a written comment, the University of Nevada, Las Vegas, stated that a consortium of universities should conduct peer reviews. Some attendees suggested that reviewers be selected from the pool of people who have never worked on the Department's high-level waste program. Others stated that this would be impractical given the specialized nature of the Department's work in site characterization, while others noted that a drive to achieve independence and diversity in peer reviewers might not result in retaining the most knowledgeable scientists. There was support for a blind peer review selection process that was external to the Department, and managed by a qualified outside agency, such as the National Academy of Sciences. In a written comment, Intertech Services Corporation stated that a peer review process independent of DOE and managed by the National Academy of Sciences would garner the broadest public acceptance. Some attendees suggested some sort of balanced peer review with a mixture of members selected by the Department, and oversight groups.

One attendee wanted the Department to solicit nominations for peer review panel members from the public after specific qualifications or criteria for candidacy were published, followed by an explanation for why non-selected candidates were not chosen. One attendee wanted the Department to indemnify peer reviewers from legal costs incurred in litigation stemming from their participation on a peer review panel. Attendees reminded the Department of a criticism of the ESSE report; that there was only about one peer reviewer per discipline, which limited the opportunity to question and debate within the group. In a written comment, the University of Nevada, Las Vegas, commented that they believed a peer review process would be adequate to ensure that scientific standards are met, but that such a process would be deficient if the scientific and technical community within the State of Nevada were not part of the process. UNLV stated that they expected that the academic infrastructure in the state's university system would be used as part of the peer review process. Finally, others debated the merits of peer review at all given that some vested-interest groups would not accept the

conclusions resulting from a peer review. In a written comment, Intertech Services Corporation stated that the Department must be prepared to accept and abide by the findings and recommendations of an external review.

(R8) In general, the Department has determined that a peer review of the technical bases for suitability findings is desirable. The draft suitability evaluation process incorporates a selection process for peer reviewers and operational management of the review by a qualified agency that is independent of the Department or groups in oversight roles defined by the Act, as amended.

In a program that has been contentious and polarized for many years, an external peer review of the Department's technical work and conclusions constitutes important corroboration for outside parties to judge the adequacy and sufficiency of this work. It ensures the President and the Congress that a decision to nominate a site for repository development is technically sound. The Department will seek to empanel peer reviews having multiple members with similar disciplines so that the opportunity for debate is encouraged. A criterion of no prior involvement in the high-level radioactive waste program is, in practice, an unrealistic criterion to use. The Department believes that it is more important to ensure the most qualified candidates are empaneled, rather than relying upon an arbitrary standard of complete independence for its own sake. The CRWM program's experience with peer review panels to date has suggested that the outcome of peer reviews composed of a mixture of selected reviewers is perceived to conform to the expectations of the selectors. This is why an independently managed reviewer selection process has been chosen in which the Department is not involved.

The Department does not favor a consortium of universities or other arrangements with academic institutions for conduct of an external review because the nature of a university's diffuse management structure would mitigate against peer reviews being completed on a timely basis. Further, the fact that contracting instruments would need to be established with the administration's of multiple colleges, universities, or other research institutes to ensure that an external review can impanel scientists to cover various technical disciplines, would also mitigate against completion of timely reviews.

The concerns of the University of Nevada, Las Vegas, for involvement by the state's academic community can be addressed through the contract arrangements an external group completes with the Department. The Department intends to require that all due consideration be given to the qualifications of academicians within the State of Nevada, but that this condition not constitute a selection criterion. The Department is not considering indemnification as a policy position, but will revisit the need should legal actions be taken that warrant it.

In the draft suitability evaluation process, the Department expects that a peer review report containing critical statements or recommendations for additional work will need to preface

such recommendations by identifying what uncertainties would be reduced or what additional confidence in the Department's conclusions would be purchased by additional work. The Department would then respond to these comments and recommendations. The technical basis document and the review record would constitute the main inputs for a decision to prepare a guideline assessment, and to hold a public meetings to explain the rationale for a draft finding(s).

An external reviewer selection process that is made by a qualified intermediary organization and a peer review that is not managed by the Department helps ensure three things, 1) that reviewers are independent of the work, 2) that qualified people will be selected, and 3) that the Department's technical work is sound.

(C9) One attendee advocated that the Department ensure publication of site characterization work and conclusions in national or international peer reviewed technical journals, and that the government reports the CRWM program uses to document site characterization work did not provide for an adequate review.

(R9) The opportunity to publish in national and international, peer-reviewed media is pursued by principal investigators. It is an integral part of the reward and advancement system in the U.S. Geological Survey and in the National Laboratories. The department has clearly stated that the needs of the CRWM program for moving ahead with site suitability determinations or data needs for NRC licensing documents take precedence. It is likely that site characterization work and conclusions will be subject to review within the Department and within the NRC prior to publication in these journals.

(C10) There was concern that some site characterization work might be postponed while the Department focuses on site suitability. There was also concern over whether or not an emphasis on site suitability meets the NRC's licensing criteria.

(R10) The technical basis for making site suitability determinations will be the same as that available to the NRC to make licensing findings. The difference in the amount or type of data or the number of analyses needed between satisfying a Departmental suitability decision and providing the materials NRC needs to make findings is the cost between a suitable site and a licensable site. The Department expects that a peer review process for the technical basis documents used to make Departmental findings will assist in converging the data needs each organization needs to reach their regulatory conclusions.

Input on Public Involvement in Review of Guideline Assessments

The following input was received on how external parties could be involved in review of the suitability assessments the Departmental would use to aid decision-making.

(C11) In a written comment, Intertech Services Corporation stated that the term "regulatory review" is unclear. This terminology was used in the background materials from the mailing that preceded the May 21, 1994 meeting. The proposed suitability evaluation process separates the decisions as to whether or not the technical basis is adequate and sufficient, and whether or not the basis permits compliance with 10 CFR Part 960.

(R11) The draft process refers to the latter stage as a "guideline assessment". The assessment will consist of a short document, in draft form, that is designed to take stock of the pre-decisional administrative record for a pending site suitability finding(s). It will incorporate the inputs received from, 1) technical basis documentation, 2) external review of the technical basis, 3) a Departmental response to the external review, if warranted, 4) comments received on the technical basis. All of these sources serve as input to a Department decision to make a suitability finding(s). The draft assessment will propose a finding(s). After a public meeting to explain the guideline assessment's rationale, a decision will be made by Department management to make, or defer, a proposed finding(s). The draft document will become final after this decision is made.

REGISTRATION FORM

Stakeholders' Meeting
Sponsored by U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Project

_____ I will attend August 27, 1994 meeting in Las Vegas, NV
_____ I will attend August 30, 1994 meeting in Washington D.C.

Organization _____

Name _____ Phone _____

Fax _____

Address _____

_____

Please indicate below whether you will be attending the Stakeholders' Meeting:

___ I plan to attend

___ I plan to attend and will be accompanied by _____

___ I will not be attending but will send _____ in my place.

Suggested additional topics for agenda:

_____

_____

_____

_____

Please mail or fax this completed form by August 22, 1994, to Cindy Orr at SAIC, 101 Convention Center Drive, Suite 407, Las Vegas, NV 89109, or fax 702-794-5348.