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MEMORANDUM FOR: Regis R. Boyle  
High-Level Waste Licensing  
Management Branch  
Division of Waste Management

FROM: Chris G. Pflum  
Warren R. Rehfeldt  
High-Level Waste Licensing  
Management Branch  
Division of Waste Management

SUBJECT: DOE PUBLIC HEARING ON PROPOSED GENERAL GUIDELINES FOR  
SITING HLW REPOSITORY; CONVENED MARCH 10, 1983, 9:00 AM  
TO 5:00 PM, AT WASHINGTON, DC

The Public Hearing on the proposed guidelines for the recommendation of sites for repositories was held at the DOE, Forrestal Building, in Washington, DC. The Hearing panel consisted of the following persons:

- Ms. Susan Wiltshire (League of Women Voters)
- Dr. Fred Donath, Geologist (ERTEC Western, Inc.)
- Dr. Terry Lash, Private Consultant
- Dr. Eugene Roseboom, Geologist (U.S.G.S.)

A technical overview was presented by Bill Bennet of the DOE. Mr. Bennet was available during the Hearing to provide information about the HLW program. A court reporter was present to prepare a transcript of the Hearing. The transcript will be available to the NRC. Handouts from the Hearing are attached.

A total of 8 speakers presented oral statements. It was estimated that about 40 interested persons were in attendance at the Hearing.

A summary of each speakers comments follows:

Allison Epperson: Noted that the "Council of Energy Resource Tribes" is a coalition of 37 Indian tribes. Ms. Epperson expressed concern about the DOE's interpretation of Indian rights, and indicated that the

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proposed guidelines do not reflect the content of the Act. Also concerned that the guidelines are not clear about impacts to land used by tribes under treaty (but not designated "tribal land"). Recommended that the term "affected Indian tribe" in Section 960.4-2 of the guidelines should be defined as it appears in the Act.

Brooks Yeager: Stated that the proposed guidelines are inadequate, and that portions of the Act have been ignored by DOE. The "various starting points" to be used to identify suitable sites, do not conform with the Act. Noted that geology and hydrology should be primary factors and should not be treated equal in weight with other criteria. Charged that DOE and NRC "pressured" the EPA into modifying the definition of "accessible environment." Mr. Yeager also noted that the disqualification factors in 960.3-1 and 960.3-2 depart from the "defense in depth" theory and places emphasis on engineered barriers rather than geologic factors. In 960.5-2-1, the groundwater travel time should not be the "average" time, but the travel time along the fastest path. Also, potentially adverse conditions are not listed in 960.5-2-1.

Section 960.5-6, Human Intrusion, is weak, since economic factors in the future are difficult to predict. Site ownership and control, Section 690.5-6-2, is not an issue in the Act and should not carry weight as other criteria. Environmental protection, Section 960.5-9 does not reflect the content of the Act.

John Clewett: Stated that DOE is promoting a hurried schedule, with a shorter time-frame than contemplated by Congress. Noted that important steps may be underestimated so that sites may not be adequately identified. Suggested that DOE "pre-determined" their selections. Critical of "various starting points" and investigation on "lands owned by the Federal government." Warned DOE that efforts to "cut corners" or "pre-determined" selection of sites would actually delay the process because of potential litigation. Suggested that DOE revise the schedule so that sites can be reasonably selected, and that the guidelines should state which criteria are primary (not all criteria should carry equal weight).

Mary Tucker: Represented a group "for non-nuclear future." Noted that DOE comment period is too short and that there is not adequate time for review. Pointed out that the conditions in Section 960.3-1 are

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contradictory. Suggested that public health and safety should be primary factors relative to regional distribution of repositories. Expressed some concern that DOE specifies at least 200 meters depth to the underground facility while the NRC specifies 300 meters. Recommended a disqualification factor in Section 960.5-2-2, Hydrologic modeling. Recommended the Federal Mine Health and Safety Act should be applied in Section 960.5-4-2, Operational Safety, and that a site should be disqualified based on future groundwater use.

Renee Parsons: Stated that the accelerated schedule proposed by DOE is not consistent with the Act. A final EA should be available before beginning site characterization. Recommended that noise and construction emissions should be disqualification factors (e.g., in Utah). Asked how guidelines will be applied in the EA if the two are on separate tracks.

Barbara Fenimore/Thomas Cochran: Stated that the DOE guidelines violate the intent of the Act relative to public health and safety. Pointed out that the Act requires detailed geologic considerations to be primary criteria for site selection -- however, BWIP and NTS were selected because of land use factors (lands dedicated to nuclear activities). Claimed that the land use approach proposed by DOE is not valid. Noted that DOE, NRC and EPA changed the definition of "accessible environment" so that aquifers may have been excluded. The guidelines lack meaningful disqualification factors -- most are not related to geologic conditions. Recommended that some "potentially adverse conditions" should be elevated to disqualification factors. Noted that the section on environmental protection (960.5-9) restricts impact mitigation to repository design and not to site selection. Suggested that the guidelines should be more conservative than NRC criteria, and that "accessible environment" should be redefined so that aquifers are protected. Concluded that the guidelines as now written would not eliminate any site in the country because the criteria are too general and vague.

David Berick: Pointed out that there is no statutory requirement for the accelerated schedule proposed by DOE -- the "fast track" schedule is not appropriate and will affect technical competence. Stated that DOE failed to relate the guidelines to the Act -- need systematic procedures. Suggested that DOE develop a methodology to apply the technical guidelines.

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Fred Miller: (No written comments.) Stated that transportation cost and impact, required by the Act, were neglected in the DOE guidelines. Noted that transportation factors would be important relative to Hanford and NTS sites. Noted that wastes would be transported across states that generate little nuclear waste. Referred to draft report by National Academy of Science concerning transportation impacts with HLW. Critical of DOE "fast-track" schedule.

Original C:-----

Chris G. Pflum  
High-Level Waste Licensing  
Management Branch  
Division of Waste Management

*Warren R. Rehfeldt*  
Warren R. Rehfeldt  
High-Level Waste Licensing  
Management Branch  
Division of Waste Management

Enclosures:  
As stated

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U.S. DEPARTMENT OF ENERGY

Public Briefing

PROPOSED GENERAL GUIDELINES FOR SITING  
HIGH-LEVEL RADIOACTIVE WASTE REPOSITORIES

Docket Number NE-RM-83-2

Washington, D.C.  
March 10, 1983

Chairperson

MS. SUSAN WILTSHIRE

League of Women Voters  
Boston, Massachusetts

Panel

Dr. Fred Donath

ERTEC Western, Inc.  
Long Beach, California

Dr. Terry Lash

Private Consultant  
Weehawken, New Jersey

Dr. Eugene Roseboom  
*Geologist*

Technical Representative  
U.S. Geological Survey

U.S. DEPARTMENT OF ENERGY

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Public Hearing

FROPOSED GENERAL GUIDELINES FOR SITING HIGH-LEVEL  
RADIOACTIVE WASTE REPOSITORIES  
Docket Number NE-RM-83-2

Washington, D.C.  
March 10, 1983

LIST OF SPEAKERS

<u>Opening Remarks</u>		<u>Time</u>
Susan Wiltshire	Presiding Official	9:00- 9:15
	-TECHNICAL OVERVIEW-	9:15- 9:30
<u>Scheduled Speakers</u>	<u>Representing</u>	
1. Allison Epperson	Council of Energy Resource Tribes	9:30- 9:45
2. Brooks Yeager	Sierra Club	9:50-10:05
3. John Clewett	Critical Mass Energy Project	10:10-10:25
4. _____		10:30-10:45
	-BREAK-	10:50-11:05
5. Mary Tucker	Nuclear Information and Resource Service	11:05-11:20
6. Renee Parsons	Friends of the Earth	11:25-11:40
7. Thomas B. Cochran	Natural Resources Defense Council, Inc.	11:45-12:00
	-LUNCH-	12:00- 1:30
8. David Berick	Environmental Policy Institute	1:30- 1:45
9. Fred Miller	" " "	1:50- 2:05
10.		2:10- 2:25
11.		2:30- 2:45
	-BREAK-	2:50- 3:05

WASHINGTON, D.C.  
MARCH 10, 1983  
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Scheduled Speakers

Representing

Time

12. \_\_\_\_\_

3:05- 3:20

13. \_\_\_\_\_

3:25- 3:40

14. \_\_\_\_\_

3:45- 4:00

15. \_\_\_\_\_

4:05- 4:20

16. \_\_\_\_\_

4:25- 4:40

17. \_\_\_\_\_

4:45- 5:00

U.S. DEPARTMENT OF ENERGY

HQZ.870302

Public Hearing

.3752

PROPOSED GENERAL GUIDELINES FOR RECOMMENDATIONS OF SITES  
FOR NUCLEAR WASTE REPOSITORIES  
Docket Number NE-RM-83-2

STATEMENT OF PANEL CHAIRMAN

Good morning, ladies and gentlemen!

As chairman of this hearing panel, I now declare that this public hearing is open. For the record, this hearing is convened on \_\_\_\_\_, 1983 at 9:00am, at \_\_\_\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state). Similar hearings have been or will be held in (other cities). My name is \_\_\_\_\_, I will introduce the other members of the panel to you in a moment.

The purpose of this hearing, and the others like it, is to receive oral comments from the public concerning the Department of Energy's proposed general guidelines for the recommendation of sites for nuclear waste repositories. The Department is required by law to issue these guidelines in final form by July 6, 1983.

These hearings are being held because the Department of Energy is interested in obtaining the views and the participation of interested persons, interested organizations and the general public, on the guidelines that will be used in the evaluation of sites for the potential construction of deep geologic repositories for the disposal of nuclear wastes. The preparation of these siting guidelines is required by the Nuclear Waste Policy Act of 1982 which was passed during the last session of Congress and signed into law by President Reagan on January 7, 1983.



The Department wants to be sure that public concerns on siting issues for nuclear waste repositories are considered at all stages of the decisionmaking process. The hearing panel is comprised of four (4) persons, myself included, who are unbiased in the sense that we are not employees of the Department of Energy, nor have we participated directly in the preparation of these draft guidelines. As members of this panel we will listen to all data, views or arguments presented during this hearing, and will then submit a written report to DOE summarizing the issues which appeared most important or troublesome to those presenting oral comments. A court reporter is also present to prepare a complete transcript of this hearing.

----- Written reports, as prepared by this panel and the panels of the other hearings similar to this one, as well as transcripts of all the hearings, and all written comments submitted to DOE within the comment period will be considered by DOE staff in the development of the final guidelines. These reports, transcripts and comments will be available for public inspection at the Department of Energy's Freedom of Information Public Reading Room in Washington, DC. Anyone who wishes to purchase a copy of the transcripts may make arrangements with the court reporter by leaving their name and address at the registration desk.

Copies of the proposed siting guidelines have been distributed widely for public review. The Department has sent copies of the guidelines and relevant Federal Register notices to over two thousand individuals and organizations who have previously expressed their interests and concerns about the nuclear waste management program. Copies are available at the registration desk.

Let me now introduce the members of the panel .....

We have observed the work being conducted in the program as it relates to our fields of interest and our role in these hearings is to ensure that DOE is made fully aware of public concerns about these siting guidelines for radioactive waste repositories as expressed at these hearings.

Representatives of the Department of Energy are also in attendance at this meeting and the panel members will be calling on DOE to provide information about the radioactive waste management program during the hearings when the panel feels such information would be important to the issues at hand. As an introduction to the hearing the DOE representative will provide further information on these guidelines. First, however, I would like to establish the groundrules under which we will conduct this hearing.

In order to permit a significant number of presentations, we have allotted fifteen (15) minutes for each speaker with an additional five (5) minutes allowed for any questions that the panel may have concerning statements by the speakers. A schedule of times for those speakers who requested time is available at the registration desk. In addition, any speaker or any other interested person may submit written comments. To ensure consideration, written comments, in duplicate if possible, must be received by 4:30pm E.S.T. April 7, 1983 and should be addressed to Robert L. Morgan, Project Director, Nuclear Waste Policy Act Project Office, Department of Energy, Room 7B-084, 1000 Independence Avenue, S.W., Washington, D.C. 20585 and labeled on the envelope "Guidelines for Siting Radioactive Waste Repositories, Docket Number NE-RM-83-2".

This will not be an "evidentiary" or "judicial" type of hearing. Direct cross-examination of speakers by other speakers or by the audience will not be permitted. Initially, questions may be asked only by the members of the panel conducting the hearing, and the presiding official will not accept questions directed to panel members. However, if you as a member of the audience wish a

question to be asked of any speaker, please write down the question and take it to the registration desk. If time permits, the panel will direct any questions submitted that it believes will assist in the proceedings.

To the extent available, time will also be provided for persons who have not made prior arrangements but desire to speak while attending the hearing or those who wish to respond to any statements that they hear today. We ask however, that requests to speak be given to the person at the registration desk so that we can fairly allocate any available time.

I would ask your cooperation in focusing this hearing specifically on the guidelines that you believe would be appropriate in selecting repository sites. The panel appreciates very much the effort that you have expended in preparing comments on these guidelines and the arrangements that many of you had to make to be here today. Although you may have many concerns about a wide variety of issues and activities of the Department of Energy, please let me explain that the members of this panel only have the responsibility of reflecting public concerns expressed at these hearings which pertain to the siting guidelines. In order to make the best use of the time that we have, I will ask that all speakers direct their comments to the guidelines. The Department of Energy will be holding additional public hearings on other aspects of the nuclear waste management activities, as prescribed by law as well as by DOE option, in the near future.

This panel is extremely interested in hearing your views concerning the guidelines; we encourage you to express your views freely at this hearing and hope that you will answer any questions that we might have so that we may better understand your data or information. The value of this hearing is the

opportunity it provides for the presentation of oral comments, for discussion with the persons providing comments, and for seeking clarification or expansion of relevant points.

Let us now proceed with the hearing. Before we get to the first speaker, Mr. \_\_\_\_\_ of the Department of Energy will describe the purpose of these proposed guidelines for the siting of geologic repositories, explain how they will be used, and what additional steps the Department will take before the guidelines will be issued in final form.

U.S. DEPARTMENT OF ENERGY

Public Hearing

PROPOSED GENERAL GUIDELINES FOR RECOMMENDATION OF SITES FOR  
NUCLEAR WASTE REPOSITORIES  
Docket Number NE-RM-83-2

STATEMENT BY DOE REPRESENTATIVE (Bill Bennett)

Technical Overview

The Department of Energy has been charged with the responsibility to provide for the disposal of either spent nuclear fuel or highly radioactive waste by a number of Acts of Congress, beginning with the Atomic Energy Act of 1954 to, most recently, the Nuclear Waste Policy Act of 1982.

On January 7, 1983, the Nuclear Waste Policy Act was signed into law. This Act establishes a process and schedule for the development of nuclear waste repositories. For selection of a first repository site, the Department of Energy is required to nominate at least five sites as suitable for site characterization. By no later than January 1, 1985, the Secretary of Energy is <sup>to</sup> ~~required to make a preliminary determination that three of the nominated sites are suitable for development as repositories, consistent with these guidelines,~~ and recommend <sup>3 of</sup> these sites to the President for characterization as candidate sites. No later than March 31, 1987, the Secretary is to have recommended the site for the first repository to the President and the President is to have recommended the first site to Congress. A site for a second repository is to be recommended no later than March 31, 1990. In order to provide sufficient time to characterize and evaluate the three sites under consideration for the first repository, DOE expects to have recommended three sites to the President by the end of the summer of 1983.

Under provisions of the Nuclear Waste Policy Act, the Department is required to issue general guidelines for the recommendation of sites for nuclear waste repositories. The proposed guidelines that we are considering here today have been prepared, in compliance with the Act, by the Department of Energy as a set of criteria against which various land units, ranging from geographic regions to specific sites, can be compared in conducting a process to find suitable locations for constructing deep geologic repositories for the disposal of either spent nuclear fuel or high level radioactive wastes.

In fulfilling its responsibilities, the Department has previously examined a full range of alternatives for waste disposal which were discussed in a final environmental impact statement published in October 1980. In a decision published in May 1981, the Department concluded that placement in deep mined geologic repositories was the preferred means of disposal of highly radioactive wastes. Congress has confirmed its near term preference for geologic disposal by passage of the Nuclear Waste Policy Act.

Deep mined geologic repositories will be constructed in carefully selected geologic formations at a depth of several thousand feet. The selection of sites for construction of such repositories requires the careful screening of various regions and selective evaluation until specific sites are found which appear to possess suitable natural barriers for isolation of the wastes. Once potentially suitable sites are found, detailed examination will be required, including the excavation of shafts down to the proposed repository depth. The way in which this screening process is being conducted and the various decision points that are now required by the National Waste Policy Act are described in the Federal Register notice of February 7, 1983, which has been distributed.

The Department has, of course, been conducting investigations of possible sites for repositories for many years. The initial recommendation to consider deep bedded salt formations for disposal of radioactive wastes was made by a committee of the National Academy of Sciences in 1957. Experimental work was conducted in bedded salt in Kansas in the mid to late 1960's, and the investigation for potential sites in New Mexico began around 1972 upon the recommendation of the United States Geological Survey. In 1976, the Energy Research and Development Administration, a predecessor agency to DOE, initiated a national site survey program of several rock types and extensive site exploration has been conducted over the last six (6) years.

During the conduct of these investigations over the past several years, both DOE, other Federal agencies, and international organizations have developed siting criteria to guide the examination of potential sites. For example, DOE had earlier developed and adopted criteria which were published in draft form for public comment in January 1980, and in final form in February 1981. Other guidelines or criteria were issued by DOE in 1977, by the International Atomic Energy Agency in 1977, and by the National Academy of Sciences in 1978. The Nuclear Regulatory Commission published proposed technical criteria in May 1980.

The Nuclear Waste Policy Act of 1982, however, requires the issuance by DOE of siting guidelines with features and characteristics differing from criteria which have previously been developed and used. The Act specifies certain requirements concerning the proximity to current populations and also requires that the guidelines specify factors that qualify or disqualify any site from development as a repository.

Such factors have not been explicitly included in criteria previously issued by DOE or by other U.S. or foreign agencies. Consideration of the suitability of any particular region or location requires the evaluation of the combined effect of a large number of different features whose attributes must be compared. For example, a site associated with very long groundwater pathways, a desirable condition, may also be placed in a complicated geologic setting characterized by significant regional faulting, an undesirable condition. A second site may have shorter groundwater pathways, a more easily characterized geologic setting, and be closer to the current location of radioactive wastes thus requiring less transportation activity. Proper comparison of these two sites requires an analysis of the predicted performance of the total system for isolation of radioactive wastes that each site would afford. Such an analysis would examine characteristics of individual site features which contribute in different ways to the overall system's performance.

The proposed guidelines are presented in three parts: system guidelines, program guidelines, and technical guidelines. The system guidelines address the primary objective of protecting the health and safety of the public and protecting the environment. They relate the performance of the geologic repository system to EPA and NRC standards covering releases of radioactive material to the environment. The program guidelines define the policy requirements to be followed in implementing DOE's program for selecting a repository site. The technical guidelines specify factors for the qualification and disqualification of sites and conditions that would be considered favorable or potentially adverse.



Where possible, qualification and disqualifying factors have been specified. Qualification factors that are specified combine to establish minimum conditions for site qualification. Disqualifying factors, where specified, would lead to the elimination of a site from further consideration.

Because of the interaction of so many different attributes in the potential performance of a site, the technical guidelines include a description of favorable and potentially adverse conditions to supplement the qualification and disqualifying factors. These conditions, if present, would be significant in the evaluation of a site.

The favorable conditions listed under any given qualification criterion do not need to exist at a site for that criterion to be met. However, their existence allows a presumption that subsequent evaluation will yield positive results. This is especially important in preliminary site-screening where detailed data are not available and decisions must be made as to where detailed studies should be focused.

Similarly, the potentially adverse conditions provide early warning that a site may not be acceptable unless compensating or mitigation conditions can be found. Their existence does not mean that a site will not be acceptable but represents a situation that must be carefully examined in deciding on the overall suitability of a site.

The siting guidelines will be used at each step in the screening process, although the characteristics that can be considered will, of course, become more detailed and specific as more information becomes available about a site. For example, criteria concerning avoidance of population centers, national parks or seismically active regions can be applied fairly early in the screening process, but detailed information about such matters as

groundwater travel times or sub-surface mineralogy will likely not be available until very detailed site characterization has been done. Thus, potential sites may well be ruled out or disqualified at any stage in the site screening process but qualification of a site must await completion of a detailed site evaluation program including testing at the proposed repository depth.

Under the provisions of the Nuclear Waste Policy Act, DOE must publish these siting guidelines in final form by no later than July 6, 1983. Before that time, DOE must consult with the Council on Environmental Quality, the Environmental Protection Agency, the United States Geological Survey and with interested State Governors; and must receive the formal concurrence of the Nuclear Regulatory Commission on the final guidelines. In order to meet this schedule we must receive comments on these guidelines by April 7, 1983. We have asked the panel for their reports by that date. Members of the audience may wish to add further written comments after today, and may do so according to instructions in the Federal Register notices pertaining to the proposed guidelines.

Thank you very much. I'd now like to turn the microphone back to the presiding official.